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AMETHI, UTTAR PRADESH, INDIA**

(A Unit of Sanjay Gandhi Memorial Trust)

Mentor 'A' GRADE INSTITUTE



2ND INTERNATIONAL CONFERENCE

*"Nursing Research Beyond Boundaries: Methodological Integration for
Universal Well-being"*

Theme: Innovative Applications of Mixed Methods in Nursing Research &
Practice

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C O N T E N T S

S. No	Article Title and Author Name	Pg. No
1.	PEDAGOGICAL SYNTHESIS: APPLYING MIXED METHODS TO TRANSFORM NURSING EDUCATION AND RESEARCH CULTURE Dr. Ramesh Shanmugam and Dr. Gomathi Munusamy	1
2.	INNOVATIVE NURSING STRATEGIES FOR ENHANCE WOUND HEALING AND QUALITY OF LIFE AMONG PATIENTS WITH DIABETIC FOOT ULCER: A QUASI-EXPERIMENTAL STUDY Dr.M.J. Kumari, M. Jeyagowri, Dr.S. Jagdesh	7
3.	BRIDGING THE GAP: CONTEMPORARY MENTAL HEALTH NURSING PRACTICES IN RURAL INDIA Prof. R. Achudha Kumar and Dr. Ramesh Shanmugam	9
4.	THERAPEUTIC ROLE OF YOGA FOR DEPRESSIVE SYMPTOMS Prof. R. Achudha Kumar, Dr. Ratna Chhaya Singh	16
5.	DIGITAL TRANSFORMATION OF INTRAPARTUM MONITORING: A COMPARATIVE REVIEW OF DIGITAL AND TRADITIONAL PARTOGRAPHS IN MODERN OBSTETRIC PRACTICE Ms. Chapala Benarjeer Israel, Dr. Ramesh Shanmugam	21
6.	ASSESSING THE ROLE OF COMMUNITY HEALTH NURSES IN PROMOTING HEALTH JUSTICE Mrs. Manjot Kaur Sidhu and Dr. Ramesh Shanmugam	28
7.	EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING ARTIFICIAL REPRODUCTIVE TECHNIQUES AMONG STUDENTS IN NURSING COLLEGES, AMETHI, UTTAR PRADESH Ms. Divya Pandey, Ms. Chapala Benarjeer Israel, Dr. Gomathi M., Dr. Ramesh Shanmugam	33

8.	LOTUS BIRTH: A HOLISTIC APPROACH TO UMBILICAL NON-SEVERANCE — IMPLICATIONS FOR MIDWIFERY AND MATERNAL–NEWBORN CARE	45
Ms. Divya Pandey, Dr. Ramesh S.		
9.	EFFECTIVENESS OF A VIDEO-ASSISTED TEACHING PROGRAM ON KNOWLEDGE REGARDING OSTEOPOROSIS AND ITS PREVENTION AMONG MENOPAUSAL WOMEN IN SELECTED RURAL AREAS OF AMETHI, UTTAR PRADESH, INDIA	51
Ms. Harshita Tripathi, Mrs. Dr. Gomathi M.		
10.	POSHAN PAKHWADA: A COLLECTIVE MOVEMENT TOWARDS A WELL-NOURISHED INDIA	64
Ms. Harshita Tripathi, Dr. Gomathi Munusamy		
11.	EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING PREVENTION OF FILARIASIS AMONG MIDDLE-AGED ADOLESCENTS AT SELECTED INTER- COLLEGES, MUNSHIGANJ, UTTAR PRADESH	71
Ms. Piyush Gunjan Yadav, Mrs. Manjot Kaur Sidhu, Dr. Gomathi M., Dr. Ramesh Shanmugam		
12.	NON-PNEUMATIC ANTI-SHOCK GARMENT (NASG) FOR POSTPARTUM HAEMORRHAGE MANAGEMENT	83
Ms. Anamika Maurya, Dr. Ramesh Shanmugam		

13.	A PILOT STUDY TO ASSESS THE EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAM ON KNOWLEDGE OF ADOLESCENT GIRLS REGARDING SELECTED THEMES OF THE KISHORI SHAKTI YOJANA	88
	Ms. Shubham Dr. Gomathi Munusamy , Dr. Ramesh Shanmugam	
14.	A COMPARATIVE STUDY ON THE EFFECTIVENESS OF CHAMOMILE TEA VERSUS GINGER TEA IN REDUCING DYSMENORRHEA AMONG ADOLESCENT GIRLS IN SELECTED RURAL AREAS: A STUDY PROTOCOL	95
	Ms. Swati Mishra , Dr. Gomathi Munusamy, Dr. Ramesh Shanmugam	
15.	IMPACT OF LAVENDER TEA ON PMS SYMPTOMS AMONG ADOLESCENT GIRLS: A STUDY IN MUNSHIGANJ, AMETHI	103
	Ms. Ashifa Bano, Ms. Anam Khan, Ms. Antima Maurya, Ms. Khusnuma, Ms. Aakanksha Singh, Ms. Anchal Kashyap, Ms. Khushboo Saroj, Ms. Keerti Tiwari, Pratima Singh, Ms. Nutan Maurya, Dr. Ramesh Shanmugam, Dr. Gomathi Munusamy, and Mrs. Manjot Kaur Sidhu	
16.	A COMPARATIVE STUDY ON THE EFFECTIVENESS OF CHAMOMILE TEA VERSUS GINGER TEA IN REDUCING DYSMENORRHEA AMONG ADOLESCENT GIRLS IN SELECTED RURAL AREAS: A STUDY PROTOCOL	116
	Ms. Swati Mishra, Dr. Gomathi Munusamy , Dr. Ramesh Shanmugam, Mrs. Manjot Kaur Sidhu	
17.	A STUDY TO EVALUATE THE EFFECTIVENESS OF VIDEO-ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING POST-OPERATIVE EXERCISE AMONG PATIENTS UNDERGOING CARDIO-THORACIC SURGERY IN HOSPITAL AT GWALIOR	124
	Mr. Gaurav Kumar Maurya, Mr. Anil Kumar Mathur, Prof. Mr. Charan Singh	

18.	A COMPARATIVE STUDY ON EVALUATION OF A VIDEO STRUCTURED PARENTING PROGRAM ON BEHAVIORAL PROBLEMS OF PRESCHOOL CHILDREN AMONG WORKING AND DOMESTIC MOTHERS IN SELECTED COMMUNITY AREAS: A STUDY PROTOCOL Ms. Mansi Tiwari , Mr. Vemavarrapu Kumar , Dr. Gomathi Munusamy, Dr. Ramesh Shanmugum	141
19.	A STUDY TO ASSESS THE EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAM ON KNOWLEDGE REGARDING ANTENATAL CARE AMONG PRIMIGRAVIDA MOTHERS AT SELECTED COMMUNITY AREA, AMETHI, UTTAR PRADESH Ms. Neetu Yadav, Ms. Chapala Benarjeer Israel, Dr. Gomathi M, Dr. Ramesh Shanmugam	147
20.	INNOVATIVE APPLICATIONS OF MIXED METHODS IN CLINICAL NURSING PRACTICE Prof.Dr. S. Balachandar	158
21.	PILOT EVALUATION OF A PLANNED TEACHING PROGRAM TO IMPROVE POSTNATAL MOTHERS' KNOWLEDGE ON NEONATAL HYPOTHERMIA PREVENTION IN AMETHI, UTTAR PRADESH Ms. Shivani Shukla, Mr. Vemavarrapu Kumar, Dr. Gomathi Munusamy , Dr. Ramesh Shanmugum	163
22.	EFFECT OF NUTRITIONAL LADOO SUPPLEMENTATION ON HAEMOGLOBIN AND NUTRITIONAL STATUS AMONG ADOLESCENT GIRLS IN SELECTED SCHOOL: STUDY PROTOCOL Ms. Anjali Singh, Dr. Gomathi Munusamy, Mrs. Manjot Kaur Sidhu, Dr. Ramesh Shanmugam	169
23.	EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING KANGAROO MOTHER CARE AMONG ANTENATAL MOTHERS IN A SELECTED HOSPITAL: RESEARCH PROTOCOL Ms. Priyanka, Mr. Vemavarrapu Kumar , Dr. Gomathi Munusamy , Dr. Ramesh Shanmugum	174

24.	DESCRIPTIVE STUDY ON THE IMPACT OF A STRUCTURED TEACHING PROGRAMME ON STRESS AND COPING KNOWLEDGE AMONG HIGHER SECONDARY STUDENTS OF AMETHI	180
	Ms. Archana Yadav, Mr. Achudha Kumar, Dr. Ramesh Shanmugam	
25.	EFFECTIVENESS OF STRUCTURE TEACHING PROGRAM ON NEGATIVE IMPACT OF SUBSTANCE ABUSE AMONG ADOLESCENTS: A STUDY IN MUNSHIGANJ, AMETHI UTTAR PRADESH	187
	Ms. Roshani, Ms. Lakshmi, Ms. Neha, Ms. Simran, Ms. Pooja, Ms. Vandana, Ms. Vandana, Ms. Shail, Ms. Sandhya, Ms. Nivedita, Mr. Achudha Kumar, Dr. Ramesh Shanmugam	
26.	EFFECTIVENESS OF STRUCTURED TEACHING ON MENSTRUAL HYGIENE KNOWLEDGE AMONG ADOLESCENT GIRLS IN A PARAMEDICAL INSTITUTE OF UTTAR PRADESH	198
	Ms. Pranjal Prajapati, Ms. Priyanshi Singh, Ms. Roshni Prajapati, Ms. Sakshi, Ms. Sapna, Ms. Saumya Pandey, Ms. Sejal Vishwakarma, Ms. Shivani Srivastava, Ms. Swati Tiwari, Ms. Tanushree, Prof. Benajeer Israel, Mrs. Kirti Mishra, Dr. Ramesh Shanmugam	
27.	EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME (STP) ON EPISIOTOMY CARE AMONG PRIMIGRAVIDA MOTHERS: A REVIEW ARTICLE	209
	Ms. Tanya Dwivedi , Ms. Benajeer Israel, Dr. Gomathi Munusamy , Dr. Ramesh Shanmugam	
28.	ASSESS THE EFFECTIVENESS OF SELF-ESTEEM AMONG THE COLLEGE FRESHER STUDENTS IN SELECTED NURSING COLLEGES	219
	Ms. Sarvesha, Mr. Achudha Kumar , Dr. Ramesh Shanmugam	

29.	EFFECT OF A STRUCTURED TEACHING PROGRAMME ON PULMONARY REHABILITATION KNOWLEDGE AMONG COPD CLIENTS: A STUDY PROTOCOL Ms. Savita , Mrs. Kirti Mishra , Dr. Ramesh Shanmugam	223
30.	ADVANCE CARDIAC LIFE SUPPORT Ms. Vandana and Dr. Ramesh S.	228
31.	A COMPARATIVE STUDY ON THE EFFECT OF WARM FOOT BATH VERSUS DEEP BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS SELECTED COMMUNITY AREA Ms. Rupam Singh, Mrs. Kirti Mishra and Dr. Ramesh Shanmugam	249
32.	EVALUATION OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING BREAST ENGORGEMENT AMONG POSTNATAL MOTHERS: A PILOT STUDY Ms. Roshni, Ms. Benajeer Israel , Dr. Gomathi Munusamy Dr. Ramesh Shanmugam	254
33.	A REVIEW ON THE IMPACT OF VIDEO-ASSISTED TEACHING ON KNOWLEDGE REGARDING THE PREVENTION AND MANAGEMENT OF GESTATIONAL DIABETES MELLITUS AMONG ANTENATAL MOTHERS Ms. Jyoti Singh, Ms. Divya Pandey, Ms. Benajeer Israel, Dr. Gomathi Munusamy, Dr. Ramesh Shanmugam	263

34.	A PILOT STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING ON JUNK FOOD AWARENESS AMONG ADOLESCENTS	270
	Ms. Neha Pandey, Mrs. Manjot Kaur Sidhu , Dr. Gomathi Munusamy , Dr. Ramesh Shanmugam	
35.	A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE REGARDING NOSOCOMIAL INFECTION AMONG CLIENTS IN DISTRICT HOSPITAL, SULTANPUR, UTTAR PRADESH	275
	Ms. Adiba Bano, Ms. Aditi Singh, Ms. Akriti Srivastava, Ms. Chetna Jaiswal, Ms. Fiza Sarwar, Ms. Divyanshi Tiwari, Ms. Heena Bano, Ms. Kajal Sahu, Ms. Kamini Singh, Ms. Kavita Dubey, Dr. Ramesh Shanmugam, Dr. Gomathi Munusamy, Mrs.Sneha Tiwari	
36.	EFFECTIVENESS OF PLANNED TEACHING ON MOTHERS' KNOWLEDGE IN DIARRHEA MANAGEMENT: STUDY PROTOCOL	285
	Ms. Sakashi Chauhan, Mr. Vemavarrapu Kumar, Dr. Gomathi Munusamy, Dr. Ramesh Shanmugam	

Dr. K. VICTOR BABU

M.A.,M.A.,M.Phil.,Ph.D.,PDF, (D.Lit)

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Editorial.....

It is heartening to note that our journal is able to sustain the enthusiasm and covering various facets of knowledge. It is our hope that IJMER would continue to live up to its fullest expectations savoring the thoughts of the intellectuals associated with its functioning .Our progress is steady and we are in a position now to receive evaluate and publish as many articles as we can. The response from the academicians and scholars is excellent and we are proud to acknowledge this stimulating aspect.

The writers with their rich research experience in the academic fields are contributing excellently and making IJMER march to progress as envisaged. The interdisciplinary topics bring in a spirit of immense participation enabling us to understand the relations in the growing competitive world. Our endeavour will be to keep IJMER as a perfect tool in making all its participants to work to unity with their thoughts and action.

The Editor thanks one and all for their input towards the growth of the **Knowledge Based Society**. All of us together are making continues efforts to make our predictions true in making IJMER, a Journal of Repute

Dr.K.Victor Babu
Editor-in-Chief

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2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025

Message



Wg Cdr Manoj Muttu (Retd.)
Administrator
Sanjay Gandhi Memorial Trust
Munshiganj, Amethi, Uttar Pradesh, India

My dear colleagues, guests, and participants,

I commend your dedication to advancing nursing research and practice. Nursing research plays a vital role in shaping healthcare policies, improving patient outcomes, and promoting global well-being. This conference provides a platform for knowledge sharing, collaboration, and innovation.

I encourage you to explore cutting-edge methodologies, share best practices, and drive positive change. Your work contributes to a healthier, more equitable world.

Wishing you insightful discussions and meaningful connections.

A handwritten signature in black ink, appearing to read 'Manoj Muttu'.

Sincerely,
Manoj Muttu

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025

Message



Smt. Sharmila Barua Roychowdhury
Chief Executive Officer
Indira Gandhi Group of Institutions
Munshiganj, Amethi, Uttar Pradesh, India

Dear Participants,

Welcome to our International Conference on Nursing Research.

As CEO of Indira Gandhi Group of Institutions, I'm honored to see so many passionate professionals gathered to advance nursing research and practice. Your work drives innovation, improves patient care, and inspires future generations.

This conference is a testament to our commitment to excellence in healthcare education and research. I hope you engage deeply, share insights, and build lasting connections.

Thank you for being part of this important event.

Best regards,
Sharmila Roychowdhury

2nd International Conference: "Nursing research beyond boundaries: Research methodological integration for universal well being"
December 04 - 06, 2025



Dr Ashok Kumar Bishnoi
Professor, Dean Faculty of Nursing
Atal Bihari Vajpayee Medical University,
Lucknow, Uttar Pradesh, India



अटल बिहारी वाजपेयी चिकित्सा विश्वविद्यालय, उ०प्र०, लखनऊ
Atal Bihari Vajpayee Medical University, U.P., Lucknow

Dr. Ashok Kumar Bishnoi
PhD. N, M.Sc. N, PGDHM, FACEN, FRNS
Dean Nursing

Date: 11th November, 2025

MESSAGE

It gives me immense pleasure to extend my heartfelt congratulations to the **Indira Gandhi School and College of Nursing (IGSCON), a unit of Sanjay Gandhi Memorial Trust (SGMT), Amethi, UP**, for organizing the 2nd International Conference on "Nursing Research Beyond Boundaries: Research Methodological Integration for Universal Well-being." This initiative by IGSCON is truly commendable, especially with the chosen theme: "Innovative Applications of Mixed Methods in Nursing Research and Practice."


In an era where global health challenges are increasingly complex and interconnected, the need for robust, multi-faceted research methodologies has never been more critical. This conference, by focusing on methodological integration, provides an invaluable platform to explore how combining diverse research strategies can lead to more holistic, evidence-based, and impactful outcomes.

I am particularly heartened by the conference's noble mission: To enhance Nursing research through collaboration, knowledge exchange, and innovation for global well-being. This aligns perfectly with the overarching goal of fostering a culture of continuous learning and improvement within our profession.

I am sure that all participants will actively engage, share invaluable experiences, and contribute to the collective wisdom that will undoubtedly emerge from this scientific event.

I extend my best wishes for a highly productive and intellectually stimulating conference, and hope it continues to inspire and drive positive change in the field of Nursing.

Best Wishes!


Dr. Ashok Kumar Bishnoi
Dean, Nursing

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025



**Dr. Reena Sharma, Principal,
Autonomous State Medical College, Tiloi,
Uttar Pradesh, India**

It is my honor to be associated with the *2nd International Conference on “Nursing Research Beyond Boundaries: Methodological Integration for Universal Well-being,”* organized by **Indira Gandhi School and College of Nursing, Amethi, Uttar Pradesh, India**, scheduled on **4th–6th December 2025**.

I extend warm greetings and congratulations to the organizing committee for their dedicated efforts in hosting this significant academic event. The conference theme, **“Innovative Applications of Mixed Methods in Nursing Research & Practice,”** is timely and instrumental in advancing evidence-based education, research, and clinical practice.

Mixed methods research offers a powerful approach to bridge the gap between theoretical knowledge and real-world application, supporting impactful solutions in healthcare. The academic deliberations and shared expertise will inspire collaboration, innovation, and professional growth among all participants.

I wish the conference great success and a meaningful outcome that benefits the global healthcare community.

With best wishes,

Dr. Reena Sharma

Principal

Autonomous State Medical College, Tiloi

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025



**Dr. Yogesh Kumar Yadav, Medical Superintendent,
Autonomous State Medical College, Tiloi,
Uttar Pradesh, India**

It is a moment of immense pride to be part of the 2nd International Conference on “**Nursing Research Beyond Boundaries: Methodological Integration for Universal Well-being,**” hosted by **Indira Gandhi School and College of Nursing, Amethi, Uttar Pradesh** from 4th–6th December 2025.

This conference stands as a powerful platform where knowledge meets innovation, and ideas transform into impactful action. In an era where healthcare continuously evolves, the theme—“**Innovative Applications of Mixed Methods in Nursing Research & Practice**”—highlights the need for merging scientific inquiry with real-world practice to enhance the quality of care.

By bringing together distinguished experts, passionate researchers, and enthusiastic students, this event nurtures collaboration, sparks creativity, and illuminates new pathways for evidence-based healthcare. Such academic gatherings shape the future of learning and strengthen our collective mission to advance human well-being.

My heartfelt appreciation to the organizing committee for their vision and dedication. May this conference become a catalyst for inspiration, discovery, and global progress.

Warm regards,

Dr. Yogesh Kumar Yadav,
Medical Superintendent,

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025



Dr Neetu Devi
Nursing Consultant, UP State Medical Faculty,
Uttar Pradesh, India

It is my great pleasure to extend warm greetings to all participants of the 2nd International Conference on **“Nursing Research Beyond Boundaries: Methodological Integration for Universal Well-being,”** hosted by **Indira Gandhi School and College of Nursing, Amethi, Uttar Pradesh.**

The conference theme—**“Innovative Applications of Mixed Methods in Nursing Research & Practice”**—is highly relevant in advancing evidence-based education, research, and clinical practice. This platform offers an excellent opportunity to exchange ideas, inspire innovation, and strengthen collaboration across the healthcare community.

I congratulate the organizing committee on their dedicated efforts and wish the conference great success and meaningful outcomes.

Best wishes,

Dr Neetu Devi
Nursing Consultant, UPSMF

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025

Message



Dr. D. S. Kalarani,
Nursing Superintendent,
Apollo Medics Hospital, Lucknow,
Uttar Pradesh, India

It gives me immense pleasure to extend warm greetings to all delegates and participants of the *2nd International Conference on “Nursing Research Beyond Boundaries: Methodological Integration for Universal Well-being,”* hosted by **Indira Gandhi School and College of Nursing, Amethi, Uttar Pradesh.**

This conference provides a valuable academic platform that empowers nursing professionals, educators, and students to advance their research skills and strengthen evidence-based practice. The theme — **“Innovative Applications of Mixed Methods in Nursing Research & Practice”** — reflects a progressive vision, encouraging integration of scientific inquiry with real-world clinical care to achieve excellence and improve patient outcomes.

As nurses, we stand at the forefront of healthcare delivery, and continuous learning is the key to transforming care standards. The knowledge shared by distinguished experts during this event will inspire innovation, enhance professional competence, and foster collaborative growth within the global nursing community.

I congratulate the organizing committee for their dedication and thoughtful planning, and I extend my best wishes for a highly successful and impactful conference.

Warm regards,

Dr. D. S. Kalarani,
Nursing Superintendent,
Apollo Medics Hospital, Lucknow,
Uttar Pradesh, India

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025

Message



Dr Ramesh S
Principal

Head & Dept. Medical Surgical Nursing
Indira Gandhi School and College of Nursing
Munshiganj, Amethi, Uttar Pradesh, India

It gives me immense pleasure to extend my heartfelt greetings to all participants of the 2nd International Conference on “Nursing Research Beyond Boundaries: Research Methodological Integration for Universal Well-being” organized on 4th, 5th, and 6th December 2025 under the theme “Innovative Applications of Mixed Methods in Nursing Research and Practice.”

In the rapidly evolving landscape of healthcare, the integration of diverse research methodologies has become a vital force in shaping evidence-based nursing education and practice. This conference provides an excellent platform for scholars, educators, and practitioners to engage in meaningful dialogue, share empirical insights, and explore innovative applications of mixed-method research that transcend traditional disciplinary limits.

By embracing methodological integration, we not only advance scientific inquiry but also reaffirm our collective commitment to universal well-being and compassionate care. This conference will inspire new collaborations, foster research excellence, and contribute significantly to the global body of nursing knowledge.

I extend my best wishes to the organizing committee, resource persons, and participants for the grand success of this academic endeavor.

With warm regards,

Dr Ramesh S

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025



Dr Gomathi M
Vice Principal

Head & Dept. Community Health Nursing
Indira Gandhi School and College of Nursing
Munshiganj, Amethi, Uttar Pradesh, India

I am delighted to extend my warm greetings on the occasion of the 2nd International Conference titled “Nursing Research Beyond Boundaries: Research Methodological Integration for Universal Well-being,” scheduled for December 4th, 5th, and 6th, 2025. The theme for this conference is “Innovative Applications of Mixed Methods in Nursing Research and Practice.”

This conference represents an essential academic initiative aimed at promoting excellence in nursing research through methodological integration. By embracing mixed-method approaches, researchers and practitioners will be better equipped to explore the various dimensions of health and to develop evidence-based practices that contribute to universal well-being.

I would like to take a moment to recognize the exceptional efforts of the organizing committee in establishing this important platform for knowledge exchange and collaboration. I believe that the thoughtful discussions and scholarly deliberations will greatly enhance participants' understanding and serve as a catalyst for innovative research initiatives in nursing education and practice. This event represents a valuable opportunity for meaningful engagement and contributions to our field.

Best wishes for the success of this international conference.

Dr Gomathi M

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025



Prof. Dr. Sandeep Poddar
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It is my proud privilege to address the participants of the 2nd International Conference on “Nursing Research Beyond Boundaries: Methodological Integration for Universal Well-being”, scheduled from 4th–6th December 2025 organised by Indira Gandhi School and College of Nursing, Amethi (U.P.). The theme of this year, “Innovative Applications of Mixed Methods in Nursing Research and Practice” targeted to the advancement of nursing research in a cross and multidisciplinary approach.

Nursing research beyond boundaries pertains to the advancement of nursing knowledge and practice across geographical, cultural, and technological frontiers. This encompasses research on subjects such as nurse migration and the worldwide influence of the nursing workforce, as well as the utilization of technologies like telemedicine and artificial intelligence to address geographic barriers and facilitate access to innovative healthcare solutions. The application of artificial intelligence in healthcare enhance the provision of patient-centered care, marking a progression toward an industry revolution. 5.0 (IR5.0).

The nursing profession plays a vital role in achieving United Nations Sustainable Development Goals (UNSDGs) by the year 2030 in multilevel way. Nursing research not only restricted in SDG 3: Good Health and Well-being, it also caters, SDG 4: Quality Education, SDG 5: Gender Equality, SDG 8: Decent Work and Economic Growth, and SDG 17: Partnerships for the Goals: Studies also link nursing practice to environmental SDGs, such as clean water and sanitation (SDG 6), affordable and clean energy (SDG 7), and life below water (SDG 14), acknowledging that health is influenced by these external factors. It also aligns with India's healthcare vision for 2047, encapsulated under the theme "One Earth One Health," aims to ensure "Wellness and Welfare for Everyone," emphasizing physical, mental, and social well-being for achieving "Health for All" by 2047.

I wish in this two days' event the research papers discussions will make a combined effort for the future ready community healthcare support with healthcare preparedness.

Prof. Dr. Sandeep Poddar

Deputy Vice Chancellor (Research & Innovation)

Lincoln University College, Malaysia

IMPACT-NURSE 2025: Mixed methods research creates IMPACT in nursing

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025



Prof. K. Victor Babu, Head –WPF- UNESCO, India

It is a privilege to share my thoughts at this 2nd International Conference organized by **Indira Gandhi School and College of Nursing (IGSCON), a unit of Sanjay Gandhi Memorial Trust (SGMT), Amethi, UP, India**, where the theme “Nursing Research Beyond Boundaries: Research Methodological Integration for Universal Well-Being” invites us to pause, reflect, and re-examine the very foundations of knowledge itself.

Philosophy teaches us that inquiry begins with wonder. Nursing research, when viewed through a philosophical lens, is not merely the collection of data or the execution of techniques—it is a profound engagement with the essence of human life, suffering, healing, and dignity. Mixed-method research embodies this spirit by acknowledging that truth is multidimensional. It reminds us that human experience cannot be fully understood through numbers alone, nor solely through narratives, but through a thoughtful synthesis of both.

In embracing methodological integration, we accept a simple yet powerful philosophical truth: reality is complex, and understanding it requires openness of mind and generosity of perspective. The convergence of qualitative and quantitative approaches mirrors the convergence of reason and empathy, logic and lived experience—an ideal harmony that both philosophy and nursing deeply value.

As this platform embark on discussions, presentations, and scholarly exchanges throughout this conference, I encourage all participants to remain curious, to question assumptions, and to appreciate the diversity of thought that enriches every field of knowledge. Let this gathering serve not only as an academic event but as a reminder that the pursuit of universal well-being is both a scientific responsibility and a moral endeavor.

May your research continue to cross boundaries, build meaningful connections, and contribute to a world where knowledge uplifts humanity.

With thoughtful regards,

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025



Dr. Ni Luh Putu Agustini Karta
Vice Chancellor / Vice Rector of Academic
Triatma Mulya University,
Bali, Indonesia

It is my pleasure to extend warm greetings to all participants of this International Conference on “Nursing Research Beyond Boundaries: Research Methodological Integration for Universal Well-Being.” On behalf of Triatma Mulya University, Bali, I appreciate the efforts of **Indira Gandhi School and College of Nursing, Munshiganj, Amethi, UP, India**, in bringing together scholars and practitioners for this meaningful academic event.

The theme reflects a forward-looking approach to research—integrating quantitative and qualitative methods to generate knowledge that is both rigorous and deeply human-centered. Such interdisciplinary engagement is essential in addressing the complex challenges of modern healthcare and promoting global well-being.

I encourage all participants to share ideas, collaborate openly, and make the most of this international platform. May the insights gained here inspire innovation, strengthen academic excellence, and contribute to improved health outcomes across communities.

Wishing the conference great success.

With warm regards,
Dr. Ni Luh Putu Agustini Karta

2nd International Conference: “Nursing research beyond boundaries: Research methodological integration for universal well being”
December 04 - 06, 2025

Message



**Dr. Vasanthakumari Sundararajan, Assistant Professor,
Dep. of Paediatric Nursing, College of Applied Medical Sciences,
King Faisal University, Al-Ahsa, Kingdom of Saudi Arabia**

It is my great pleasure and privilege to be a part of the 2nd International Conference organized and hosted by **INDIRA GANDHI SCHOOL AND COLLEGE OF NURSING, AMETHI, UTTAR PRADESH, INDIA**, which will be held on 4th, 5th, and 6th Dec 2025. This 2nd International Conference on Nursing Research Beyond Boundaries: Methodological Integration for Universal Wellbeing will throw light on the theme: Innovative applications of Mixed Methods in Nursing Research & Practice.

Warm greetings to all. My hearty congratulations to the organizing committee of the conference for their mammoth tasks and relentless efforts in organizing this conference, and I extend my best wishes to all participants. I wish this conference a huge success.

Health care professionals and students need up-to-date information for teaching, learning, research, and practice. There is a significant importance for curating a vast and in-depth understanding of the innovative research concepts and contents in order to infuse reliable and authentic information to the participants. The expertise shared by all speakers will be efficiently inculcated within the ambit of Health healthcare profession. There is a collaborative need to bridge any gaps that exist between theoretical knowledge and research practice, and the conference connects the knowledge and practice paradigm relevant for the current and futuristic needs. The topic on Mixed Methods Research in Socio-Ecological Perspective will throw deliberations on understanding social-ecological systems and developing effective, actionable solutions by all health cadres in teaching, practice, and research areas.

This conference hopes to bring a systematic shift towards content dissemination and connect all healthcare professionals and educationists across the globe under an academic platform with high spirits.

I wish the conference a blockbuster victory and successful accomplishment.

S. Vasanthakumari

IMPACT-NURSE 2025: Mixed methods research creates IMPACT in nursing



PEDAGOGICAL SYNTHESIS: APPLYING MIXED METHODS TO TRANSFORM NURSING EDUCATION AND RESEARCH CULTURE

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ABSTRACT

Nursing education is evolving amid complex healthcare demands that require both evidence and empathy. Mixed methods research (MMR) offers a transformative framework that unites quantitative rigor with qualitative depth, fostering reflective and evidence-based learning. This paper introduces the PEARLS model—Practice integration, Evidence-based learning, Analytical thinking, Research culture building, Learner-centered approach, and Synthesis of methods—to guide the use of MMR in nursing education and research. By integrating measurable outcomes with lived experiences, MMR enhances curriculum design, faculty development, and institutional innovation. The approach promotes holistic learning, critical inquiry, and cultural competence, ultimately transforming nursing education into a dynamic, research-informed ecosystem that advances professional excellence and compassionate care.

KEYWORDS: Mixed Methods, Nursing Education, Pearls Model, Evidence-Based Teaching, Research Culture

INTRODUCTION

Nursing education is now in a time where complicated healthcare situations require evidence that is both reliable and relevant. Traditional boundaries between quantitative and qualitative paradigms have gradually dissolved, giving rise to mixed methods research (MMR) as a transformative framework for educational and practice-based inquiry. The combination of mixed methods in nursing means more than just blending methods—it indicates a cultural change towards inclusivity, reflection, and adaptability in how nurses learn, teach, and create knowledge.

PEARLS OF NURSING SHINE THROUGH PRACTICE, EVIDENCE, ANALYSIS, RESEARCH, LEARNING, AND SYNTHESIS (FIGURE 1)

P – Practice integration (Combines theory with real-world nursing application)

E – Evidence-based learning (quantitative and qualitative data for informed teaching)



Cover Page



- A – Analytical thinking (Develops critical reasoning and problem-solving in students)
- R – Research culture building (inquiry, reflection, and scholarly growth among nurses)
- L – Learner-centered approach (student engagement and experiential understanding)
- S – Synthesis of methods (Blends qualitative and quantitative insights for holistic outcomes)

THEORETICAL/CONCEPTUAL FRAMEWORK

The Pedagogical Synthesis (PEARLS) Framework is grounded in pragmatism, the philosophical foundation of Mixed Methods Research (MMR). Pragmatism emphasizes that knowledge is best understood through the practical integration of quantitative and qualitative approaches to address complex real-world problems. This framework links educational practice, research inquiry, and professional growth through six interrelated elements: Practice, Evidence, Analysis, Research, Learning, and Synthesis ¹.

Application in Nursing Education ^{2,3}

Utilizing mixed methods can revolutionize nursing education by shifting from traditional, instructor-led strategies to more engaging, student-focused frameworks that promote critical thinking and evidence-based practice (EBP).

Curriculum Design: Educators can leverage qualitative data (such as student reflections, interviews, and experiences) to pinpoint learning needs and guide the creation of educational interventions, which are subsequently assessed using quantitative measures (like test scores, competency checklists, and attitude scales).

Teaching - Learning Strategies: Utilizing mixed methods aids in evaluating the effectiveness of innovative teaching approaches such as simulations, case studies, and team-based learning. While quantitative data may indicate enhanced performance outcomes, qualitative data uncovers students' experiences and the fundamental reasons behind their success, facilitating the improvement of these methods. It also enhances the teaching–learning process by allowing educators to examine students' critical thinking, problem-solving, and decision-making abilities. Structured questionnaires may identify learning gaps, while focus group discussions or reflective journals provide insights into emotional engagement and learning challenges.

Evaluation and Feedback: Traditional evaluation methods often focus only on grades or test results. Mixed methods extend evaluation beyond numbers by exploring the reasons behind those results. Surveys and test scores show patterns of achievement, while student reflections and open-ended responses explain how learning occurred. This combination ensures fairer, more context-based assessment and helps teachers identify both academic strengths and areas needing support.

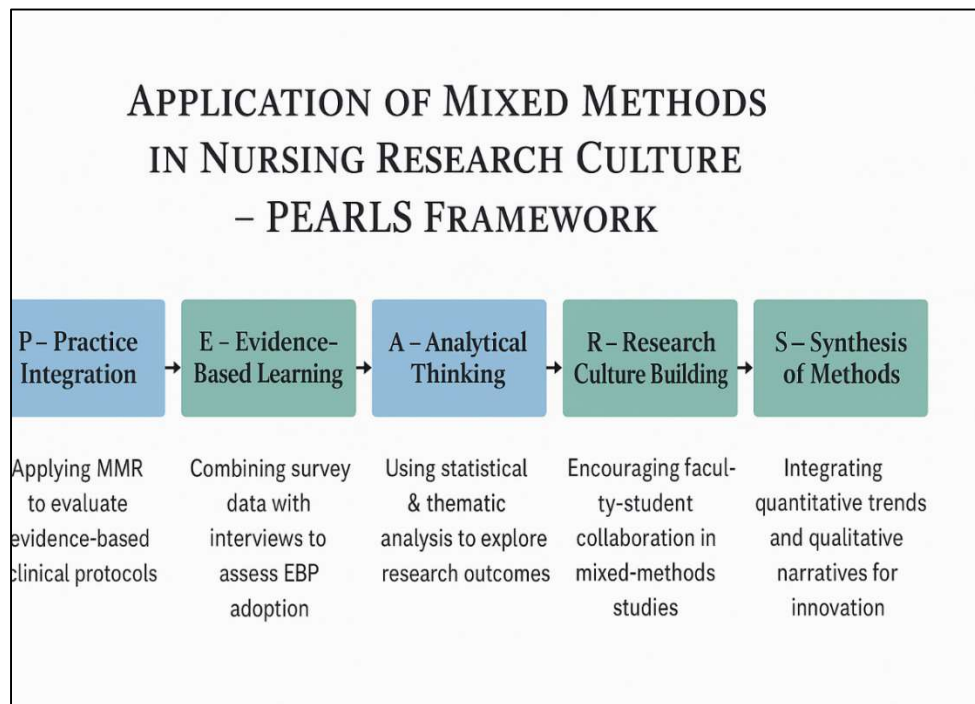


Evidence-Based Teaching: Incorporating mixed methods into nursing education strengthens the foundation of evidence-based teaching. Quantitative findings offer measurable proof of effectiveness, while qualitative insights explain how educational strategies impact learners' motivation, confidence, and clinical performance. This dual perspective helps educators make informed decisions when updating lesson plans, selecting learning tools, or improving instructional delivery.

Faculty Development: Mixed methods research helps nurse educators grow professionally by combining classroom results with student and peer feedback. It gives teachers a clear view of their teaching effectiveness, encourages reflection, and helps them improve teaching methods and student engagement. This approach also promotes continuous learning and a culture of inquiry among faculty.

Institutional and Policy Improvement: Mixed methods research helps institutions improve curriculum, accreditation, and policy decisions. Quantitative data show performance results, while qualitative feedback from students and teachers explains real experiences and challenges. Together, they guide evidence-based actions to enhance the overall quality of nursing education.

Figure 1: PEARLS Framework





Cover Page



Holistic Learning and Professional Growth: Mixed methods research creates a balanced learning environment that values both data and human experience. It helps students think critically, connect research with real nursing care, and build key skills like empathy, observation, and decision-making for holistic practice.

Value-Based Education: Mixed methods research supports value-based education by combining knowledge, skills, and ethical understanding. It helps students link classroom learning with real-life nursing care, promoting empathy, responsibility, and compassion. By valuing both data and human experience, students develop critical thinking, observation, and decision-making skills essential for holistic and professional nursing practice.

Enhancing Research Ability: It helps them understand how to collect, analyse, and interpret both numerical and descriptive data. Through this approach, learners develop critical thinking, problem-solving, and analytical skills. It also builds confidence to design evidence-based studies and apply research findings in real nursing practice.

Cultural Competence in Nursing Practice: It helps nursing students understand and respect cultural diversity in healthcare. Combining statistical data with personal experiences enables learners to identify the cultural needs, beliefs, and values of clients. This approach promotes empathy, effective communication, and culturally appropriate care in nursing practice.

Application in Nursing Research (Figure 2) Culture⁴⁻⁶

Fostering Innovation in Nursing Research: It inspires creativity and innovation among nurse researchers. Combining statistical findings with personal insights allows exploration of complex healthcare challenges from multiple angles. This approach encourages nurses to design new interventions and improve patient outcomes through innovative evidence-based strategies.

Building a Research-Informed Culture: Integrating mixed methods promotes a culture where research becomes part of everyday nursing practice. It helps educators, students, and practitioners make informed decisions supported by both data and lived experiences, strengthening professional accountability and continuous learning.

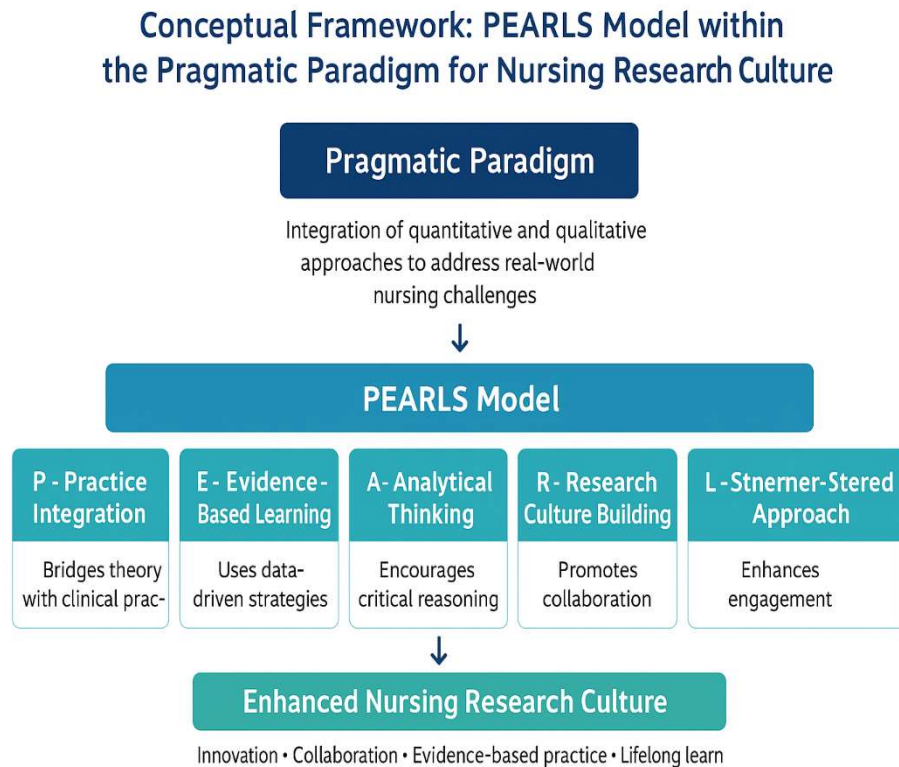
Encouraging Collaborative Research: MMR nurtures teamwork by bringing together professionals from various disciplines. Collaboration between nurses, educators, and policymakers ensures that research outcomes are comprehensive, relevant, and applicable to real clinical and educational contexts.

Cultivating Evidence-Based Thinking: Through mixed methods, nursing professionals develop critical thinking and analytical skills. They learn to interpret both quantitative and qualitative findings to support evidence-based care decisions, enhancing patient safety and the overall quality of healthcare delivery.



Enhancing Scholarly Inquiry in Nursing: This approach promotes deeper academic engagement by integrating diverse perspectives into the research process. Mixed methods equip nurse scholars with tools to explore not only what happens in care settings but also why and how, leading to richer and more meaningful contributions to nursing science ⁷.

Figure 1: PEARLS Model in the Pragmatic Paradigm for Nursing Culture



The rationale for using mixed methods in nursing education

- Nursing education encompasses intricate, context-sensitive competencies such as clinical judgment, communication, and professional identity, which are inadequately represented by singular methods alone.
- Mixed methods yield practical insights for educators and administrators: they merge effect-size estimates and generalizability with participant perspectives that elucidate mechanisms and obstacles to implementation.
- Educating student nurses and faculty in mixed methods enhances the capacity for EBP and equips graduates to assess and modify practice in actual clinical environments.



Cover Page



CONCLUSION

Mixed methods in nursing education go beyond methodology—they represent a shift in how nurses learn and think. By uniting data with lived experiences, this approach reflects the true complexity of nursing practice. It nurtures reflective, evidence-driven professionals who blend science with compassion. Ultimately, mixed methods transform nursing education into a dynamic space where learning, research, and care evolve together to advance professional excellence and human well-being.

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Cover Page



INNOVATIVE NURSING STRATEGIES FOR ENHANCE WOUND HEALING AND QUALITY OF LIFE AMONG PATIENTS WITH DIABETIC FOOT ULCER: A QUASI-EXPERIMENTAL STUDY

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ABSTRACT

Introduction: Diabetes mellitus remains a major global health burden, with the International Diabetes Federation (IDF) reporting 537 million adults living with diabetes in 2023, projected to rise to 643 million by 2030. India alone accounts for over 101 million diabetics, making it one of the world's largest contributors to diabetes-related morbidity. Among the severe complications, diabetic foot ulcer (DFU) affects nearly 15% to 25% of individuals with diabetes during their lifetime and contributes to 85% of all diabetes-related lower-limb amputations. Worldwide, every 20 seconds, someone undergoes an amputation due to diabetic complications. DFU is associated not only with prolonged hospitalization and increased healthcare expenditure but also with significant deterioration in physical, psychological, and social well-being. Traditional wound management often fails to deliver optimal healing in chronic ulcers due to impaired immunity, persistent infection, poor glycemic control, and delayed tissue regeneration. Citric acid, a low-cost, broad-spectrum antimicrobial, has shown promising efficacy in chronic wound management, with healing rates reported above 90% in previous studies. Parallely, structured patient education enhances patients' knowledge, lifestyle practices, and self-care ability, improving quality of life (QOL). Recognizing the need for combined, evidence-based nursing interventions, this study evaluated the effectiveness of citric acid dressing along with planned educational intervention on wound healing and quality of life among patients with DFU. The study objectives are to evaluate the effectiveness of nursing strategies on wound healing and QOL in the experimental group and compare post-intervention wound healing & QOL between the groups.

Methodology: A quantitative quasi-experimental pre-test/post-test control group design was adopted in the general surgical wards of a tertiary care hospital in South India. A total of 120 patients with Grade III and IV DFU were selected using purposive sampling and assigned to experimental (n=60) and control (n=60) groups.



Cover Page



Innovative Nursing Strategies consists of 3% citric acid dressing and planned educational intervention on diabetes management, foot care, and ulcer prevention. The experimental group received 3% citric acid dressing daily for 21 days and planned educational intervention. The control group received conventional dressing and routine care. Wound healing was assessed using the Modified Bates-Jensen Wound Assessment Tool, and QOL was measured using the Modified Burroughs Diabetes Quality of Life Inventory. Data were analyzed using descriptive and inferential statistics.

Results: At baseline, 100% of patients in both groups had critical wound status and poor QOL. After 21 days of citric acid dressing, the experimental group showed a profound improvement, with the wound score reducing from 66.23 to 28.03, compared to 66.80 to 36.18 in the control group ($p < 0.0001$). Only 3.3% of experimental group participants retained critical wounds on day 22, compared with 15% in the control group. Quality of life improved remarkably: 91.7% of participants in the experimental group achieved good QOL, while the control group had only fair improvement ($p < 0.000$). Significant associations were identified between wound healing and variables such as marital status, history of digital amputation, type of diabetes, and HbA1c levels.

Discussion & Conclusion: The study demonstrated that citric acid dressing is significantly more effective than conventional methods in promoting wound healing among DFU patients. When combined with structured education, the intervention produced a substantial improvement in the overall quality of life, underscoring the value of integrated nursing strategies. Given its cost-effectiveness, simplicity, and high efficacy, citric acid dressing can be considered an excellent alternative for chronic wound management. Routine incorporation of educational interventions enhances patient empowerment, self-management, and long-term outcomes. Adoption of this combined approach in clinical practice can reduce recurrence, lower healthcare costs, and prevent needless amputations.



Cover Page



BRIDGING THE GAP: CONTEMPORARY MENTAL HEALTH NURSING PRACTICES IN RURAL INDIA

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ABSTRACT

Integrating mental healthcare into primary healthcare services, strengthening local capacities, enhancing awareness to reduce stigma, and providing direct community-based care, mental health nursing plays a vital role in promoting emotional and psychological well-being in rural India. Despite this, mental health initiatives in rural regions remain significantly overlooked and demand urgent attention from the government, policymakers, and community organisations. Although the National Mental Health Programme (1982) and the National Rural Health Mission were established with the intention of improving access to care, progress in delivering comprehensive mental health services to rural populations has been limited. With rising population pressures, lifestyle transitions, unemployment, inadequate social support systems, and increasing uncertainties, the burden of mental health issues in rural communities is expected to grow. Therefore, strengthening rural mental health services has become an essential priority for achieving holistic community wellness.

INTRODUCTION

India is currently facing a significant mental health challenge, marked by a wide treatment gap—estimated at nearly 70–92%—in accessing appropriate psychological and emotional care. This crisis is even more severe in rural regions, where the shortage of mental health professionals, persistent stigma, and weak healthcare infrastructure leave millions undiagnosed and untreated. The overall burden of mental health disorders in the country has almost doubled since 1990, underscoring the urgent need for effective, scalable, and sustainable solutions.

Contemporary approaches to mental health nursing in India are evolving rapidly. Care is no longer confined to urban hospitals; instead, there is a strategic shift toward community-oriented models. These include task-sharing with trained non-specialist health workers—such as Accredited Social Health Activists (ASHAs), integrating mental health services into existing primary healthcare systems, and expanding digital access through



initiatives like the Tele-Mental Health Assistance and Networking Across States (Tele-MANAS) program. Together, these innovations aim to make mental healthcare more accessible, affordable, culturally relevant, and equitable. By strengthening community-based care and bridging the rural–urban divide, India can move closer to ensuring holistic emotional and mental well-being for all.

MAJOR CHALLENGES

Human resource shortage: A significant deficit of qualified mental health professionals exists in rural regions. most psychiatrists, psychologists, and psychiatric nurses are employed in urban areas rather than in villages.

Stigma and lack of awareness:

numerous individuals refrain from seeking assistance due to stigma, discrimination, and insufficient awareness regarding mental health. this frequently results in postponed treatment or reliance on traditional healers.

Infrastructure deficits: Rural health centres are deficient in adequate facilities, equipment, and privacy for mental health consultations. Many primary health centres (PHCs) are overcrowded and lack designated areas for counselling.

Cultural barriers: Traditional beliefs regarding the origins of mental illness influence how individuals pursue help. mental health services must be culturally sensitive to gain acceptance.

Logistical and financial constraints: Long distances, inadequate transportation, and elevated treatment costs hinder access to mental health care. Numerous families encounter financial difficulties due to treatment expenses.

BRIDGING THE GAP: THE ROLE OF NURSING

Mental Health nurses and community health workers enhance mental health care in rural areas by:

- serving as the initial point of contact for patients.
- Identifying issues early and referring cases to specialists.
- offering counselling, psychoeducation, and follow-up care.
- leading awareness initiatives to diminish stigma.
- advocating for mental health policies and community support.

CONTEMPORARY PRACTICES IN 2025

In 2025, the focus of rural mental healthcare in India is on integrated, technology-enhanced, and community-oriented nursing practices. These methods significantly depend on task-sharing with frontline workers to address the shortage of specialists and mitigate stigma.



Cover Page



Key practices integrated in primary care: mental healthcare has become a fundamental service within Ayushman Arogya Mandirs (enhanced PHCs and sub-health centres) as part of the Ayushman Bharat initiative.

Task-sharing and capacity building: The government provides training for general health workers, including nurses and ASHA workers, via platforms such as igot-diksha. This initiative aims to alleviate the deficit of specialised mental health professionals.

Tele-mental health services: The expansion of telehealth continues. The national tele mental health programme (tele-manas) serves as a significant support system. By February 2025, it has managed over 1.81 million calls. The 24/7 helpline offers counselling and referrals in 20 different languages.

Community-based outreach: Drawing inspiration from initiatives like "Project Shifa" and the "Raipur Rani Project," nurses and field workers conduct regular home visits. They monitor patients, assist with medication adherence, and work to prevent treatment dropout.

Psychoeducation and stigma reduction: Awareness initiatives in schools, workplaces, and communities are crucial components of the district mental health programme (DMHP). Local leaders frequently participate to help diminish stigma and alter traditional beliefs.

Financial protection: Mental health disorders such as schizophrenia, bipolar disorder, and intellectual disabilities are included under the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PMJY). This provision aids in alleviating financial burdens for rural families.

THE ROLE OF MENTAL HEALTH NURSES IN 2025

- In 2025, mental health nurses in rural India are critical to the "care cascade".
- Early identification and screening of mental health issues.
- Providing primary-level care and psychosocial interventions at Ayushman Arogya Mandirs.
- Ensuring continuity of care through community follow-ups and home visits.
- Liaising between patients, families, local health workers, and specialist centres via telehealth.
- Advocating for patient rights and leading anti-stigma efforts within communities.

CORE COMPONENTS OF THE FRAMEWORK

This conceptual framework helps bridge the gap in mental health nursing practices in rural areas. it looks at influences at different levels—individual, family, community, and system—and uses integrated care, technology, and community involvement to improve access, equity, and quality of care.



Cover Page



TABLE 1: KEY COMPONENTS OF THE FRAMEWORK

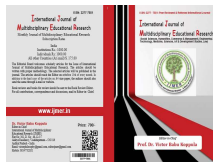
Component	Description	Relevance To Rural Nursing
Agent	The psychiatric nurse or trained primary care provider who delivers care.	nurses play a central role in remote areas. they need special training, empathy, and teamwork skills to handle different cases and work with other professionals.
Recipient	The individual, family, or community receiving care.	care must be patient-centred and culturally sensitive. it should respect local beliefs, reduce stigma, and encourage people to seek help.
Context	The environment where care is provided, including health facilities, community norms, and policies.	nurses must work within local infrastructure, deal with long distances, and consider social issues like privacy concerns in small communities.
Guiding Procedure	The systematic and evidence-based processes used in delivering care.	this includes continuous training, supervision, standardised workflows, and sharing tasks with non-specialists.
Energy Source	The resources and support systems that sustain activities.	this includes proper funding, strong policies, coordination between ministries, support for nurses, and access to research and information.
Product	The expected outcomes of the interventions.	the goal is better mental health, improved quality of life, increased access to services, and a fairer and efficient health system.

SCIENTIFIC REVIEWS AND FINDINGS

Recent scientific evidence from 2023–2025 strongly supports the effectiveness of contemporary mental health nursing practices in improving rural mental healthcare in India. Key findings from recent research include:

1. Effectiveness of Multifaceted, Nurse-Led Interventions:

A major clinical trial conducted in November 2024 across rural regions of Haryana and Andhra Pradesh demonstrated that nurse-led, multicomponent mental health interventions significantly improved early identification, treatment adherence, and community engagement for common mental disorders.



Cover Page



2. Components of the Intervention:

The integrated approach used in the trial included:

- **Training primary healthcare workers** in the WHO's *mhGAP* guidelines to strengthen early detection and frontline management of mental health conditions.
- **A smartphone-based decision-support application**, which assisted nurses and community health workers in making accurate, evidence-based clinical decisions.
- **A community-based anti-stigma campaign titled *REMODYFY***, aimed at improving mental health awareness, reducing stigma, and increasing community acceptance of mental health services.

Together, these findings highlight the growing importance of mental health nursing in bridging treatment gaps, empowering rural health systems, and delivering culturally relevant and scalable care to underserved populations.

KEY RESULTS

The intervention demonstrated strong clinical effectiveness and meaningful improvements in mental health outcomes among rural populations:

- **Significant Reduction in Depression Risk:** High-risk individuals showed a notable reduction in depression symptoms within a 12-month follow-up period.
- **Higher Remission Rates:** Remission rates were markedly better in the intervention group (74.7%) compared to the control group (50.6%), highlighting the substantial impact of the nurse-led, multicomponent approach.
- **Implication for Practice:** These outcomes confirm that task-sharing models, where trained nurses and primary healthcare workers deliver evidence-based mental health interventions, are both feasible and highly effective in rural, low-resource settings.

3. Growth of Tele-Mental Health Services

India has witnessed a rapid expansion of digital mental health services in recent years. Tele-MANAS, launched in October 2022, managed over 1.81 million calls by early 2025, demonstrating its wide reach and growing acceptance. The platform provides 24/7 counselling support in multiple languages and has been recognized by the WHO as an innovative and scalable model for low- and middle-income countries. Tele-MANAS also ensures continuity of care by linking callers to local mental health services and coordinating with primary health centres, including Ayushman Arogya Mandirs, thereby strengthening community-level mental healthcare delivery.



4. Policy Gaps and Ongoing Challenges

Despite progress, significant gaps remain. A 2025 study using a “care cascade” approach revealed that the treatment gap for mental health conditions continues to be extremely high—estimated between 70% and 90%. Findings from the November 2024 clinical trial also indicated that although depression severity decreased through structured interventions, overall help-seeking behaviour showed minimal improvement, highlighting the persistent influence of stigma, misinformation, and cultural barriers in rural communities.

5. Need for a Community-Wide Approach

The Economic Survey 2024–25 advocates for adopting a “whole-of-community” approach to mental health promotion. This approach emphasises the participation of not only trained health workers but also **community** members, local leaders, educational institutions, and grassroots organisations. Through initiatives such as **REMODIFY**, communities can be mobilised to build supportive environments, reduce stigma, strengthen social networks, and improve early help-seeking. Such community-driven models are essential for achieving sustainable mental well-being at the population level.

CONCLUSION

The large mental health treatment gap in rural India, estimated at 70–90%, shows a serious and complex crisis that needs strong, multi-level solutions. challenges such as the severe shortage of trained professionals (with only about 0.8 psychiatric nurses per 100,000 people) and the deep stigma around mental illness make the situation even more difficult. However, modern nursing and healthcare practices are creating practical ways to move forward. Overall, these innovative, combined approaches, not single solutions, offer the most realistic and sustainable path toward fair and accessible mental healthcare for all.

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Cover Page



THERAPEUTIC ROLE OF YOGA FOR DEPRESSIVE SYMPTOMS

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ABSTRACT

Yoga represents a holistic mind–body practice that incorporates physical postures, movement, breathing exercises, relaxation techniques, mindfulness, and meditation. It has been shown to enhance adherence to physical activity and is generally well accepted across diverse populations. Evidence supports yoga as a safe and effective complementary approach for reducing symptoms of depression and anxiety, and its integration with conventional treatments such as pharmacotherapy and psychological counselling may contribute to improved overall well-being and enhanced therapeutic outcomes.

Major depressive disorder (MDD), a severe form of depression, is one of the most common psychiatric illnesses, affecting an estimated 2% to 20% of the population. Diagnostic data indicate that individuals with MDD often experience single or recurrent depressive episodes, with a lifetime prevalence of approximately 16.6%. The risk of recurrence remains high, ranging from 35% to 80% within the first year following recovery. Globally, depression ranks as the sixth leading cause of disease burden among individuals aged 10–49 years, affecting nearly 17% of the population and substantially contributing to overall global morbidity. Furthermore, MDD is associated with an elevated risk of suicide, particularly among younger individuals, with at least 10% reporting suicidal thoughts or behaviours. Together, these findings underscore the potential role of yoga as a valuable adjunctive strategy in the management of depressive disorders.

INTRODUCTION

Yoga, an ancient mind–body discipline originating from India, has emerged as a promising and widely accepted complementary approach for managing depressive symptoms. It offers a comprehensive framework that integrates physical postures (asanas), breathing practices (pranayama), meditation, and ethical principles aimed at fostering harmony and balance between the physical and psychological domains. This multidimensional nature distinguishes yoga from conventional exercise or isolated meditation techniques. Over recent years, scientific evidence has increasingly supported the therapeutic benefits of yoga in the context of depression. Although yoga is not considered a standalone treatment for major depressive disorder (MDD), it is recognised as a safe,



Cover Page



beneficial, and broadly acceptable adjunct to standard treatment modalities, including pharmacological interventions and psychotherapeutic counselling, thereby enhancing overall treatment outcomes and patient well-being.

THERAPEUTIC BENEFITS OF YOGA IN DEPRESSION

- 1. Reduction in Depressive Symptoms:** Extensive empirical studies and meta-analytic reviews consistently demonstrate that yoga practice is associated with a significant reduction in depressive symptomatology. The integration of physical postures, controlled breathing, and mindfulness appears to exert beneficial effects on mood regulation and psychological stability.
- 2. Enhanced Recovery Outcomes:** Individuals who incorporate yoga into their routine exhibit improved recovery trajectories compared with those receiving standard treatment alone. Regular participation in yoga interventions has been linked with higher remission rates, suggesting that yoga may strengthen treatment responsiveness and support sustained improvement.
- 3. Improved Stress Regulation:** Yoga plays a pivotal role in moderating stress responses by activating relaxation mechanisms and reducing hyperarousal of the sympathetic nervous system. Through mindful breathing and meditative practices, yoga helps diminish physiological stress, thereby addressing a core contributor to the onset and maintenance of depressive disorders.
- 4. Promotion of Overall Well-Being:** Consistent engagement in yoga is associated with wide-ranging enhancements in general health and quality of life. Evidence suggests improvements, including increased energy levels, improved sleep quality, higher self-esteem, and a more positive emotional outlook. These holistic benefits further support yoga's relevance as a comprehensive adjunctive approach in the management of depression.

MECHANISMS OF ACTION

Yoga functions through a range of interrelated mental and physical pathways:

- 1. Regulation of Neurochemistry:** Yoga enhances key mood-related neurotransmitters—GABA, serotonin, and dopamine—while reducing levels of monoamine oxidase, an enzyme responsible for breaking them down.
- 2. Hormonal Equilibrium:** It modulates the hypothalamic–pituitary–adrenal (HPA) axis, resulting in reduced secretion of cortisol, the body's primary stress hormone.
- 3. Autonomic Nervous System (ANS) Balance:** Yoga shifts the body from a sympathetic (stress/"fight-or-flight") state to a parasympathetic (relaxation/"rest-and-restore") state.



This transition reduces heart rate, respiratory rate, and blood pressure.

4. Reduction in Inflammation: Since stress and depression correlate with heightened inflammation, yoga contributes to lowering inflammatory biomarkers such as IL-6 and TNF- α .

EVIDENCE AND EFFICACY

- 1. Symptom Reduction:** Meta-analyses indicate that yoga significantly decreases depressive symptoms, especially when compared with inactive control groups (e.g., wait-list groups).
- 2. Remission Rates:** When used as an adjunct to standard care, yoga contributes to higher remission rates in depressive disorders.
- 3. Supportive / Adjunctive Treatment:** Research suggests that yoga effectively complements pharmacotherapy and psychotherapy, enhancing treatment outcomes.
- 4. Safety:** Yoga is generally safe and well-tolerated, with only rare reports of adverse effects.

THEORETICAL STRUCTURE OF HOW YOGA SUPPORTS HEALING

The theoretical framework explaining yoga's antidepressant effects aligns with a biopsychosocial, mind-body approach, addressing both psychological and physiological contributors to stress and depression.

Yoga operates through two primary mechanisms:

1. Bottom-Up Mechanisms (Body → Brain)

- ❖ **Balancing the Autonomic Nervous System:** In depression and chronic stress, there is overactivation of the SNS and underactivation of the PNS. Yoga, particularly slow breathing and relaxation practice stimulates the vagus nerve, enhancing parasympathetic activity and inducing physiological calm.
- ❖ **Hormonal Regulation:** Regular yoga practice reduces cortisol and catecholamine levels.
- ❖ **Neurotransmitter Modulation:** Yoga increases levels of GABA, serotonin, and dopamine, all of which support mood stabilisation.
- ❖ **Inflammation Reduction:** Through vagal activation, yoga reduces stress-related inflammatory markers such as IL-6.
- ❖ **Neuroplasticity:** Evidence suggests yoga may:
 - ✓ Increase Brain-Derived Neurotrophic Factor (BDNF)
 - ✓ Enhance grey matter volume in emotion-regulating regions (hippocampus, prefrontal cortex)

2. Top-Down Mechanisms (Brain → Body)



Cover Page



- ❖ **Mindfulness and Self-Awareness:** Yoga cultivates present-moment awareness and non-judgmental acceptance, interrupting patterns of negative thinking central to depression.
- ❖ **Coping Enhancement and Self-Efficacy:** Skill acquisition through yoga improves confidence, emotional regulation, and resilience, reducing feelings of helplessness.
- ❖ **Social Support:** Group-based yoga provides interpersonal connection and belonging, which further assists mental health recovery.

SPECIFIC RESEARCH

Jahan et al. (2023), in the *Journal of Traditional and Complementary Medicine*, highlight yoga's antidepressant potential through:

- Modulation of the HPA axis
- Balancing neurotransmitters (GABA, serotonin, dopamine)
- Reducing inflammatory markers (IL-6)
- Shifting ANS activity from sympathetic to parasympathetic dominance

CONCLUSION

Evidence consistently shows that yoga is an effective adjunctive therapy for reducing depressive symptoms. It is safe, well-accepted, and carries minimal risk of adverse effects. Existing research strongly supports incorporating yoga into a comprehensive mental health care plan for managing depression. Individuals should seek guidance from a healthcare provider to ensure safe and appropriate integration of yoga into their treatment regimen.

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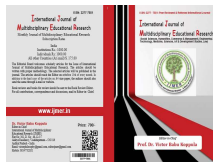
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Cover Page



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Cover Page



DIGITAL TRANSFORMATION OF INTRAPARTUM MONITORING: A COMPARATIVE REVIEW OF DIGITAL AND TRADITIONAL PARTOGRAPHS IN MODERN OBSTETRIC PRACTICE

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ABSTRACT

Effective intrapartum monitoring is essential for ensuring maternal and fetal safety during childbirth. The transition from the traditional paper-based partograph to digital partograph systems (e-Partographs) represents a major advancement in obstetric care. This review synthesises current evidence on the features, benefits, limitations, and clinical implications of digital and traditional partographs. Findings indicate that while traditional partographs remain indispensable in low-resource settings, digital partographs provide improved accuracy, real-time alerts, and decision-support functions that enhance timely interventions and clinical outcomes. Successful implementation of digital systems, however, requires addressing challenges related to training, technology dependency, and cost. The review emphasises the need for context-sensitive adoption to maximise benefits for maternal-fetal health.

INTRODUCTION

The partograph has long served as a cornerstone for monitoring labour progression and maternal-fetal well-being. Originally standardized by the World Health Organization (WHO), the traditional partograph aimed to promote timely recognition of abnormal labour patterns and prevent complications such as obstructed labour, fetal distress, and maternal morbidity. With ongoing digitalization in healthcare, the digital partograph (e-Partograph) has emerged as an innovative solution designed to overcome the limitations of manual charting. Digital systems offer automated alerts, real-time visualizations, and cloud-based data management, thereby enhancing clinical decision-making and documentation accuracy. In addition, e-partographs support remote monitoring in resource-limited settings and facilitate continuity of care through multi-user access. They also contribute to improved data quality for audits, research, and health system strengthening. This article compares digital and traditional partographs, summarizing their features, benefits, limitations, and clinical impact, and emphasizes how digital tools support safer and more effective intrapartum care.



Cover Page



DIGITAL PARTOGRAPH (E-PARTOGRAPH)

A digital partograph is an electronic intrapartum monitoring tool—typically used on mobile phones or tablets—that assists healthcare professionals in tracking labour parameters. It is designed to support more accurate monitoring, reduce delays in clinical decision-making, and strengthen maternal–child health outcomes.

KEY FEATURES

- Real-time data entry and visualisation of cervical dilation, uterine contractions, fetal heart rate, and maternal vitals
- Automated alerts for abnormal findings such as prolonged labour or fetal distress
- Cloud-based data storage, supporting multi-provider access and audit trails
- Integrated clinical decision-support tools
- User-friendly interfaces, reducing cognitive load and minimising charting errors.

EXAMPLES OF E-PARTOGRAPH APPLICATIONS

- **DAKSH** – A tablet-based partograph by Janitri Innovations used in primary health centres across Karnataka, India.
- **Suraksh** – Developed during the COVID-19 pandemic to enable remote and digital intrapartum monitoring in low-resource settings.

CLINICAL IMPACT

Studies show that digital partographs can lead to:

- Reduced rates of prolonged labour and cesarean sections
- Improved maternal and neonatal outcomes
- Increased confidence and efficiency among birth attendants

BENEFITS OVER PAPER-BASED SYSTEMS

- Enhanced accuracy and completeness of intrapartum documentation
- Faster recognition of abnormal labour patterns
- Better adherence to WHO labour monitoring guidelines
- Improved confidence and efficiency among midwives and obstetric teams
- Strengthened clinical training and ongoing competency development

LIMITATIONS OF DIGITAL PARTOGRAPHS

1. **Dependence on Technology** – Requires reliable electricity, devices, and internet connectivity.



Cover Page



2. **Training Requirements** – Staff need orientation and practice, leading to possible resistance during early adoption.
3. **Data Entry Errors** – Still dependent on manual input, which may affect accuracy if not done carefully.
4. **Cost Constraints** – Software, hardware, maintenance, and technical support can be expensive.
5. **Limited Aftercare Guidelines** – Some platforms do not offer post-delivery management prompts.
6. **User Acceptance Challenges** – Transition from paper to digital may face hesitancy.
7. **Risk of Over-Reliance** – Dependence on automated prompts may weaken clinical observation skills.

TRADITIONAL PARTOGRAPH

A traditional partograph is a paper-based graphical chart used to track labour progression and maternal–fetal well-being. Divided into fetal, labor, and maternal parameters, it remains widely utilised—particularly in low-resource settings.

KEY OBJECTIVES

- Standardise intrapartum monitoring
- Detect abnormal labour patterns early
- Guide timely clinical interventions
- Enhance communication among care teams
- Promote maternal and fetal safety

BENEFITS OF TRADITIONAL PARTOGRAPHS

- Simple, inexpensive, and widely accessible.
- Useful in low-resource settings lacking digital infrastructure.
- Encourages health worker accountability and decision-making.
- Supports training and quality assurance.
- Promotes early identification of complications.

LIMITATIONS

- Requires accurate and timely manual documentation.
- Vulnerable to incomplete entries and data loss.
- Compliance is often low in busy or understaffed environments.
- Lack of automated alerts may delay recognition of complications.



Cover Page



DIGITAL VS. TRADITIONAL

While the traditional partograph remains widely used, **digital partographs (e-Partographs)** offer enhanced features like automated alerts, cloud storage, and real-time decision support. These innovations aim to overcome the limitations of manual charting and improve maternal outcomes.

CLINICAL IMPLICATIONS

- **Traditional partographs** are still widely used in many low-resource settings due to their simplicity and low cost. However, they often suffer from poor compliance and incomplete data.
- **Digital partographs** offer enhanced monitoring and decision-making capabilities, especially in busy or understaffed facilities. They help reduce delays in recognising complications like prolonged labour or fetal distress.

DIGITAL VS TRADITIONAL

1. Accuracy and Compliance

- **Digital Partographs:** Studies have shown that digital partographs enhance compliance and accuracy in monitoring labour compared to traditional methods. They can provide real-time data and alerts, which help in making timely decisions.
- **Traditional Partographs:** While they are effective, they may be prone to human error in data entry and interpretation, which can affect the accuracy of monitoring.

2. Monitoring and Alerts

- **Digital Partographs:** These systems often include alert mechanisms that notify healthcare providers when certain thresholds are crossed, indicating the need for intervention. This feature can significantly improve maternal and fetal outcomes.
- **Traditional Partographs:** They rely on manual observation and do not have automated alerts, which can lead to delays in recognising complications.

3. User Interface and Training

- **Digital Partographs:** Typically designed with user-friendly interfaces, making it easier for healthcare providers to input data and interpret results quickly. This can reduce the training time required for staff.
- **Traditional Partographs:** While they are straightforward, they require healthcare workers to be well-trained in interpreting the graphical data, which can vary in complexity.



Cover Page



4. Flexibility and Adaptability

- **Digital Partographs:** They can accommodate various labor durations and conditions, making them more adaptable to different clinical scenarios. This flexibility is crucial in diverse healthcare settings.
- **Traditional Partographs:** They have a fixed structure, which may not be suitable for all labor situations, potentially limiting their effectiveness in certain cases.

5. Resource Requirements

- **Digital Partographs:** Require access to technology and may involve costs related to software and hardware, which can be a barrier in low-resource settings.
- **Traditional Partographs:** Can be used without advanced technology, making them accessible in many low-resource environments.

6. Research and Evidence

- Recent studies indicate that the use of digital partographs can lead to better outcomes, such as a reduction in the rate of prolonged labour (e.g., 30% with digital vs. 42% with traditional methods). This suggests that digital tools may be more effective in managing labour.

7. Global Adoption

- There is a growing readiness among healthcare providers to embrace digital partographs, indicating a shift towards more technologically advanced solutions in obstetric care.

while **traditional partographs** have been a reliable tool in obstetric care, **digital partographs** offer significant advantages in terms of accuracy, real-time monitoring, and adaptability. However, the choice between the two may depend on the specific healthcare setting and available resources.

Table 1: Comparison of Traditional and Digital Partographs

Feature / Aspect	Traditional Partograph	Digital Partograph (e-Partograph)
Format	Paper-based chart	Mobile, tablet, or web-based application
Data Entry	Manual recording by healthcare providers	Real-time digital input with automated calculations
Visualization	Static graph of cervical dilation over time	Interactive dashboard with dynamic graphs and alerts



Cover Page



Table 1: Comparison of Traditional and Digital Partographs

Feature / Aspect	Traditional Partograph	Digital Partograph (e-Partograph)
Alerts & Notifications	No automated alerts; depends on provider vigilance	Automated alerts for abnormal labour patterns
Decision Support	Relies entirely on clinical judgement	Integrated decision-support tools and guidelines
Storage & Access	Physical storage; limited accessibility	Cloud-based storage; accessible across devices
Training & Usability	Requires manual training; higher chance of documentation errors	User-friendly interface; easier for new staff to learn

The comparison between the traditional paper-based partograph and the digital e-partograph highlights significant advancements in labour monitoring practices. The traditional partograph relies entirely on manual recording, static graphing, and the clinical judgement of healthcare providers, making it prone to documentation errors and delays in decision-making. In contrast, the digital partograph offers real-time data entry, automated calculations, and dynamic visual dashboards that enhance accuracy and efficiency. It also provides automated alerts for abnormal labour patterns and integrates decision-support tools, enabling timely and evidence-based interventions. Additionally, while traditional partographs require physical storage and are not easily accessible, the digital version ensures secure cloud-based storage with access across multiple devices. Overall, the e-partograph improves usability, reduces workload, and strengthens the quality of intrapartum care (**TABLE 1**).

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Cover Page



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Cover Page



ASSESSING THE ROLE OF COMMUNITY HEALTH NURSES IN PROMOTING HEALTH JUSTICE

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ABSTRACT:

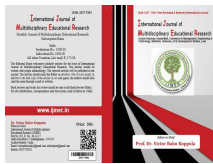
Community health nurses' responsibilities as advocates, educators, and care coordinators, community health nurses advance health justice by addressing the socioeconomic determinants of health (SDOH). They serve as educators to encourage health literacy and preventive habits, as well as advocates by educating people about their rights and available treatments. They work with different health providers and connect underprivileged populations to resources as part of their care-coordinating responsibility. By addressing the underlying socioeconomic determinants of health (SDOH) and reducing health inequities, community health nurses (CHNs) play a crucial and diverse role in advancing health justice. In order to provide fair access to care for all populations, particularly vulnerable and underprivileged groups, their focus goes beyond treating illness to include disease prevention, health promotion, and systemic change advocacy.

INTRODUCTION

In order to promote and safeguard the health of entire populations within a community environment, community health nursing is a specialty that integrates nursing theory and public health science. Health justice—the dedication to addressing and eradicating health disparities and their underlying causes—is the cornerstone of community health nursing practice, in contrast to traditional hospital-based nursing, which frequently concentrates on individual acute treatment. In summary, community health nursing is about a focused, methodical approach to guarantee that each individual has a just and equitable chance to reach their full health potential, rather than just providing healthcare in a community context.

ADVOCACY AND EMPOWERMENT

- **Educate people:** To assist them in navigating the healthcare system, give them information on treatment options, health legislation, and their rights.



Cover Page



- **Connect to services:** Provide vulnerable groups with access to social and healthcare services that they might not otherwise have.
- **Empower communities:** By fostering self-care and increasing capacity, communities can take charge of their health.

EDUCATION AND HEALTH LITERACY

- **Encourage healthy lifestyles:** Inform the public about illness prevention, good habits, and the significance of things like exercise, rest, and food.
- **Boost health literacy:** Enhance the community's comprehension of health information so they can make wise decisions.

ASSESSMENT AND CARE COORDINATION

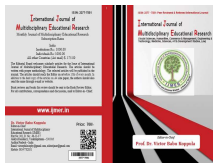
- **Assess SDOH:** Determine how a community's health is affected by social issues such as housing, food security, and transportation.
- **Perform screenings:** Use screens to find new disease instances and follow up with the necessary treatment plans.
- **Coordinate care:** To offer comprehensive and integrated support, oversee care plans, and work with social services and other medical specialists.

COMMUNITY AND RESEARCH

- **Perform community assessments:** To gain a deeper understanding of a community's particular health needs and issues, examine its particular environment.
- **Conduct epidemiological research:** To put into practice efficient preventative measures, investigate the prevalence and distribution of diseases.
- **Form alliances:** Work together with agencies and individuals of the community to develop and carry out health promotion initiatives that target needs identified by the community.

CORE ROLES IN PROMOTING HEALTH JUSTICE

- Activism
- Case management and coordination of care
- Empowerment and Education
- Community Involvement and Cooperation
- Screening and Early Detection of Health Inequities



Cover Page



- Supporting Marginalized and Vulnerable Groups
- Resource Mobilization and Allocation

STRATEGIES TO ADDRESS SOCIAL DETERMINANTS OF HEALTH (SDOH)

CHNs address health inequities at the individual, organizational, and policy levels:

Individual Level:

- **Social Needs Screening:** They carefully and compassionately assess patients for social issues such as food insecurity, unstable housing, or financial instability.
- **Culturally Competent Care:** They treat patients with consideration for their language, cultural background, and values, which helps to break down barriers and foster trust.

Organizational Level:

- **Redesigning Service Delivery:** They increase underprivileged groups' access to care, and they support system modifications like telehealth or longer clinic hours.
- **Trauma-Informed Care:** They use trauma-informed techniques to establish secure and encouraging settings, particularly for vulnerable groups that may have been victims of violence or other trauma.

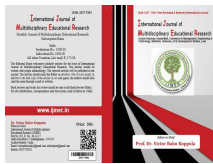
Policy Level:

- **Policy Advocacy:** They inform and support public policies that advance health equity and deal with structural problems like poverty, prejudice, and insufficient education by using their knowledge and data.
- **Community Capacity Building:** They strive to increase communities' ability to band together and speak up for their own needs, giving locals a say in decisions that impact their environment and health.

Systems-Level Advocacy and Structural Change

CHNs take part in "upstream" initiatives to impact the wider determinants of health, going beyond meeting immediate social needs to change the structures that give rise to them.

- **Policy and Regulatory Influence:** At the local, state, and federal levels, nurses use their knowledge to influence and support laws that advance health equity.
- **Leadership Roles:** They hold leadership roles in both the public and private sectors to guarantee that decisions are made with a health and social justice perspective, which is a powerful means of promoting significant change.
- **Fighting Injustice:** Nurses are required by professional nursing organizations to speak out against racism, discrimination, and injustice in both the healthcare system and society at large.



Cover Page



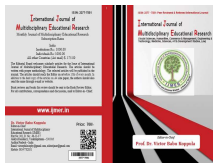
ADVANCED COMMUNITY ENGAGEMENT AND DATA UTILIZATION

Advanced practice in CHN involves systematic assessment and strategic use of data to inform interventions and resource allocation.

- **Systematic Community Needs Assessment:** CHNs conduct comprehensive and systematic community health needs assessments using both primary data (focus groups, interviews, community forums) and secondary data (national and local health statistics) to identify priority health issues and vulnerable populations.
- **Epidemiological expertise:** They use information from epidemiology and public health sciences to track the effects of their treatments on population health outcomes, identify high-risk subgroups within the community, and monitor illness trends.
- **Evaluation and Evidence Generation:** A crucial advanced role is the evaluation of new care models to generate the evidence base needed to scale successful programs and obtain sustainable funding. This includes measuring health equity metrics with strong accountability systems.

INTEGRATED AND COLLABORATIVE PRACTICE MODEL

- **Interprofessional and Multisectoral Collaboration:** To address the intricate and interwoven nature of SDOH, they collaborate with a broad spectrum of professionals (social workers, educators, lawyers, community organizers) and organizations (government agencies, non-profits).
- **Integration of Social Care into Healthcare:** CHNs use five essential actions to help integrate social care into the provision of healthcare:
 - **Awareness:** Recognizing societal assets and risks (e.g., food insufficiency, lack of transportation).
 - **Adjustment:** Changing clinical care plans to lower social obstacles (e.g., telehealth to solve transportation concerns).
 - **Assistance:** Linking individuals with social services (such as food banks). Organizing communal resources for synergy is known as alignment.
 - **Advocacy:** Encouraging laws that provide more resources.
 - **Trauma-Informed and Culturally Safe Care:** They incorporate trauma-informed approaches and ensure practices are culturally sensitive and safe, building trust and respect within diverse communities that may have experienced systemic oppression or trauma.



Cover Page



CONCLUSION

In nut nutshell, by attending to both the immediate medical needs of individuals and the underlying structural injustices in society, community health nurses (CHNs) play a crucial role in promoting health justice. They are essential change agents in attaining health equity since their work goes beyond standard clinical care to include community empowerment, education, and advocacy. In the end, community health nurses play a crucial role in achieving health justice by bringing the concept of "health for all" to life via committed action, empathetic care, and unwavering support for equity.

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Cover Page



Effectiveness of Structured Teaching Programme on Knowledge Regarding Artificial Reproductive Techniques Among Students in Nursing Colleges, Amethi, Uttar Pradesh

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ABSTRACT

This study evaluated the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding Artificial Reproductive Technology among 60 nursing students in Amethi. Using a pre-experimental one-group design, knowledge was assessed before and after the STP with a self-structured questionnaire. The mean knowledge score improved from 10.98 to 11.84, with a significant mean difference ($t = 23.67$, $p < 0.001$), indicating that the STP was highly effective. Post-test knowledge showed a significant association with selected demographic variables. The study concludes that structured teaching greatly enhances nursing students' understanding of ART and should be integrated into nursing education.

KEYWORDS

Artificial Reproductive Technology, Fertility Education, Healthcare Research, Knowledge Assessment, Nursing Education, Nursing Students, Reproductive Health; Structured Teaching Program

INTRODUCTION

Reproduction is a fundamental biological and emotional process, deeply rooted in human existence and social identity. Fertility is considered a vital aspect of womanhood, symbolising continuity, fulfilment, and motherhood. However, infertility—the inability to conceive after one year of unprotected sexual intercourse—poses a significant emotional, psychological, and social burden on individuals and couples. It is broadly classified as *primary infertility* when a woman has never conceived, and *secondary infertility* when conception has occurred at least once, regardless of the outcome (D.C. Dutta, 2008).



The study aims to evaluate the effectiveness of a structured teaching program on knowledge regarding Artificial Reproductive Technology (ART) among nursing students in selected nursing colleges in Amethi, Uttar Pradesh. Reproduction is the blessing of God to all living manifestations. God made this world for all his living manifestations to replicate and fill, and thrive in it. Each human, at birth, is endowed with a life. And each unused day is included in his life not as if to live but to bring out offspring of him and twofold his joy. Ripeness, according to the Longman Lexicon of Modern English, alludes to the condition or state of being prolific, that is, being able to deliver numerous young, natural products or seeds (Reproductive Health Journal).

STATEMENT OF THE PROBLEM

"Effectiveness of Structured Teaching Programme on Knowledge Regarding Artificial Reproductive Technology Among Students in Nursing Colleges, Amethi, Uttar Pradesh."

OBJECTIVES

- To assess the knowledge regarding Artificial Reproductive Techniques among the nursing students in selected nursing colleges.
- To evaluate the effectiveness of a structured teaching program on knowledge regarding Assisted Reproductive Techniques among the nursing students in selected nursing colleges by comparing pre-test and post-test.
- To determine the association between post-test knowledge scores regarding Artificial Reproductive Techniques among the nursing students in selected nursing colleges, with socio-demographic variables

OPERATIONAL DEFINITIONS

Effectiveness: Refers to the improvement in knowledge shown by pre- and post-test score differences.

Knowledge: Correct responses of nursing students, categorized as adequate, moderate, or inadequate.

Infertility: Refers to the inability of a couple to conceive after two years of regular unprotected intercourse.

Artificial reproductive technology: Refers to medical procedures that assist conception through methods other than natural intercourse.

Structure teaching programme: An organised educational plan on infertility and ART.

HYPOTHESES

H1: There will be a significant difference between the pre-test and post-test knowledge scores

H2: There will be a significant association between posttest level of knowledge scores regarding Artificial



Cover Page



Reproductive Technology among nursing students with selected demographic variables.

H3: There is a significant relationship between selected demographic variables and assisted reproductive technology.

H4- Association between pre-test and post-test levels of knowledge with selected socio-demographic variables.

ASSUMPTIONS

1. The student nurses will have a basic knowledge of some Artificial reproductive techniques.
2. The level of knowledge regarding Artificial reproductive techniques among student nurses may differ according to their demographic variables.
3. A structured teaching program may improve the knowledge of student nurses regarding Artificial reproductive techniques.

MATERIALS AND METHODS

RESEARCH APPROACH: An evaluative approach is considered appropriate for this study.

RESEARCH DESIGN: A research design is a logical and systematic plan guiding the selection of subjects, manipulation of variables, and data collection and analysis. In this study, a pre-experimental one-group pre-test post-test design was used to assess nursing students' knowledge of Artificial Reproductive Techniques.

O1 ----- X ----- O2

STUDY/RESEARCH SETTING: The setting for the study is the Indira Gandhi School and College of Nursing.

TARGET POPULATION- The target population of the study was 60 student nurses at selected colleges in Amethi, Uttar Pradesh.

SAMPLING

1. **Sampling Size-** The sample comprises 60 students in Nursing colleges.
2. **Sampling Techniques-** For this study, the researcher used simple random sampling.
3. **Sample Size Calculation-** $n = \frac{Z(a/2)^2 \times P(1-p)}{d^2}$

Inclusion and exclusion criteria for sample selection

❖ **Inclusion Criteria:** The study includes Nursing Students who are

- ✓ willing to participate in the study.
- ✓ perceiving the Nursing course.
- ✓ available at the time of data collection.



Cover Page



✓ can understand the English language.

❖ **Exclusion Criteria:** Student nurses who

✓ are not willing to participate in the study.

✓ already know ART through their curriculum.

✓ are absent at the time of study

VARIABLES UNDER STUDY

i. **Independent Variable:** The independent variable is the structured teaching program.

ii. **Dependent Variable:** The dependent variable is the knowledge of the student nurses.

iii. **Extraneous Variables:** Marital status

DATA COLLECTION TOOL

❖ DEVELOPMENT OF THE TOOL

A self-structured questionnaire was used to assess the knowledge of nursing students regarding artificial reproductive technology. A questionnaire is considered the most appropriate instrument to elicit responses from literate subjects.

The following steps were adopted in the development of the tool

- Review of literature
- Discussion with the guide
- Construction of the tool
- Content validity
- Reliability
- Preparation of final copy

❖ DESCRIPTION OF THE TOOL

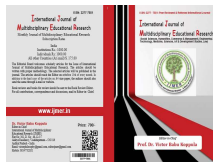
Non-Standardised Tool – Self-Structured Questionnaire.

The tool to collect data from the selected samples consists of **three sections** such as –

Section I: Demographic data

Section II: Self-structured questionnaire to assess the knowledge regarding artificial reproductive techniques.

Section III: Structured Teaching Program Artificial reproductive techniques **Content**



Cover Page



VALIDITY

The tool validation was done by 10 Nursing specialty experts. The suggestions and corrections were made, and the final tool was prepared.

RELIABILITY OF THE TOOL

Reliability of the Self-Structured Knowledge questionnaire was measured by the **test-retest method**.

Karl Pearson's correlation coefficient method was used to calculate it. The tool's reliability was $r = 0.88$. The instrument was discovered to be trustworthy and practical.

Ethical Considerations: Formal permission and informed consent were obtained, confidentiality was maintained, and no harm was caused to the participants.

DATA COLLECTION TECHNIQUE & PROCEDURE

Data were collected at Indira Gandhi School and College of Nursing, Amethi, using a simple random sampling technique. A self-structured questionnaire was administered in two phases: a pre-test to assess baseline knowledge, followed by a Structured Teaching Program on ART, and a post-test to evaluate the program's effectiveness.

PLAN FOR DATA ANALYSIS

The data obtained will be analysed in terms of the objectives of the study using descriptive and inferential statistics.

i. Descriptive Statistics:

- Data will be organised in a master sheet.
- Frequency and percentage will describe the sample distribution by knowledge level.
- Mean and standard deviation will assess pre- and post-test knowledge scores.

ii. Inferential Statistics

- A paired *t*-test will assess the difference between pre-test and post-test knowledge scores.
- A chi-square test will determine the association between knowledge levels and selected demographic variables.

RESULT

Presentation of the data was organized into 3 sections,



Cover Page



Section I: Deals with the frequency and percentage distribution of selected socio-demographic variables regarding artificial reproductive technology among the Nursing Students.

TABLE 1: Socio-Demographic Variables regarding Artificial Reproductive Technology Among the Nursing Students. (n=60)

Variable	Frequency	Percentage
Age in years		
a) 18-20 years	54	90.00
b) 20-22 years	06	10.00
Religion		
a) Hindu	32	53.33
b) Muslim	14	23.33
c) Christian	00	00.00
d) Others	14	23.33
Occupational status of the father		
a) Government employee	10	16.67
b) Private employee	15	25
c) Casual labour	05	8.33
d) Unemployed	30	50
Income of status per month		
a) Below 10000/-	15	25
b) Rs. 10001-15000/-	32	53.33
c) Rs. 15001-20000/-	07	11.67
d) Above 20001/-	06	10
Type of family		
a) Joint family	22	36.67
b) Nuclear family	23	38.33
c) Extended family	15	25.00



Cover Page



Area of living

a) Rural area	35	58.33
b) Urban area	15	25.00
c) Tribal area	10	16.67

Section II: Deals with the distribution of pre-test and post-test levels of knowledge scores regarding artificial reproductive technology among the Nursing Students.

TABLE 2: Pre-test and Post-test Knowledge levels of the Nursing students regarding artificial reproductive technology. (n=60)

Knowledge Level	Pre-Test		Post-Test	
	Frequency	Percentage	Frequency	Percentage
Inadequate	18	30	12	20
Moderately adequate	33	55	27	45
Adequate	09	15	21	35

Section III: Deals with the distribution of effectiveness of the structured teaching programme on knowledge regarding artificial reproductive technology among the Nursing Students.

TABLE 3: Effectiveness of the Structured Teaching Programme on Knowledge Levels Regarding Artificial Reproductive Techniques. (n = 60)

Knowledge	Mean	Standard deviation	Mean difference	't' calculated value	't' Table value	P Value
Pre-test	10.98	5.41	1.26	23.67	7.37	<0.001 ***
Post-test	11.84	6.69				



Cover Page



DISCUSSION

The findings of the study were discussed under the four sections, namely:

Section I: Deals with the frequency and percentage distribution of selected socio-demographic variables regarding artificial reproductive technology among the Nursing Students.

The study analysed the socio-demographic characteristics of 60 nursing students regarding Artificial Reproductive Technology (ART). Most participants (90%) were aged 18–22 years. A majority (53.33%) were Hindus, while others constituted 23.33%. Regarding fathers' occupations, 75% were unemployed, 25% were private employees, 16.67% were government employees, and 8.33% were casual labourers. More than half (53.33%) of students' families had a monthly income between ₹10,001–₹15,000. In terms of family type, 38.33% belonged to nuclear families, 36.67% to joint, and 25% to extended families. Most students (58.33%) lived in rural areas, and the main sources of information about ART were mass media (36.67%) and family members (33.33%).

Section II: Deals with the distribution of pre-test and post-test levels of knowledge scores regarding artificial reproductive technology among the Nursing Students.

In the pre-test, most nursing students (55%) had moderately adequate knowledge of Artificial Reproductive Technology, while 30% had inadequate and 15% had adequate knowledge. Following the structured teaching programme, post-test results showed improvement, with 45% demonstrating moderately adequate knowledge, 35% demonstrating adequate knowledge, and only 20% remaining with inadequate knowledge. A significant association was found between post-test knowledge scores and socio-demographic variables such as duration of marriage, occupational status, and type of family ($p < 0.05$), while no significant association was observed with age, income, area of living, or source of information (TABLE 2).

Section III: Deals with the distribution of effectiveness of the structured teaching programme on knowledge regarding artificial reproductive technology among the Nursing Students.

The structured teaching programme significantly improved students' knowledge on Artificial Reproductive Technology, with the mean score increasing from 10.98 ± 5.41 (pre-test) to 11.84 ± 6.69 (post-test). The paired t -value of 23.67 ($p < 0.001$) indicates a highly significant enhancement, confirming the programme's effectiveness (TABLE 3).



Cover Page



SUMMARY

A study was conducted among 60 nursing students to assess the effectiveness of a structured teaching programme on Artificial Reproductive Technology (ART), based on the modified Imogene King's modified Goal Attainment Theory. Using a structured questionnaire, data were analysed through descriptive and inferential statistics. Findings revealed a significant increase in students' knowledge after the intervention, confirming the programme's effectiveness.

CONCLUSION

The study revealed that a structured teaching programme significantly improved nursing students' knowledge of Artificial Reproductive Technology (ART). Most participants were 18–22 years old, from Hindu rural backgrounds. Post-test scores showed a marked increase, indicating the programme's effectiveness. Knowledge gain was significantly associated with variables like duration of marriage, occupation, and family type.

NURSING IMPLICATIONS

The investigator has drawn the following implications from the studies, which are the vital concerns for nursing education, nursing practice, nursing administration, and nursing research.

Nursing practice:

Nurses should be well-informed about Artificial Reproductive Technology (ART) to educate, counsel, and support women, promoting their physical and psychological well-being, especially during the maternal period.

Nursing education:

Nurse educators should emphasise reproductive health and ART, teach these topics to students, and organise workshops and seminars to educate both students and clients.

Nursing administration:

Nurse educators should emphasize reproductive health and ART, teach these topics to students, and organise workshops and seminars to educate both students and clients.

Nursing research:

Nurse researchers should conduct studies on reproductive health and ART to prevent complications and bridge existing knowledge gaps.



Cover Page



RECOMMENDATIONS

- ❖ A similar study may be conducted in different areas with a larger sample, with a pre-experimental design
- ❖ A similar study can be done in a descriptive approach.
- ❖ Educational programmes must be conducted in all obstetrics and gynaecology wards about the reproduction process and artificial reproductive technology
- ❖ A similar study can be planned with a structured teaching programme as an experimental study
- ❖ A similar study can be conducted among healthcare personnel with the help of a structured teaching programme.
- ❖ Encourage the health personnel to identify the early problems of the reproductive process and artificial reproductive technology so that they can provide better care to the clients.

LIMITATIONS

The proposed study is limited to

1. The study is limited to nursing students in a selected Nursing college, Amethi, Uttar Pradesh.
2. The study is limited only to nursing students in the selected Nursing college, Amethi, Uttar Pradesh.
3. Who is interested in participating in the study

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Cover Page



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Cover Page



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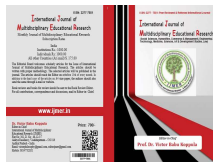
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Cover Page



LOTUS BIRTH: A HOLISTIC APPROACH TO UMBILICAL NON-SEVERANCE — IMPLICATIONS FOR MIDWIFERY AND MATERNAL-NEWBORN CARE

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ABSTRACT

“To let the cord fall away naturally is to accept that every ending, like every beginning, has its own time”

Lotus Birth, or umbilical non-severance, refers to the practice of leaving the umbilical cord uncut after birth, allowing the placenta to remain attached to the newborn until natural separation occurs. This article provides an evidence-based review of the historical, physiological, cultural, and ethical dimensions of Lotus Birth. It evaluates its benefits, risks, indications, contraindications, and midwifery responsibilities, integrating recent research (2012–2024). While Lotus Birth continues to gain attention within natural birthing communities, scientific support remains limited. The article emphasises safe practice guidelines, infection-prevention principles, and culturally competent maternity care. Between April 2014 and January 2017, six lotus births occurred. Mothers (four of the six) were contacted by phone after giving birth.

INTRODUCTION

Lotus Birth, also known as **Umbilical Non-Severance**, is defined as “the practice of leaving the umbilical cord uncut after birth, allowing the placenta to remain attached until the cord naturally dries and separates.” Separation typically occurs in **3–10 days**. Although uncommon in mainstream healthcare, the practice has increased within natural birth and holistic midwifery movements over the past four decades.

Growing global interest in gentle, physiological birthing has renewed attention toward practices that promote bonding, delay intervention, and respect cultural or spiritual traditions. However, evidence regarding safety, infection risk, and neonatal outcomes remains debated, making informed midwifery practice essential.

HISTORICAL AND CULTURAL BACKGROUND

Lotus Birth has roots in **Indigenous, Balinese, and certain Eastern spiritual traditions**, where the placenta is viewed as a baby’s “twin” or protective spirit. The practice was brought into contemporary awareness in 1974 by **Clair Lotus Day**, who observed that chimpanzees do not sever the cord. Later, midwives such as



Cover Page



Jeannine Parvati Baker, Shivam Rachana, and physician Sarah Buckley popularised it within natural birth movements in the US, UK, and Australia.

Recent decades have seen renewed interest in holistic birth centres and midwife-led birthing models. A 2018 survey in the UK reported increased requests for Lotus Birth among women desiring minimal intervention births and spiritual practices.

TYPES OF LOTUS BIRTH

- 1. Complete Lotus Birth:** Placenta remains attached until natural cord detachment (3–10 days). It requires strict hygiene and careful handling.
- 2. Partial Lotus Birth:** Cord remains intact for several hours until pulsations stop, then cut once white and flaccid. Offers extended physiological transfusion without long attachment.
- 3. Modified Lotus Birth:** Placenta stays attached for 12–24 hours and is cut after full drainage. Practised in gentle-birth hospitals prioritising delayed clamping.

RATIONALE AND EVIDENCE-BASED NEED

- 1. Physiological Rationale:** Lotus Birth builds upon the principles of **delayed cord clamping (DCC)**. WHO (2014, 2022 update) reports that delayed clamping for 1–3 minutes increases neonatal iron stores by **30–40%**, reduces anaemia, and improves hemodynamic stability. Research by Mercer & Erickson-Owens (2012) found that delayed placental transfusion provides increased blood volume, stem cells, and immune components. While complete Lotus Birth continues this concept, scientific evidence **does not yet support added physiological benefit** beyond extended DCC.
- 2. Psychological Rationale:** Advocates suggest that keeping the cord intact promotes a gentle transition, reduces early stress responses, and enhances oxytocin-driven bonding. A 2020 qualitative study by Buckley highlights perceived emotional calmness and maternal satisfaction among Lotus Birth families.
- 3. Cultural and Spiritual Rationale:** Many cultures view the placenta as sacred. Lotus Birth symbolises non-violence, continuity, and respect for nature's physiological rhythm. Families often bury or ceremonially honour the placenta after detachment.

CLINICAL PROCESS AND PROCEDURE

1. Immediate Post-Birth Care

- Newborn placed skin-to-skin for warmth and breastfeeding.
- Placenta delivered spontaneously without traction.



Cover Page



- Cord remains unclamped and uncut.
- 2. **Placenta Examination:** The Midwife must verify the completeness of membranes and lobes. Any foul smell, discolouration, or retained fragments are risk indicators.
- 3. **Cleansing and Preservation:** Placenta is rinsed with warm water, patted dry, and drained for ~24 hours. A natural drying mixture (sea salt + rosemary/lavender) decreases Odour and microbial growth.
- 4. **Handling & Storage:** Placenta is stored in a breathable cotton or muslin bag—never airtight containers. Daily salt replacement and observation are essential.
- 5. **Cord and Infant Care:** Cord dries within 24 hours. The infant should be handled gently, avoiding tension or twisting. Loose clothing is recommended.
- 6. **Natural Separation and Final Care:** Cord falls away naturally within 3–10 days. The navel should remain dry until healed. Families may bury or ceremonially honour the placenta afterwards.

BENEFITS

1. Physiological Benefits

- Enhanced neonatal circulation stability
- Continued transfer of stem cells and immunoglobulins (as with delayed clamping)
- Reduced risk of hypovolemia and iron deficiency
- Potential for improved thermoregulation

2. Psychological Benefits

- Promotes maternal-newborn bonding
- Reduces crying and supports breastfeeding success
- Calm postpartum environment and reduced handling

3. Cultural & Ethical Significance

- Respects spiritual traditions
- Encourages gentle, woman-centered care
- Emphasises autonomy and meaningful choice

RISKS, LIMITATIONS, AND EVIDENCE GAPS

Scientific evidence shows **no proven additional physiological benefit** beyond delayed cord clamping. Risks include:

- Infection (omphalitis, sepsis)



Cover Page



- Foul odour due to tissue decomposition
- Difficulty in infant handling
- Accidental cord tension or trauma

A 2017 case report (Turan et al., Turkey) documented neonatal sepsis following improper Lotus Birth care. A 2021 review in the **Journal of Neonatal Nursing** identified infection as the primary concern due to the placenta's necrotic state after birth.

WHO does **not** recommend complete Lotus Birth due to insufficient evidence.

INDICATIONS

- Term infants with no birth complications
- Families desiring spiritual/natural birthing
- Home or midwife-led birthing environments

CONTRAINDICATIONS

- Preterm birth
- Maternal infection (HIV, Hepatitis B/C, chorioamnionitis)
- Neonatal distress or need for resuscitation
- Retained/incomplete placenta
- Multiple gestation births

Midwifery and Nursing Responsibilities

1. **Informed consent:** Explain risks, benefits, and evidence gaps.
2. **Placenta care:** Rinse, dry, salt, and store in breathable cloth.
3. **Cord care:** Keep dry and exposed; avoid pulling.
4. **Monitoring:** Observe for redness, fever, odour, lethargy, and irregular feeding.
5. **Education:** Teach hygiene, signs of infection, and safe handling.
6. **Cultural competence:** Respect spiritual values while prioritising safety.

ETHICAL, CULTURAL, AND LEGAL CONSIDERATIONS

- **Ethical:** Supports autonomy and informed maternal choice.
- **Cultural:** Aligns with Indigenous and spiritual practices.
- **Legal:** Some hospitals restrict Lotus Birth; consent is mandatory.
- **Professional responsibility:** Midwives must document procedures, practice safely, and monitor closely.



Cover Page



When to Seek Medical Attention

- Fever $>100.4^{\circ}\text{F}$
- Redness, swelling, foul odour from the cord
- Feeding or sleeping abnormalities
- Baby appears lethargic
- Placenta shows discolouration or decay

SUMMARY

Lotus Birth reflects a gentle birthing philosophy promoting respect, bonding, and cultural meaning. It requires meticulous hygiene and skilled midwifery supervision. Although physiologically appealing, scientific support remains limited, and infection risk must be monitored carefully.

CONCLUSION

Lotus Birth represents a holistic birthing approach that honours the continuity between mother, newborn, and placenta. While its psychological and cultural benefits are valued, the lack of strong scientific evidence and potential infection risks highlight the need for cautious, well-informed practice. Culturally competent care requires that nurses and midwives respectfully integrate family beliefs with clinical safety. Ultimately, Lotus Birth reminds practitioners of the balance between natural processes and evidence-based maternal-newborn care.

"Every birth is sacred, and Lotus Birth reflects a gentle trust in nature's design."

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Cover Page



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Cover Page



EFFECTIVENESS OF A VIDEO-ASSISTED TEACHING PROGRAM ON KNOWLEDGE REGARDING OSTEOPOROSIS AND ITS PREVENTION AMONG MENOPAUSAL WOMEN IN SELECTED RURAL AREAS OF AMETHI, UTTAR PRADESH, INDIA

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ABSTRACT

INTRODUCTION: Osteoporosis is a progressive condition marked by low bone mass, fragile bones, and high fracture risk, especially in postmenopausal women. It affects over 200 million people globally, with rapid estrogen decline after menopause causing up to 20% bone loss. Major risk factors include aging, low body weight, poor diet, inactivity, vitamin D deficiency, and environmental exposures like PM2.5 and fluoride.

METHODS: A quantitative and evaluative research approach was used. A purposive sampling technique was employed. Data were collected using self-structured questionnaires before and after VAT.

RESULTS: Pretest mean value was 13.28, range was 8, and standard deviation was 2.16. In the post-test, the mean value was 19.17, the range was 9, and the standard deviation was 2.12

CONCLUSION: In the pre-test, 52 women had inadequate and 48 had moderate knowledge, whereas in the post-test, 72 showed adequate and 28 showed moderate knowledge. The paired t-test ($27.51 > 2$) confirmed the effectiveness of the teaching program. Chi-square results showed significant links between pre-test knowledge and education, occupation, socioeconomic status, and prior program attendance, further supporting the hypothesis.

KEYWORDS

Knowledge Assessment, Menopausal Women, Osteoporosis, Video-Assisted Teaching Program

INTRODUCTION

Osteoporosis is a progressive bone disease characterized by low bone mass, fragile bones, and high fracture risk, especially in postmenopausal women. Over 200 million people are affected worldwide, with women most vulnerable due to the sharp estrogen decline during menopause, which can cause up to 20%



Cover Page



bone loss. Aging, low body weight, poor diet, inactivity, vitamin D deficiency, and environmental factors like PM 2.5 and fluoride further increase risk.

In India, osteoporosis is a major concern as it often appears earlier. Because it cannot be fully reversed, prevention through regular exercise, a calcium-rich diet, and adequate vitamin D is crucial. Video-assisted teaching programs help improve awareness, promote healthy habits, and support early detection among women.

OBJECTIVES

1. To assess the knowledge among menopausal women, before and after a video-assisted teaching program regarding osteoporosis and its prevention.
2. To implement and evaluate the effectiveness of a video-assisted teaching program on knowledge regarding osteoporosis and its prevention among menopausal women.
3. To find out the association between knowledge of menopausal women regarding osteoporosis and its prevention with selected demographic variables.

HYPOTHESIS

H₁: Video-assisted teaching programs will be effective in improving the knowledge regarding osteoporosis and its prevention among menopausal women.

H₂: There will be a significant association between the knowledge of menopause and women regarding osteoporosis in its prevention, with their selected demographic variables.

OPERATIONAL DEFINITIONS

- **Effectiveness:** The degree to which the video-assisted teaching program produces the desired improvement in menopausal women's knowledge of osteoporosis prevention, as measured through pre-test and post-test assessments.
- **Video-Assisted Teaching Program:** A structured educational session using video or visual media to provide information on osteoporosis and its preventive measures.
- **Knowledge:** The understanding menopausal women have about osteoporosis and its prevention, measured through a structured questionnaire.
- **Osteoporosis:** A condition marked by low bone density and increased fracture risk, often causing height loss, postural changes, shortness of breath, and back pain.



Cover Page



- **Prevention:** Measures to reduce osteoporosis risk include adequate calcium, vitamin D, and protein intake, regular weight-bearing exercise, and considering MHT when appropriate.
- **Menopause:** The permanent end of menstruation usually occurs between 40 and 55 years of age.
- **Menopausal Women:** Women aged 40–55 years who have attained menopause.

Assumptions:

- The women will not have adequate knowledge regarding osteoporosis and its prevention.
- The video-assisted teaching program will help menopausal women improve their knowledge about osteoporosis and its prevention.

MATERIALS AND METHODS

Research approach

A quantitative evaluative research approach was adopted for this study.

Research design

A pre-experimental one-group pre-test post-test design was used to assess the knowledge of menopausal women in Katra Maharani, Amethi (U.P.), regarding osteoporosis and its prevention.

- Pre-test (O_1): Initial assessment of knowledge on osteoporosis and its prevention.
- Intervention (X): A 30–45-minute video-assisted teaching program on osteoporosis and its preventive measures.
- Post-test (O_2): Reassessment of knowledge using a self-structured questionnaire conducted one week after the intervention.

VARIABLES

- **INDEPENDENT VARIABLE:** Video-assisted Teaching Program on osteoporosis and its prevention.
- **DEPENDENT VARIABLE:** Knowledge of menopausal women regarding osteoporosis and its prevention.

RESEARCH SETTING:

The study was conducted in Katra Maharani, Amethi, Uttar Pradesh.

Target Population

Menopausal women between 45-55 years of age who are not taking treatment for osteoporosis.



Cover Page



SAMPLE SIZE

100 Menopausal women between 45-55 years of age.

SAMPLE TECHNIQUES

For the present study, the researcher used a purposive sampling technique.

Inclusion Criteria:

The study includes menopausal women who are

1. resides in Katra Maharani, Amethi.
2. willing to participate in the study.
3. available during the time of data collection.

Exclusion criteria:

Menopausal women who are chronically ill.

- Menopausal women who are not willing to participate in the study.
- Women who are less than 40 years old and more than 55 years.
- Women who are not available during data collection.

DATA COLLECTION TOOL

Description of the tools:

The tool to collect data from the selected samples consists of three sections such as,

- **Section I: Demographic Data**

This section includes demographic variables such as age, marital status, education, religion, occupation, socioeconomic status, type of family, and family history of osteoporosis.

- **Section II: Self-Structured Knowledge Questionnaire**

This section contains a structured questionnaire designed to assess participants' knowledge of osteoporosis and its prevention. It covers key areas such as an introduction, incidence, causes, effects, and preventive measures.

- **Section III: Video-Assisted Teaching Program**

This section outlines the content of the Video-Assisted Teaching Program, including the definition, prevalence, signs and symptoms, risk factors, diagnostic evaluation, management, and prevention of osteoporosis.



Cover Page



DATA COLLECTION PROCEDURE

Data was collected in Katra Maharani, Amethi, Uttar Pradesh, using purposive sampling. Participants who met the inclusion criteria were selected, and information was gathered using a self-structured questionnaire.

TECHNIQUE FOR DATA COLLECTION

A pre-test was conducted using a self-structured questionnaire, followed by a 45-minute Video-Assisted Teaching Program delivered via projector. The same questionnaire was administered again as a post-test one week later. Data were collected from 10 September 2024 to 06 October 2024 from 100 menopausal women in Katra Maharani.

PLAN FOR DATA ANALYSIS

Descriptive and inferential statistics were used for data analysis. Descriptive statistics (frequency and percentage) assessed the pre- and post-test knowledge levels. A paired t-test measured the improvement in knowledge following the Video-Assisted Teaching Program, while the chi-square test examined the association between pre-test knowledge and selected demographic variables.

DESCRIPTIVE STATISTICS

- Frequency and percentage described demographic variables.
- Mean, range, and standard deviation summarized knowledge scores.

INFERENTIAL STATISTICS

- Paired t-test measured the effectiveness of the Video-Assisted Teaching Program.
- Chi-square test analyzed associations between pre-test knowledge and demographic variables.

RESULT:

ORGANIZATION OF THE STUDY FINDINGS

Section I: Demographic Data

This section includes demographic variables such as age, marital status, education, religion, occupation, socioeconomic status, type of family, and family history of osteoporosis.



Cover Page



Section II: Self-Structured Knowledge Questionnaire

This section contains a structured questionnaire designed to assess participants' knowledge of osteoporosis and its prevention. It covers key areas such as an introduction, incidence, causes, effects, and preventive measures.

Section III: Video-Assisted Teaching Program

This section outlines the content of the Video-Assisted Teaching Program, including the definition, prevalence, signs and symptoms, risk factors, diagnostic evaluation, management, and prevention of osteoporosis.

TABLE 1: Distribution of samples based on their demographic variables (n=100)		
Variables	Frequency	Percentage
Age in years		
40-45	37	37
46-50	39	39
51 -55	24	24
Marital status		
Married	79	79
Unmarried	12	12
Widow	9	9
Religion		
Hindu	77	77
Christian	8	8
Muslim	15	15
Education		
Illiterate	28	28
Schooling	24	24
Undergraduate	25	25
Post graduate	23	23
Occupation		
Home maker	79	79
Working women	21	21
Type of family		
Nuclear	56	56
Joint	44	44
Socio-economic status		



Cover Page



Low	32	32
Middle	35	35
High	33	33
Family history of osteoporosis		
Yes	36	36
No	64	64

Age: Most participants were 46–50 years (39%), followed by 40–45 years (37%) and 51–55 years (24%).

Marital Status: A majority were married (79%), while 12% were unmarried and 9% were widowed.

Religion: Most participants were Hindus (77%), followed by Muslims (15%) and Christians (8%).

Education: 28% were illiterate, 25% were undergraduates, 24% had schooling, and 23% were postgraduates.

Occupation: 79% were homemakers, and 21% were working women.

Type of Family: 56% belonged to nuclear families, while 44% belonged to joint families.

Socioeconomic Status: 35% were from middle socioeconomic status, 33% from high status, and 32% from low status.

Family History of Osteoporosis: 64% had no family history of osteoporosis, while 36% reported a positive family history.

Section II: Effectiveness of video-assisted teaching program on knowledge regarding osteoporosis among menopausal women.

H₁: Video-assisted teaching programs will be effective in improving the knowledge regarding osteoporosis and its prevention among menopausal women.

TABLE 2: Knowledge level of participants (n=100)			
Knowledge level	Inadequate	Moderate	Adequate
Pretest	52	48	00
Post test	00	28	72

Table 2 shows that the Distribution of samples based on the knowledge level of the participant reveals that in the pretest, 52 had inadequate knowledge, 48 had moderate knowledge, and in the post-test, 28 samples had moderate knowledge and 72 samples had adequate knowledge related to osteoporosis (Figure 1).



Figure 1: Distribution of samples based on the knowledge level of participants

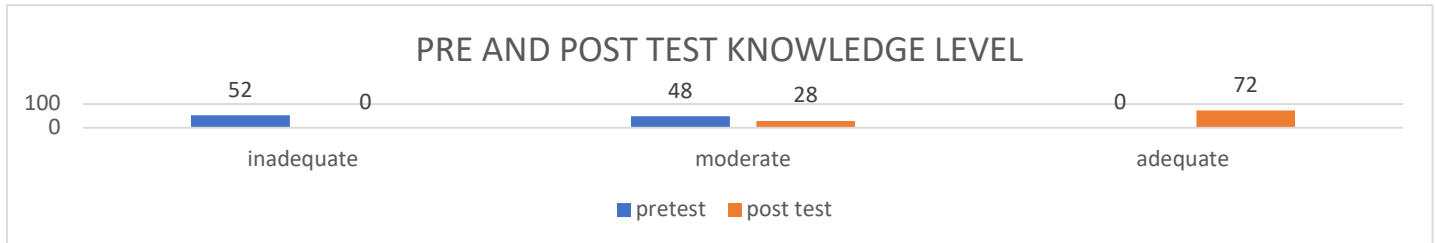


TABLE 3: Mean, standard deviation, and range of pretest knowledge score. (n=100)

	Mean	Range	Standard deviation
Pretest	13.28	8	2.16
Post test	19.17	9	2.12

The pre-test showed a mean score of 13.28, a range of 8, and a standard deviation of 2.16, while the post-test showed a mean of 19.17, a range of 9, and a standard deviation of 2.12. A paired t-test revealed a t-value of 27.51, which exceeded the table value, indicating a significant improvement in knowledge. Therefore, H_1 was accepted, confirming the effectiveness of the video-assisted teaching program.

Section III – Association Analysis

To examine the relationship between pre-test knowledge and selected demographic variables, the following hypotheses were set:

- **H₂:** Pre-test knowledge is significantly associated with demographic variables such as age, marital status, education, religion, occupation, socioeconomic status, type of family, and family history of osteoporosis.
- **H₀:** No significant association exists between pre-test knowledge and these demographic variables.

The chi-square analysis revealed that the calculated values exceeded the table values for education, occupation, socioeconomic status, and family history, indicating a significant association between these variables and pre-test knowledge on osteoporosis prevention among menopausal women (Table 3). Hence, Hypothesis 1 was accepted.



Cover Page



SUMMARY OF THE MAJOR FINDINGS

The first objective was to assess knowledge before and after the video-assisted teaching program. In the pre-test, 52 participants had inadequate knowledge and 48 had moderate knowledge, whereas in the post-test, 28 had moderate and 72 had adequate knowledge. The pre-test mean, range, and SD were 13.28, 8, and 2.16, compared to 19.17, 9, and 2.12 in the post-test.

The second objective was to evaluate the program's effectiveness. The paired t-test value (27.51) exceeded the table value (2), indicating a significant improvement in knowledge; thus, Hypothesis 1 was accepted.

The third objective was to determine associations between pre-test knowledge and demographic variables. Chi-square results showed significant associations with education, occupation, socioeconomic status, and prior program attendance. With several null hypotheses rejected, these demographic variables were found to significantly influence pre-test knowledge, supporting Hypothesis 2.

Table 4: Association between level of knowledge with selected demographic variables. (n=100)					
Variables	Knowledge regarding osteoporosis			Obtained value	Table value
	Inadequate	Moderate	Adequate		
Age in years					
40-45	24	13	0	6.89	9.48
46-50	14	25	0		
51-55	14	10	0		
Marital status					
Married	41	38	0	.065	9.48
Unmarried	6	6	0		
Widow	5	4	0		
Religion					
Hindu	42	35	0	5.58	9.48
Christian	9	6	0		
Muslim	1	7	0		
Education					
Illiterate	28	0	0	66.84	12.5*
Schooling	19	5	0		



Cover Page



UG	4	21	0		
PG	1	22	0		
Occupation					
Home maker	49	30	0	15.14	5.99*
Working women	3	18	0		
Type of family					
Nuclear	29	27	0	.00	5.99
Joint	23	21	0		
Socio-economic status					
Low Income: 2000 to 5000/-	32	0	0	61	9.48*
Middle Income:5000 to 10000 /-	19	16	0		
High Income: 10000 to 20000/-	1	32	0		
Family history of osteoporosis					
Yes	34	2	0	40.59	5.99*
No	18	46	0		

LIMITATIONS OF THE STUDY

This study is delimited to:

- Those mothers residing in Katra Maharani, Amethi, Uttar Pradesh.
- The study period was only 4-6 weeks
- The sample size was 100 menopausal women.

IMPLICATIONS

Nursing Administration: Improves access to screening and education, enforces preventive policies, trains staff, and collaborates with community programs to reach high-risk women.

Nursing Research: Identifies risk factors, evaluates preventive measures, and develops educational interventions to enhance awareness and early screening.

Nursing Education: Educates women on modifiable risk factors and promotes adequate calcium/vitamin D intake, weight-bearing exercise, healthy habits, and regular bone density testing.

Nursing Practice: Assesses individual risk, offers personalized lifestyle advice, recommends screenings, and discusses medication options for high-risk women.



Cover Page



RECOMMENDATIONS

- Increase sample size.
- Use alternative or descriptive research designs.
- Add qualitative methods for deeper insights.
- Include menopausal women from healthcare settings.
- Replicate the study in urban areas.

CONCLUSION

Pre-test results showed low to moderate knowledge, while post-test findings demonstrated a clear improvement after the video-assisted teaching program. The paired t-test value (27.51), which exceeded the table value (2), confirmed the intervention's effectiveness. Chi-square analysis also revealed significant associations between pre-test knowledge and education, occupation, socioeconomic status, and prior program participation, indicating the influence of demographic factors.

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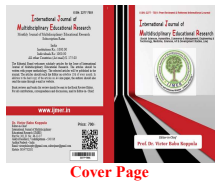


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POSHAN PAKHWADA: A COLLECTIVE MOVEMENT TOWARDS A WELL-NOURISHED INDIA

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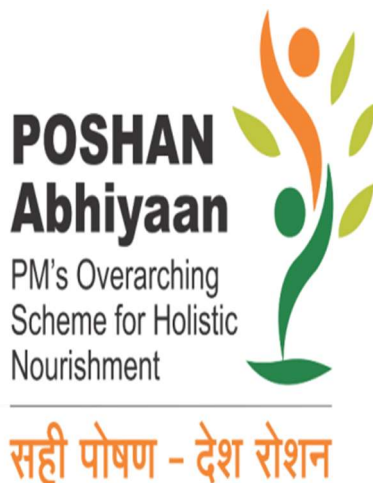
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ABSTRACT

"Let's food be thy medicine and medicine be the food"- Hippocrates

"Poshan Pakhwada" (Nutrition Fortnight) is an annual, nationwide campaign by the Indian government aimed at fighting malnutrition. It is part of the larger POSHAN Abhiyaan initiative and works like a "people's movement" (Jan Andolan) to change community behaviour regarding diet and lifestyle. Ultimately, the campaign takes government nutrition policies and turns them into actions at the local level, empowering communities and fostering lasting healthy habits necessary for achieving a "malnutrition-free India" (Kuposhan-mukt Bharat).

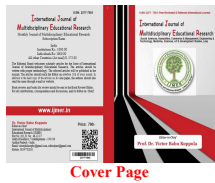


Introduction

Nutrition is essential for human growth and development. Our physical and mental health largely depend on the food we eat and the care we receive, especially in the early years of life. To improve the nutrition of children, pregnant women, breastfeeding mothers, and adolescent girls, the Government of India started the POSHAN Abhiyaan in 2018. To involve communities and spread awareness, the government also observes POSHAN Pakhwada—a two-week event focused on promoting nutrition education and encouraging healthy habits.

POSHAN Pakhwada is a people's movement (Jan Andolan) that brings together communities, frontline workers, families, and government agencies to make nutrition a shared, collective responsibility.

ASSOCIATION OF POSHAN PAKHWADA WITH SUSTAINABLE DEVELOPMENT GOALS (SDGS)



POSHAN Pakhwada, observed annually under the POSHAN Abhiyaan (National Nutrition Mission), is a nationwide campaign focused on improving nutrition outcomes among children, pregnant women, lactating mothers, and adolescents. Because nutrition is central to human development, POSHAN Pakhwada directly contributes to many of the UN Sustainable Development Goals (SDGs).

SDG 2: Zero Hunger

- Provides supplementary nutrition through Anganwadi Centres.
- Focuses on SAM management and growth monitoring.
- Promotes diet diversity, fortified foods, and anemia reduction drives.

Understanding the Essence of POSHAN Pakhwada



POSHAN Pakhwada is observed every March with specific themes that guide nationwide activities. Its goal is to strengthen year-round efforts under POSHAN Abhiyaan and make nutrition initiatives more visible and accessible to families.

By improving community awareness, POSHAN Pakhwada encourages people to adopt healthy nutritional practices. Through awareness drives, demonstrations, screenings, educational sessions, community meetings, and competitions, it

promotes key messages on balanced diets, breastfeeding, complementary feeding, anemia prevention, and overall maternal and child health.

OBJECTIVES OF POSHAN PAKHWADA

1. Promote Nutrition Awareness:

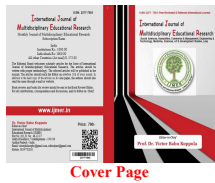
To build an understanding of healthy diets, micronutrients, hygiene, and proper feeding practices across all sections of society.

2. Address Malnutrition and Anemia:

To draw attention to issues like undernutrition, stunting, wasting, and nutritional anemia, and promote effective prevention measures.

3. Strengthen Convergence:

To coordinate efforts among Anganwadi workers, ASHAs, ANMs, Panchayati Raj Institutions, Self-Help Groups, schools, and civil society for better outcomes.



Cover Page



4. Encourage Behaviour Change:

To motivate families to adopt healthy habits such as breastfeeding, handwashing, anemia screening, kitchen gardening, and eating local, seasonal foods.

5. Engage Citizens in Jan Andolan:

To turn awareness activities into community-led movements with active participation from women's groups, youth, and local leaders.

6. Promote Traditional Food Diversity:

To encourage the use of indigenous foods, millets, and locally grown produce that are both nutritious and culturally rooted.

KEY THEMES AND FOCUS AREAS

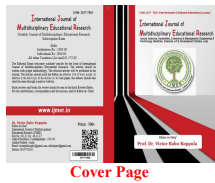
Every year, POSHAN Pakhwada highlights specific focus areas aligned with national priorities. Typical themes include:

1. **Nutrition and Health Awareness:** Campaigns promote balanced diets, knowledge of food groups, the role of micronutrients, and prevention of lifestyle-related diseases.
2. **Anemia Mukht Bharat:** Focus on screening adolescents and women for anemia, providing Iron-Folic Acid tablets, and encouraging consumption of iron-rich foods.
3. **Maternal and Child Health:** Covers antenatal care, safe delivery practices, postnatal care, exclusive breastfeeding for six months, and timely complementary feeding.
4. **Water, Sanitation, and Hygiene (WASH):** Highlights the importance of safe drinking water, sanitation, menstrual hygiene, and handwashing to reduce infections that contribute to malnutrition.
5. **Millet Promotion and Kitchen Gardens:** Encourages kitchen and nutrition gardens and the use of millet-based diets in line with national initiatives and the International Year of Millets (2023).
6. **Growth Monitoring:** Organizes special camps at Anganwadi centres using growth charts, anthropometric tools, and digital apps to assess children's nutritional status.

ACTIVITIES CONDUCTED DURING POSHAN PAKHWADA

POSHAN Pakhwada is known for its wide range of community-based activities, each designed to involve citizens and frontline workers. Some major activities include:

- **Community Awareness Sessions:** Anganwadi centres hold interactive talks, exhibitions, and discussions on nutrition, breastfeeding, complementary feeding, and adolescent health.



Cover Page



- **Poshan Rallies and Padayatras:** Students, women's groups, and health workers join rallies promoting messages like "Sahi Poshan, Desh Roshan" and "Fight Anemia, Save Lives."
- **Growth Monitoring and Assessment:** Children's weight, height, and MUAC are measured to identify malnutrition, followed by guidance on corrective actions and referrals.
- **Kitchen Garden Promotion:** Families are encouraged to grow vegetables, fruits, and medicinal plants, with demonstrations on composting, seed distribution, and simple irrigation methods.
- **Millet-based Cooking Demonstrations:** Nutrition workers teach families easy millet recipes such as ragi laddoo, bajra khichdi, jowar roti, and foxtail millet upma.
- **Poshan Panchayats:** Village-level meetings with Panchayati Raj bodies address local nutrition issues and solutions.
- **Anemia Screening Camps:** Women and adolescents receive Hb testing, IFA tablets, and guidance on iron-rich diets.
- **School-based Activities:** Schools conduct essays, quizzes, poster-making, yoga sessions, and health talks to build early awareness.
- **Digital Initiatives:** The Poshan Tracker app supports real-time monitoring and efficient beneficiary tracking by frontline workers.

ROLE OF KEY STAKEHOLDERS

The success of POSHAN Pakhwada depends on the collective efforts of multiple stakeholders:

- **Anganwadi Workers (AWWs):** Conduct demonstrations, counsel families, distribute supplementary nutrition, and track child growth.
- **Accredited Social Health Activists (ASHAs):** Mobilize communities, support maternal health services, and carry out home visits.
- **Auxiliary Nurse Midwives (ANMs):** Provide health check-ups, antenatal and postnatal care, vaccinations, and anemia screening.
- **Panchayati Raj Institutions (PRIs):** Mobilize communities, organize meetings, and support initiatives like nutrition gardens.
- **Schools and Teachers:** Promote nutrition awareness among students and help build lifelong healthy habits.
- **Parents and Caregivers:** Play a key role, as daily household practices directly affect nutritional outcomes.



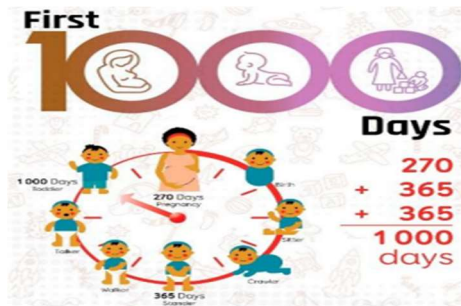
Cover Page



• **NGOs and Civil Society:** Offer training, resources, and support to strengthen community-based nutrition initiatives.

SIGNIFICANCE OF POSHAN PAKHWADA IN ADDRESSING INDIA'S NUTRITION CHALLENGES

India continues to face significant nutrition challenges, including:



- **Child stunting** (chronic undernutrition)
- **Wasting** due to acute malnutrition
- **High anemia rates** among women and adolescents
- **Low birth weight** in newborns
- **Inadequate infant and young child feeding practices**
- **Micronutrient deficiencies** such as iron, vitamin A, and iodine

POSHAN Pakhwada directly addresses these issues by:

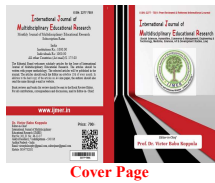
1. **Creating Awareness at the Grassroots Level:** POSHAN Pakhwada spreads essential nutrition and health messages to every household in simple, easy-to-understand language.
2. **Encouraging Early Childhood Nutrition:** Growth monitoring and counselling help families detect early signs of malnutrition and take timely corrective steps.
3. **Strengthening Maternal Health:** By promoting antenatal care, iron supplementation, and nutritious diets, the initiative supports healthier pregnancies and better birth outcomes.
4. **Supporting Government Schemes**

POSHAN Pakhwada strengthens ongoing programmes like:

- ICDS (Integrated Child Development Services)
- Mid-Day Meal Scheme
- Anemia Mukh Bharat
- National Health Mission
- Swachh Bharat Mission

5. Empowering Communities

The Jan Andolan approach ensures that nutrition is not limited to government intervention but becomes a collective social responsibility.



Cover Page



6. Reducing Long-term Health Risks

Good nutrition in childhood reduces the risk of chronic diseases such as diabetes, hypertension, and obesity in adulthood.

Impact of POSHAN Pakhwada

Over the years, POSHAN Pakhwada has contributed significantly to improving nutritional awareness across India. Some key impacts include:

- Increased community participation in nutrition programs
- Enhanced understanding of breastfeeding and complementary feeding
- Wider acceptance of kitchen gardening and millet consumption
- Improved growth monitoring and digital tracking
- Greater involvement of women's groups, SHGs, and youth organizations
- Strengthened convergence between ministries and departments

While malnutrition remains a challenge, campaigns like POSHAN Pakhwada have accelerated progress by making nutrition a household discussion rather than a technical topic restricted to health professionals.

Challenges Ahead

Despite its success, several challenges still need attention:

1. Behavioural Resistance:

Traditional habits and misconceptions often hinder the adoption of healthy practices.

2. Limited Access in Remote Areas:

Tribal and rural regions still struggle with access to healthcare and nutritious foods.

3. Economic Constraints:

Poverty impacts food choices and nutrition diversity.

4. Gender Inequality:

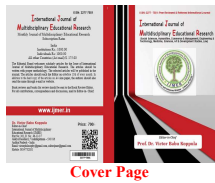
Women's nutrition is often neglected due to social norms.

5. High Workload of Frontline Workers:

Anganwadi and ASHA workers often manage multiple responsibilities simultaneously.

CONCLUSION

POSHAN Pakhwada is a powerful initiative that raises nutrition awareness and motivates communities to work together for better health. It promotes local foods, healthy practices, and inter-sectoral



Cover Page



collaboration to build a stronger and more productive India. Nutrition influences not just health, but also education and economic growth—healthy children learn better, healthy mothers strengthen families, and healthy communities progress faster. POSHAN Pakhwada reinforces that good nutrition is both a right and a shared responsibility. With sustained awareness, community participation, and government support, India can reduce malnutrition and ensure better health for every mother and child.

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Cover Page



EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND PRACTICE REGARDING PREVENTION OF FILARIASIS AMONG MIDDLE-AGED ADOLESCENTS AT SELECTED INTER-COLLEGES, MUNSHIGANJ, UTTAR PRADESH

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ABSTRACT

Adolescents in endemic areas like Amethi have limited awareness of lymphatic filariasis, which continues to be a serious public health concern in India. Purposive sampling was used to choose 100 teenagers between the ages of 14 and 17 for this study, which evaluated the impact of a Structured Teaching Programme (STP) on knowledge and preventive actions. A questionnaire and practice checklist were utilized to support the one-group pre-test and post-test design. Knowledge scores increased from 10.78 to 24.05 and practice scores from 2.29 to 6.24 following a 30-minute instructional session including flashcards, conversation, and pamphlets; both improvements were statistically significant. The only factor that significantly correlated with pre-test scores was residence type. The STP was successful in raising awareness and promoting preventative behaviors, underscoring the necessity of incorporating these modules within school health initiatives. Just 2% of pupils showed appropriate knowledge on the pre-test, compared to 58% who showed poor understanding. 85% demonstrated sufficient understanding following the session. The average knowledge score rose from 10.78 to 24.05 ($t = 25.55, p < 0.05$). The mean practice increased from 2.29 to 6.24 ($t = 19.51, p < 0.05$), indicating a significant improvement in practice scores as well. The only demographic characteristic that had a significant correlation with pre-test scores was residence. The Structured Teaching Programme significantly improved adolescents' knowledge and preventive practices regarding filariasis. Local involvement in India's ongoing eradication campaign should be strengthened by including such instructional modules into school curriculum.



Cover Page



KEYWORDS

Adolescents, Filariasis, Health Education, Lymphatic Filariasis, Mass Drug Administration, Public Health Structured Teaching Programme,

INTRODUCTION

The neglected tropical disease known as Lymphatic filariasis (LF), sometimes known as filaria or elephantiasis, is spread by *Culex* mosquitoes and is caused by *Wuchereria bancrofti*, *Brugia malayi*, and *Brugia timori*. 1.2 billion individuals are at risk worldwide, with India accounting for almost 40% of infections. Lymphatic filariasis (LF), which accounts for around 40% of cases worldwide, continues to be one of India's most enduring public health issues. Adolescent knowledge and preventative measures are very low, especially in endemic areas like Amethi, Uttar Pradesh, despite continuous attempts to eradicate the disease under the National Programme for Elimination of Lymphatic Filariasis (NPELF).

Economic hardship, social humiliation, and persistent incapacity are all consequences of the condition. Prior to the worldwide goal of 2030, India has committed to eradicating LF by 2027. However, despite frequent Mass Drug Administration (MDA) and vector control campaigns, endemic states like Uttar Pradesh continue to report recurring instances. Many people, particularly teenagers, are ignorant about how diseases spread and how to avoid them.

Prevention is further hampered by false beliefs that filariasis is a genetic or supernatural illness. Teenagers are an important demographic for health education. Increasing awareness at this point can break the cycles of transmission because LF illnesses frequently start in childhood and manifest later. The purpose of this study was to evaluate how a structured teaching intervention might enhance adolescents' practices and knowledge in an endemic area.

STATEMENT OF THE PROBLEM

Filariasis remains a significant public health challenge in many endemic regions of India, including parts of Uttar Pradesh. Despite national programs and mass drug administration campaigns, the incidence and risk of transmission continue due to inadequate awareness, poor preventive practices, and low community participation. Middle-aged adolescents, who represent a vulnerable and active population group, often lack appropriate knowledge regarding preventive measures such as mosquito control, personal protection, environmental sanitation, and adherence to drug administration schedules. The lack of structured health education in academic settings further contributes to misconceptions and ineffective practices that hinder the eradication goals.



Cover Page



In Munshiganj, Uttar Pradesh, the persistence of filariasis cases indicates a gap between available preventive resources and actual community understanding and behaviour. Therefore, it becomes essential to assess the current level of knowledge and practice regarding filariasis prevention among middle-aged adolescents and implement an effective educational intervention. A structured teaching programme may enhance awareness and promote positive health practices, leading to reduced disease burden and improved public health outcomes.

Hence, the present study is undertaken to evaluate the effectiveness of a Structured Teaching Programme on knowledge and practice regarding prevention of filariasis among middle-aged adolescents studying in selected inter-colleges of Munshiganj, Uttar Pradesh.

OBJECTIVES

- To assess the pre-test knowledge and practice regarding prevention and prevalence of filariasis among adolescents.
- To assess the post-test knowledge and practice regarding prevention and prevalence of filariasis among adolescents.
- To compare the pre-test and post-test knowledge and practice regarding prevention and prevalence of filariasis among adolescents.
- To determine the association between the pre-test knowledge and practice regarding the prevention and prevalence of filariasis among adolescents with selected demographic variables.

OPERATIONAL DEFINITIONS

Effectiveness: Effectiveness or effectivity is the capability of producing a desired result or the ability to produce desired output. When something is deemed effective, it means it has an intended or expected outcome, or produces a deep, vivid impression.

Structured Teaching Programme: A structured educational program is an educational program designed to impart particular knowledge and practical education through interrelated studies and supervised training.

Knowledge: Knowledge refers to the awareness and understanding of middle-aged adolescents about the causes, transmission, symptoms, and prevention of filaria, gained through education, experience, or structured teaching programs.

Practice: Practice refers to the daily behaviors and preventive actions, such as hygiene, sanitation, mosquito protection, and health education adherence, that help prevent and control filaria.



Cover Page



Prevention: When an action stops something from happening, like assigning extra teachers to watch a playground during recess to prevent bullying, it's called prevention.

Filariasis: Infection occurs when filarial parasites are transmitted to humans through mosquitoes. Infection is usually acquired in childhood and causes hidden damage to the lymphatic system, often acquired in childhood, causes hidden damage to the lymphatic system, leading to potentially visible and debilitating conditions later in life.

Middle-Age Adolescents: In this study, middle-aged adolescents refer to students between the ages of 14 to 17 years enrolled in selected inter-colleges of Munshiganj, Uttar Pradesh, who are available and willing to participate in the research.

HYPOTHESES

H1: There is a significant difference between pre-test and post-test levels of knowledge regarding lymphatic filariasis among middle-aged adolescents.

H2: There is a significant difference pre- test and post-test levels of practice regarding lymphatic filariasis among middle-aged adolescents.

MATERIALS AND METHODS

Research Approach: Quantitative Research Approach.

Research Design: A one-group pre-test post-test quasi-experimental design was used. **STUDY/RESEARCH**

Setting: The setting is Rani Sushma Devi Girls Inter College, Munshiganj, Uttar Pradesh

Target Population: The target population of the study was 100 middle-aged adolescents at Rani Sushma Devi Girls Inter College, Munshiganj, Uttar Pradesh.

SAMPLING

Sampling Size: The sample comprises 100 adolescents at the selected setting of Selected Inter-Colleges, Munshiganj, U.P.

Sampling Techniques: A purposive sampling technique was used to select the sample.

Sample Size Calculation: $N = \frac{z^2 \cdot p \cdot (1-p)}{e^2}$

Criteria for sample selection

❖ Inclusion Criteria:

- Middle-age-adolescents between 14-17 years



Cover Page



- Present during the time of data collection.
- People who are willing to participate.
- People who are able to read, write, and understand Hindi.

❖ **Exclusion Criteria:** Student nurses who-

- People who are suffering from a medical illness or are not medically fit.
- People who are not willing to participate in the study.

VARIABLES

- **Dependent variables:** Knowledge and practice regarding Filariasis among middle-aged adolescents.
- **Independent variables:** Structured Teaching Program.
- **Demographic variables:** Age, religion, education, type of family, family income, type of residence.

DATA COLLECTION TOOL

❖ DEVELOPMENT OF THE TOOL

The tool for data collection was developed after reviewing literature and taking expert guidance. It included three parts: a demographic profile, a self-structured questionnaire to assess knowledge, and a self-structured checklist to assess practice related to filariasis prevention.

❖ DESCRIPTION OF THE TOOL

The study aimed to assess the effectiveness of a structured teaching program on Knowledge and practice regarding the prevention and prevalence of filariasis among middle- age- adolescents in a selected Inter-Colleges, Munshiganj. The tool comprises of two sections.

VALIDITY

The tool validation was done by 10 Nursing specialty experts. The suggestions and corrections were made, and the final tool was prepared.

RELIABILITY OF THE TOOL

Reliability of the Self-Structured Knowledge questionnaire was measured by the **test-retest method**. Karl Pearson's correlation coefficient method was used to calculate it. The tool was found to be reliable ($r=0.670$). Therefore, the tool was found moderately reliable.

Ethical Considerations: Confidentiality was upheld, formal authorization and informed consent were acquired, and the participants suffered no harm.



Cover Page



DATA COLLECTION TECHNIQUE & PROCEDURE

Data was collected using a structured questionnaire and checklist through pre-test, STP, and post-test sessions with 100 adolescents. The process included informed consent, confidentiality assurance, administration of tools, and a follow-up post-test after one week.

PLAN FOR DATA ANALYSIS

The data obtained will be analyzed in terms of the objectives of the study using descriptive and inferential statistics.

i. Descriptive Statistics:

- Data will be organized in a master sheet.
- Frequency and percentage will describe the sample distribution by knowledge level.
- Mean and standard deviation will assess pre- and post-test knowledge scores.

ii. Inferential Statistics

- A paired *t*-test will assess the difference between pre-test and post-test knowledge scores.
- A chi-square test will determine the association between knowledge levels and selected demographic variables.

RESULT

Section A: - Description of demographic data.

The study consisted of 100 middle-aged adolescents. With regard to age distribution, 20% of the participants were 14 years old, 30% were 15 years, another 30% were 16 years, and 20% were 17 years of age. In terms of religion, 30% of the respondents were Hindus, 13% were Muslims, 7% were Christians, and a majority of 50% belonged to other religions. Concerning educational status, 20% were studying in 8th standard, 41% in 10th standard, 39% in 11th standard, and none were studying in 12th standard. With respect to family type, half of the participants (50%) lived in joint families, 30% in nuclear families, 5% in extended families, and 15% in single-parent families. Regarding monthly family income, 20% earned less than ₹20,000, 40% earned between ₹20,000 and ₹40,000, and another 40% earned between ₹50,000 and ₹80,000, while no families reported income above ₹80,000. Considering type of residence, 59% of respondents lived in their own houses, 30% in rented houses, 5% in hostels, and 6% in other residential types (Table 1).



Cover Page



Table 1: Demographic characteristics (n=100)		
Variables	Frequency	%
Age		
14 years	20	20
15 years	30	30
16 years	30	30
17 year	20	20
Religion		
Hindu	30	30
Muslim	13	13
Christian	07	07
Others	50	50
Education Status		
8th	20	20
10th	41	41
11th	39	39
12th	0	0
Type of Family		
Nuclear family	30	30
Joint family	50	50
Extended family	05	5
Single parent family	15	15
Monthly Income Family		
Less than 20000	20	20
20000-40000	40	40
50000-80000	40	40
Above 80000	00	0
Type of Residence		
Own	59	59
Rented	30	30
Hostel	05	5
Other	06	06

Section B: Comparison of pre-test and post-test knowledge and practice scores of middle-age adolescents regarding prevention and prevalence of filariasis.

The findings of the study reveal a significant improvement in the level of knowledge and practice regarding prevention of filariasis among middle-aged adolescents following the Structured Teaching Programme. The mean knowledge score increased from 10.78 ± 4.414 in the pre-test to 24.05 ± 2.890 in the post-test, with a



Cover Page



calculated t-value of 25.554, indicating a statistically significant enhancement in knowledge. Similarly, the mean practice score increased from 2.29 ± 1.13 in the pre-test to 6.24 ± 1.47 in the post-test, with a t-value of 19.51, reflecting a significant improvement in practice. These results demonstrate that the Structured Teaching Programme was highly effective in improving both knowledge and preventive practices related to filariasis among the target group (Table 2).

TABLE 2: Comparison of knowledge and practice between pre-test & post-test among middle-aged adolescents (n=100)

Comparison	Level of Knowledge			Level of Practice		
	Mean	S. D	t-value	Mean	S. D	t-value
Pre-test	10.78	4.414	25.554	2.29	1.13	19.51
Post-test	24.05	2.890		6.24	1.47	

DISCUSSION

Most adolescents were 14–17 years old (60%). Half (50%) belonged to joint families, while 30% were from nuclear families. Educational levels showed 20% in 8th, 41% in 10th, and 39% in 12th. Monthly family income for most participants ranged between ₹20,000–₹80,000 (80%). Religion-wise, 30% were Hindus, 13% Muslims, 7% Christians, and 50% others. Before STP, 58% had inadequate knowledge, 40% moderate, and only 2% adequate levels. After STP, 85% showed adequate knowledge and 15% moderate levels. Pre-test mean was 10.78 (35.93%, SD 4.414), while post-test mean increased to 24.05 (80.16%, SD 2.890), indicating clear improvement. A highly significant difference was observed between pre-test and post-test scores ($t = 25.554$, $p < 0.05$). This shows the structured teaching programme effectively improved knowledge and practice regarding filariasis. Type of residence showed a significant association with pre-test scores ($\chi^2 = 25.951$, $p < 0.05$). All other socio-demographic variables were not significant. Thus, the hypothesis regarding association with selected variables is accepted.

The present study was conducted to assess the impact of a structured teaching program on improving knowledge and practice related to filariasis prevention among middle-aged adolescents in selected inter-colleges of Munshiganj, Uttar Pradesh. The results demonstrated a notable rise in both knowledge and practice scores after the educational intervention. The mean knowledge score increased from 10.78 ± 4.414 in the pre-test to 24.05 ± 2.890 in the post-test, and the mean practice score improved from 2.29 ± 1.13 to 6.24 ± 1.47 . The corresponding



Cover Page



t-values (25.554 for knowledge and 19.51 for practice) confirmed that these differences were highly statistically significant.

This outcome clearly indicates that the Structured Teaching Programme played a crucial role in enhancing the awareness and preventive behaviour of the participants. Before the intervention, many adolescents lacked sufficient understanding of the causes, transmission, and prevention strategies of filariasis. However, after receiving systematic and focused instruction, they demonstrated improved comprehension and an increased willingness to adopt preventive measures such as mosquito control, maintaining a clean environment, and compliance with Mass Drug Administration.

The findings align with the belief that educational strategies implemented within school environments are effective tools in strengthening health behaviour, especially among adolescents who can influence their families and communities positively. The post-intervention results reinforce the importance of continuous health education as a supportive mechanism to control and eventually eliminate filariasis in endemic regions.

The study emphasizes that if similarly, structured programs are regularly incorporated into the school curriculum, they may contribute significantly to disease prevention efforts and public health improvement. Therefore, strengthening health awareness activities among young populations is essential in progressing toward the elimination of lymphatic filariasis.

CONCLUSION

The study showed that most adolescents initially had poor knowledge and practice regarding filariasis. After the Structured Teaching Program, both knowledge and practice improved sharply, with post-test scores shifting almost entirely into the adequate range. The statistical results ($t = 25.554$ for knowledge, $t = 19.51$ for practice, $p < 0.05$) confirmed that the STP produced a significant improvement. Among all demographic variables, only type of residence showed a meaningful association with pre-test scores. The Structured Teaching Program proved highly effective in boosting awareness and preventive behaviors related to filariasis among middle-aged adolescents. The findings strongly support the use of school-based teaching interventions to strengthen community awareness and contribute to ongoing filariasis elimination efforts.

NURSING IMPLICATIONS:

Nursing practice: Nurses can use the STP approach during school visits, community outreach, and health camps to guide adolescents and families on preventive measures. They can also monitor high-risk groups, reinforce correct practices, and support MDA (Mass Drug Administration) compliance.



Cover Page



Nursing education: Nursing educators can include filariasis prevention, transmission, and early detection in their teaching plans to build stronger student awareness. Using structured teaching programs in classrooms helps students gain confidence in delivering community health education.

Nursing administration: Administrators can organize regular training, allocate resources, and create supportive policies that encourage filariasis education in schools and communities. They can also plan awareness campaigns and ensure nurses have the tools needed to carry out structured teaching programs effectively.

Nursing research: Further studies can explore the long-term impact of structured teaching programs on behavior change, compare different teaching methods, and assess community-level outcomes. Researchers can also examine barriers to prevention and develop improved educational materials for adolescents.

RECOMMENDATIONS

- ❖ Training programs on filariasis prevention should be provided to all adolescents in schools and community areas.
- ❖ Comparative studies on the prevalence and prevention practices of filariasis among rural and urban areas would be beneficial.
- ❖ Assessing the effectiveness of video-assisted programs or simulations on filariasis among middle-aged adolescents could provide valuable insights.

LIMITATIONS

- The study was limited to one area in Amethi, so the results can't be generalized widely.
- The sample size of 100 participants was too small for broader conclusions.
- Purposive sampling may have caused selection bias.
- The short gap between pre-test and post-test didn't show long-term retention.
- The absence of a control group made it harder to measure true STP impact.

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Non-Pneumatic Anti-Shock Garment (NASG) for Postpartum Haemorrhage Management

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ABSTRACT

Postpartum haemorrhage (PPH) remains a leading cause of maternal morbidity and mortality worldwide, especially in low-resource settings where delays in definitive care are common. The Non-Pneumatic Anti-Shock Garment (NASG) is a low-technology, reusable lower-body compression device designed to temporize hypovolemic shock by applying circumferential counter-pressure to the lower abdomen and extremities, increasing central blood volume while the patient is stabilized and transported for definitive care. Evidence from randomized and observational studies, systematic reviews, and programmatic reports indicates that NASG use is associated with reduced blood loss, faster recovery from shock and a trend toward reduced PPH-related mortality — particularly where referral delays, transport challenges and limited blood/blood-product availability exist. Global agencies (WHO/FIGO/UNICEF) now recognize NASG as a temporizing measure in PPH care and recommend its consideration within broader PPH treatment bundles and referral systems. This article synthesises the latest evidence (including recent reviews and program evaluations to 2025), highlights nursing roles and competencies required for successful NASG implementation, and proposes areas for future research and service evaluation.

Keywords

Emergency Obstetric Care, Low-Resource Settings, Maternal Mortality, Non-pneumatic Anti-Shock Garment, Postpartum Haemorrhage

INTRODUCTION — WHY NASG MATTERS NOW

Globally, PPH accounts for a large proportion of maternal deaths and severe morbidities. While uterotonics, tranexamic acid (TXA), uterine massage and definitive surgical interventions remain the cornerstones of care, many deaths occur because of delays in recognition, stabilisation, or transport to facilities that can provide blood transfusion and surgical care. The NASG is intended as a temporising tool — it does not treat the cause of bleeding but buys time by reversing hypovolemic shock physiology until definitive care is possible. Recent global



Cover Page



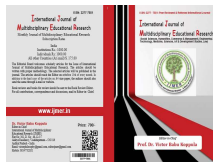
guidance and program documents (2023–2025) emphasize including temporising measures like NASG inside treatment bundles and referral pathways to reduce PPH-related deaths (World Health Organization).

DEVICE DESCRIPTION AND MECHANISM OF ACTION

The NASG is a lightweight, neoprene-like garment made of multiple articulated segments that wrap circumferentially around the legs, pelvis and abdomen. When properly applied, it applies circumferential pressure to the lower body, displacing blood centrally towards thoracic and cerebral circulation, raising mean arterial pressure and improving perfusion of vital organs. The garment is non-pneumatic (no inflation required), reusable after cleaning and inspection, and can be applied rapidly at the point of first contact (community, primary health centre, labour ward, or during transport). Clinical protocols generally recommend leaving the NASG in place until definitive control of bleeding and hemodynamic stabilisation are achieved; removal is gradual and under close monitoring.

SUMMARY OF CLINICAL EVIDENCE

- 1. Historical and systematic evidence:** Early cluster and observational studies (Colombia, Egypt, Zambia, etc.) reported marked reductions in measured blood loss, faster recovery from shock, and trends toward lower mortality when NASG was used as adjunctive, temporising therapy. A systematic review (Pileggi-Castro et al., 2015) concluded NASG is a reasonable temporising option where delays are frequent, showing signals for reduced mortality and morbidity, though data quality varied.
- 2. More recent programmatic and systematic updates (2020–2025):** Recent systematic reviews and meta-analyses (2023–2025) and program evaluations continue to show that NASG can halve median blood loss in some contexts and increase odds of recovery from hypovolemic shock, especially in sub-Saharan Africa and other low-resource settings. Several 2023–2025 observational and implementation studies emphasise that effectiveness is strongly linked to: device availability, staff training, clear protocols for use and referral, and integration into emergency obstetric systems. However, heterogeneity in study designs and outcome reporting remains, and randomised controlled trials (RCTs) remain sparse.
- 3. Programmatic guidance and procurement notes:** UNICEF and other procurement/technical agencies have published technical bulletins (2024–2025) detailing NASG specifications, cleaning/rehabilitation, training checklists, and considerations for integration into supply chains. WHO guidance on PPH assessment/treatment



Cover Page



bundles (2023) cites temporising measures as part of the strategy for reducing PPH deaths — strengthening the policy case for NASG adoption in appropriate settings.

NURSING IMPLICATIONS — COMPETENCIES AND WORKFLOW INTEGRATION

Nurses and midwives are frequently the first providers to recognise PPH and initiate emergency responses; thus, they are central to any NASG program. Key nursing roles include:

1. **Early recognition & decision to apply NASG:** triage skills, blood-loss estimation, using early warning scores.
2. **Correct application and monitoring:** applying segmented garments quickly and correctly, monitoring vital signs, urine output, and blood loss; documenting time applied and reasons.
3. **Triage & referral coordination:** coordinating timely transfer, ensuring communication with the receiving facility that NASG is in use.
4. **Device maintenance:** cleaning, inspecting for wear/tear, documenting reprocessing cycles per manufacturer and program guidance.
5. **Education & counselling:** explaining purpose to patient/family, obtaining assent when possible, and post-use counselling.

Training programs and simulation drills substantially increase correct use and retention of NASG skills among nurses/midwives; education interventions have been shown to improve utilisation rates. Implementation must address the scope of practice, clear protocols for initiation and removal, and task-sharing where nurses are the lead emergency responders.

SAFETY CONSIDERATIONS AND LIMITATIONS

1. **Not definitive treatment:** NASG is temporary; definitive haemorrhage control (e.g., uterotonics, TXA, uterine balloon tamponade, surgical intervention, transfusion) must follow promptly.
2. **Monitoring during use:** risks of delayed removal, masking ongoing intra-abdominal bleeding, or pressure-related skin issues make careful monitoring essential.
3. **Contraindications/caution:** Relative contraindications include major lower limb injuries, suspected deep vein thrombosis (clinical judgment required). Removal must be staged and under monitoring to detect recurrent hypotension.
4. **Reusability & infection control:** programs must follow validated cleaning, drying and inspection protocols to avoid cross-infection and maintain device integrity. UNICEF technical guidance addresses reprocessing.



Cover Page



IMPLEMENTATION BARRIERS & ENABLERS (EVIDENCE FROM LMIC SETTINGS)

1. **Barriers:** limited device availability at point of care; low awareness; lack of training; uncertainty about roles; supply chain/cleaning logistics; concerns about masking definitive diagnosis.
2. **Enablers:** focused in-service training, simple protocols and job aids, simulation practice, inclusion in PPH treatment bundles and emergency drills, strong referral communication, programmatic procurement and maintenance planning. Implementation research shows adoption improves when NASG rollout is paired with training, supervision, and monitoring & evaluation.

RESEARCH GAPS AND PRIORITIES FOR NURSING RESEARCHERS

1. **High-quality trials:** pragmatic RCTs in LMIC referral pathways comparing NASG + standard care vs standard care alone, with standardised outcomes (mortality, measured blood loss, time to stabilisation).
2. **Cost-effectiveness analyses:** device cost, cleaning/reprocessing costs, and health economic impacts in different levels of health systems.
3. **Implementation research:** mixed-methods studies on barriers/facilitators, adherence to protocols, supply chain resilience, and sustainability.
4. **Nursing competency studies:** evaluation of training curricula, simulation modalities, and retention of NASG skills over time.
5. **Safety surveillance:** systematic reporting of adverse events related to NASG application/removal to strengthen safety profiles. Recent reviews call for targeted research in the community and during referral/transport phases — where most deaths occur.

PRACTICAL PROTOCOL (NURSING-ORIENTED CHECKLIST FOR IMMEDIATE USE)

(Adapt to local policies and manufacturer guidance)

1. **Recognize PPH:** Visualise/quantify blood loss; identify signs of hypovolemia.
2. **Activate emergency PPH bundle:** Call team, start IV fluids, give uterotonics, give TXA if indicated.
3. **Decide on NASG application:** If the patient is in hypovolemic shock or a referral delay is expected, prepare NASG.
4. **Apply NASG:** Expose legs/pelvis, wrap segmented panels firmly from ankles → thighs → pelvis → abdomen; fasten sequentially; record time applied.
5. **Monitor continuously:** Vitals q5–15 min, urine output, consciousness, estimated ongoing blood loss.
6. **Arrange/expedite transfer:** Communicate with receiving facility; document NASG use and elapsed time.



Cover Page



A PILOT STUDY TO ASSESS THE EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAM ON KNOWLEDGE OF ADOLESCENT GIRLS REGARDING SELECTED THEMES OF THE KISHORI SHAKTI YOJANA

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ABSTRACT

Background: Adolescent girls often lack adequate awareness of government initiatives aimed at improving their nutritional, health, and developmental status. The Kishori Shakti Yojana (KSY) is designed to empower adolescent girls through nutrition supplementation, health education, and life-skill development. Limited knowledge about the scheme reduces its effectiveness at the community level. Before conducting a full-scale study, a pilot study was undertaken to evaluate the feasibility of the research design and the reliability of the data collection tool.

Aim: To assess the feasibility, reliability, and preliminary effectiveness of a Structured Teaching Program (STP) on improving the knowledge of adolescent girls regarding selected themes of the KSY.

Methods: A one-group pre-test post-test pre-experimental design was used among six purposively selected adolescent girls in a community setting. A structured knowledge questionnaire was administered before and after the STP. The tool's reliability was evaluated using Cronbach's Alpha.

Results: The mean pre-test knowledge score was 9.33 ± 2.42 , while the post-test mean increased to 18.16 ± 1.47 . The paired t-test value ($t = 7.82$, $df = 5$) showed a significant improvement in knowledge. The reliability of the questionnaire was confirmed with a Cronbach's Alpha of 0.82, indicating high internal consistency.

Conclusion: The pilot study confirmed the feasibility of the research design and demonstrated the potential effectiveness of the Structured Teaching Program. The tool was found to be reliable, and procedures were suitable for adoption in the main study.

KEYWORDS: Adolescent girls, Community health, Knowledge assessment, Kishori Shakti Yojana, Pilot study, Structured Teaching Program



Cover Page



INTRODUCTION

Adolescence is a crucial developmental stage marked by rapid physical, psychological, and social changes. Ensuring adequate knowledge, nutritional support, and life-skill development among girls during this period is vital for long-term health and empowerment (Patton et al., 2016). In India, multiple government schemes aim to support adolescent girls, one of which is the Kishori Shakti Yojana (KSY)—an initiative under the Integrated Child Development Scheme (ICDS), designed to improve nutritional status, health literacy, and vocational skills among girls aged 11–18 years (Ministry of Women and Child Development, 2017).

Despite these government efforts, evidence suggests that many adolescent girls and families remain either unaware of or inadequately informed about these welfare schemes (Nair et al., 2019). Lack of awareness leads to underutilization of available services, perpetuating issues like malnutrition, anemia, and limited access to health education.

Structured Teaching Programmes (STPs) are effective educational methods used in community health settings to enhance knowledge and promote positive behaviors among adolescents (Agarwal & Sethi, 2020). Before implementing a full-scale study, a pilot study is essential to evaluate the feasibility, clarity of data collection instruments, reliability of tools, and appropriateness of research procedures (Leon et al., 2011).

Pilot studies play an important role in refining research methods and assessing feasibility before conducting large-scale investigations. They allow researchers to evaluate instruments, identify practical barriers, and determine whether planned interventions can produce meaningful change in the targeted population. Therefore, a pilot study was conducted to assess the feasibility of the research design and evaluate preliminary outcomes of a Structured Teaching Program on KSY awareness.

OBJECTIVES

- To assess the pre-test level of knowledge of adolescent girls regarding selected themes of the Kishori Shakti Yojana.
- To administer a Structured Teaching Program on selected themes of KSY.
- To evaluate the post-test knowledge of adolescent girls after the STP.
- To determine the preliminary effectiveness of the Structured Teaching Program.



Cover Page



- To assess the reliability of the structured knowledge questionnaire.
- To evaluate the feasibility of conducting the main study.

RESEARCH METHODOLOGY

Research Design: A pre-experimental, one-group pre-test post-test design was adopted. This design was appropriate because the pilot study's purpose was to test feasibility rather than compare intervention and control groups (Polit & Beck, 2021).

Study Setting: The pilot study was conducted in a selected community area with accessible adolescent girls who met the inclusion criteria.

Sample and Sampling Technique: A sample of six adolescent girls (11–18 years) was selected using purposive sampling, ensuring representation of participants similar to those intended for the full-scale research. Purposive sampling is appropriate for pilot studies to test feasibility and procedural flow (Hertzog, 2008).

Criteria for Sample Selection:

Inclusion Criteria

- Adolescent girls aged 11–18 years.
- Residing in the selected community area.
- Available during the period of data collection.
- Willing to participate in the study.

Exclusion Criteria

- Girls who had attended similar educational programs recently.
- Girls with known cognitive impairments affecting comprehension.

Description of the Tool

A structured knowledge questionnaire was developed based on published guidelines, training modules, and operational manuals of KSY (Government of India, 2017).

The questionnaire consisted of:

Part A: Demographic variables

Part B: Knowledge items on themes such as nutrition, health services, ICDS benefits, vocational training, and adolescent empowerment

Items were primarily multiple-choice questions.



Cover Page



Development of the Data Collection Tool

A structured knowledge questionnaire was developed based on selected themes of KSY such as:

- Nutrition supplementation
- Health services
- Life-skill education
- Objectives and components of the programme

The tool consisted of multiple-choice items. Content validity was ensured by expert review from nursing faculty and community health specialists.

Reliability Testing

Internal consistency reliability was tested using Cronbach's Alpha, yielding a reliability coefficient of 0.82. This indicates that the questionnaire was highly reliable for assessing knowledge among adolescent girls.

Ethical Considerations

- Informed consent was obtained from participants and their guardians.
- Confidentiality and anonymity were maintained.
- The participants were free to withdraw at any stage.

Intervention: The STP included: introduction to ksy, components of the scheme, available icds services, nutrition and health benefits, vocational skill development opportunities, access procedures and eligibility, teaching methods included interactive discussions, charts, and real-life examples with the duration of 45 minutes.

Data Collection Procedure:

- Administration of the pretest questionnaire.
- Conduct of the Structured Teaching Program.
- Administration of a post-test after seven days to measure knowledge retention.

Data Analysis: Data were analyzed using descriptive (mean, standard deviation) and inferential (paired t-test) statistics.

RESULTS

Table 1 showed a marked improvement in knowledge following the Structured Teaching Program. The mean pre-test score of 9.33 ± 2.42 indicated limited baseline awareness. After the intervention, the mean post-test score



Cover Page



increased to 18.16 ± 1.47 , suggesting substantial improvement. The paired t-test value of 7.82 (df = 5) confirmed a statistically significant difference, demonstrating the preliminary effectiveness of the STP.

Table 1: Comparison of Knowledge Scores (n = 6)			
Test	Mean	SD	t-value
Pre-test	9.33	2.42	7.82*
Post-test	18.16	1.47	
Significant at $p < 0.05$			

Feasibility Findings:

The pilot study also helped assess feasibility:

- The time schedule for testing and teaching was appropriate.
- Materials and visual aids were found effective and well understood.
- Participants were cooperative, indicating smooth process flow.
- No major modifications were required in the tool or methodology.

These findings confirm that the main study can proceed without significant procedural changes.

Preliminary Effectiveness

Participants demonstrated:

- Better recall of KSY components
- Improved understanding of ICDS services
- Enhanced awareness of nutritional supplements
- Clearer knowledge of vocational training opportunities

Thus, the STP showed promising effectiveness.

DISCUSSION

The purpose of the pilot study was to evaluate the feasibility of the research design and obtain preliminary evidence regarding the effectiveness of the Structured Teaching Program on knowledge of adolescent girls about selected themes of the Kishori Shakti Yojana. The results demonstrated a significant improvement in knowledge following the intervention, indicating that the STP was effective even in a small sample.



Cover Page



The notable increase in post-test scores suggests that adolescent girls lacked adequate baseline awareness of KSY, highlighting a gap in community-level health communication efforts. Similar findings have been reported in studies evaluating awareness of government schemes targeted at adolescents, where structured education significantly improved knowledge outcomes. The reliability coefficient (0.82) further confirms that the questionnaire was well constructed and sufficiently consistent for measuring knowledge levels. The feasibility assessment revealed that the research procedures were practical, achievable, and well understood by participants.

The pilot results align with previous studies showing that adolescent girls often lack awareness about welfare schemes. Similar findings were reported by Nair et al. (2019), who noted poor knowledge regarding adolescent health programmes. The improvement in post-test scores reflects the effectiveness of structured teaching. This is consistent with studies by Agarwal & Sethi (2020), who demonstrated significant knowledge gains following educational interventions among adolescents.

High reliability indicates that the questionnaire items accurately captured the intended constructs. Tavakol & Dennick (2011) emphasize that a Cronbach's alpha between 0.7 and 0.9 represents good internal consistency, validating the tool's appropriateness for the main study. Pilot feasibility was confirmed as sampling, data collection, and teaching procedures were smoothly executed. Comparable pilot studies (Hertzog, 2008; Leon et al., 2011) emphasize the importance of pilot testing to refine methodological procedures.

Pilot studies serve an important role in identifying methodological issues before the main research is undertaken. In this study, the pilot helped refine the teaching content, confirm the clarity of questions, and verify participant engagement. The positive response suggests that the main study can be carried out successfully with the existing plan.

CONCLUSION

The pilot study provided valuable insights into the feasibility and preliminary effectiveness of the Structured Teaching Program on the knowledge of adolescent girls regarding the Kishori Shakti Yojana. The tool was found to be reliable, and the procedure was practical and appropriate for a larger study. The significant improvement in knowledge indicates that structured teaching programs may play a key role in enhancing awareness and utilization of government schemes among adolescent girls.

The findings support moving forward with the main study using the finalized tools and methodology.



Cover Page



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Cover Page



A COMPARATIVE STUDY ON THE EFFECTIVENESS OF CHAMOMILE TEA VERSUS GINGER TEA IN REDUCING DYSMENORRHEA AMONG ADOLESCENT GIRLS IN SELECTED RURAL AREAS: A STUDY PROTOCOL

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ABSTRACT

Background: Dysmenorrhea is a leading cause of school absenteeism and reduced quality of life among adolescent girls. Herbal remedies such as chamomile and ginger have gained attention for their antispasmodic, anti-inflammatory, and analgesic effects. Existing evidence suggests both herbs can reduce menstrual pain, yet limited studies have directly compared their effectiveness, particularly among adolescents in rural settings.

Aim: To compare the effectiveness of chamomile tea and ginger tea in reducing dysmenorrhea among adolescent girls in selected rural areas.

Methods: A quasi-experimental comparative study design will be used. A sample of 74 adolescent girls aged 13–19 years with primary dysmenorrhea will be selected using purposive sampling and assigned into two intervention groups: The Chamomile Tea Group (n=37) and the Ginger Tea Group (n=37). Both teas will be administered twice daily for three consecutive menstrual days. Dysmenorrhea will be assessed using the Numerical Pain Rating Scale (NPRS) and the Menstrual Symptom Questionnaire (MSQ) before and after intervention. Data will be analyzed using paired t-tests, independent t-tests, and chi-square tests for associations, with significance set at $p < 0.05$.

Expected Outcome: Both teas are expected to reduce menstrual pain, but ginger tea may show greater pain reduction due to its stronger anti-inflammatory effect on prostaglandin inhibition.

Conclusion: The study will provide evidence on which herbal tea is more effective for managing dysmenorrhea in rural adolescents and may support integration of herbal alternatives into menstrual health programs.

Keywords: Adolescent Girls, Chamomile Tea, Comparative Study, Dysmenorrhea, Ginger Tea, Herbal Therapy.



Cover Page



INTRODUCTION

Dysmenorrhea affects 60–90% of adolescent girls worldwide and is often undertreated in rural populations (Iacovides et al., 2015). Excessive prostaglandins cause uterine contractions, leading to pain and associated symptoms such as nausea, fatigue, and irritability. While NSAIDs are effective, adolescents often seek herbal alternatives due to side effects or cultural preferences (Oladosu et al., 2018).

Chamomile (*Matricaria chamomilla*) contains flavonoids such as apigenin and bisabolol that reduce prostaglandin synthesis and relax smooth muscles (Khalesi et al., 2019; Shabani et al., 2022). Ginger (*Zingiber officinale*) acts through gingerol and shogaol compounds that inhibit cyclooxygenase and lipoxygenase pathways, reducing inflammation and menstrual cramps (Daily et al., 2015).

Although both herbs are individually effective, there is limited comparative evidence in rural adolescent populations. This study protocol outlines a comparative evaluation of chamomile and ginger teas to determine which is more effective for dysmenorrhea relief.

NEED FOR THE STUDY

Rural adolescents face barriers in accessing healthcare and rely on traditional remedies for menstrual discomfort. A comparative evaluation of chamomile and ginger tea can help identify a safe, effective, and culturally acceptable intervention. Evidence-based recommendations can enhance self-care practices and reduce absenteeism, improving health and educational outcomes.

Niazi et al. (2021) reported that chamomile extract reduces the production of prostaglandins and leukotrienes, the key mediators responsible for uterine muscle contractions and menstrual cramps. Their findings demonstrated a significant decrease in pain severity among women who consumed chamomile compared to non-users. Khalesi et al. (2019) found that chamomile inhibits cyclooxygenase (COX) activity, leading to decreased inflammatory responses and improved pain tolerance. Their study showed reductions in both intensity and duration of menstrual discomfort.

Mollabashi et al. (2021) showed that chamomile capsules were significantly more effective than placebo in improving mood disturbances and alleviating pain associated with menstruation, suggesting broader therapeutic benefits. Shabani et al. (2022) concluded that chamomile tea was as effective as mefenamic acid—a widely used NSAID—in reducing menstrual cramps, but with fewer adverse effects. This supports chamomile as a safer alternative for adolescent use.



Cover Page



Despite strong evidence for chamomile's effectiveness in managing dysmenorrhea, there is limited research comparing chamomile with other widely used natural remedies, such as ginger tea, particularly among adolescent girls in rural areas. Moreover, most existing studies have been conducted on adult populations or in controlled clinical environments, leaving a gap in community-based data.

Adolescents in rural settings often rely on home remedies due to limited access to healthcare services. Therefore, comparing chamomile tea with another common herbal remedy like ginger tea could provide insight into which option may be more beneficial, accessible, and acceptable for reducing menstrual pain among this population.

Given these factors—and supported by the existing literature on chamomile's anti-inflammatory, analgesic, and antispasmodic properties—a comparative study is warranted to generate evidence that can guide safe, culturally appropriate, and cost-effective menstrual health interventions for adolescent girls.

CONCEPTUAL FRAMEWORK

Based on Wiedenbach's Helping Art of Clinical Nursing Theory

Central Purpose: Reduce menstrual pain among adolescent girls.

Prescriptive Components: Assessment of pain, administration of herbal intervention (chamomile or ginger tea), monitoring, and feedback.

Realities:

Agent: Researcher

Recipient: Adolescent girls with dysmenorrhea

Goal: Relief from menstrual pain

Means: Chamomile or ginger tea

Framework: Rural school setting

Expected Outcomes: Reduced pain intensity, improved comfort, and increased acceptability of herbal intervention.

OBJECTIVES

General Objective

To compare the effectiveness of chamomile tea versus ginger tea in reducing dysmenorrhea among adolescent girls in selected rural areas.



Cover Page



Specific Objectives

- Assess baseline menstrual pain using NPRS and MSQ.
- Administer chamomile or ginger tea intervention for 3 days during menstruation.
- Assess post-intervention pain intensity.
- Compare pre-test and post-test pain scores between the two groups.
- Determine the association between pain reduction and demographic variables.

HYPOTHESES

H1: Chamomile tea is more effective than ginger tea in reducing dysmenorrhea.

H2: Both chamomile and ginger tea reduce pain intensity from pre-test to post-test.

H3: There is no significant association between demographic factors and intervention effectiveness.

OPERATIONAL DEFINITIONS

- Adolescent Girls: Females aged 13–19 years residing in selected rural areas.
- Dysmenorrhea: Painful menstruation assessed via NPRS and MSQ.
- Chamomile Tea: 2 g dried chamomile flowers steeped in 150 ml water, consumed twice daily.
- Ginger Tea: 2 g crushed ginger root boiled in 150 ml water, consumed twice daily.
- Effectiveness: Reduction in NPRS pain score from pre-test to post-test.

RESEARCH DESIGN

Quasi-experimental, pre-test post-test comparative design with two intervention groups.

SETTING

Selected rural villages and associated schools/colleges in the target district.

POPULATION AND SAMPLE

Population: Adolescent girls aged 13–19 with primary dysmenorrhea.

Sample Size: 32 participants per group (effect size $d=0.7$, $\alpha=0.05$, power=0.80).

Adjusted for 10% dropout: 36 per group → total of 72 participants.

Sample size was calculated a priori using GPower (t-tests—means: difference between two independent means). For a two-tailed test with $\alpha = 0.05$, power = 0.80, and an expected standardized effect size (Cohen's d) of 0.70, the required sample is 33 participants per group (total 66). Allowing for an anticipated 10% loss to follow-up increases the recruitment target to 37 per group (total 74).



SAMPLING TECHNIQUE

Purposive sampling followed by random allocation to the chamomile or ginger tea group.

SAMPLE SELECTION CRITERIA (Figure 1)

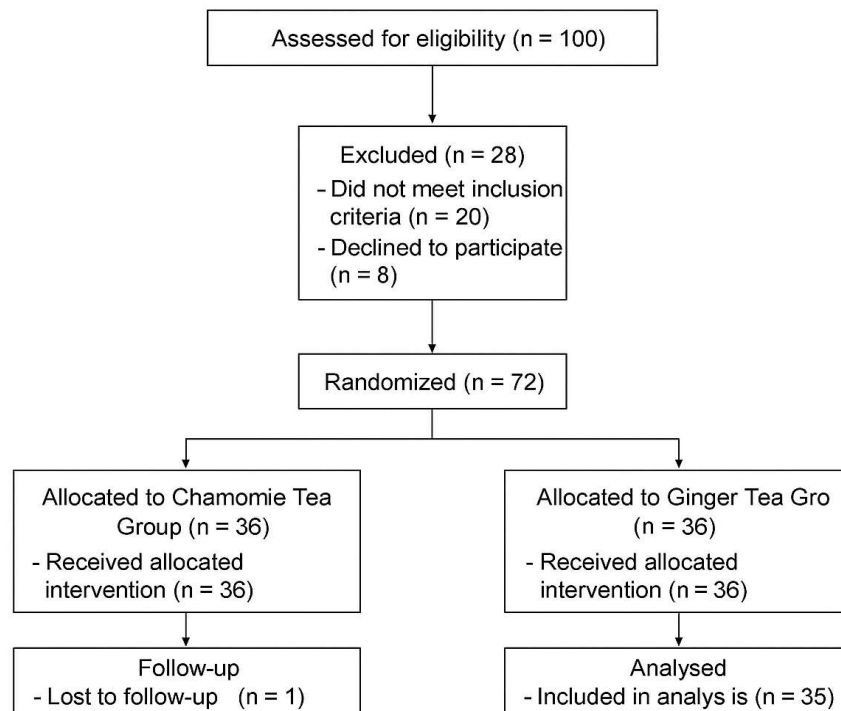
INCLUSION CRITERIA

- Age 13–19 years
- Primary dysmenorrhea
- Regular menstrual cycles
- Willingness to participate and consume herbal tea

EXCLUSION CRITERIA

- Secondary dysmenorrhea (pelvic pathology)
- Allergy to chamomile or ginger
- Current NSAID or hormonal therapy use
- Chronic systemic illnesses

Figure 1: CONSORT Guidelines for participants' selection





Cover Page



DATA COLLECTION TOOLS

Demographic Proforma – age, education, BMI, family history, menstrual history.

Numerical Pain Rating Scale (0–10) – pain severity.

Menstrual Symptoms Questionnaire (MSQ)—cramps, back pain, nausea, fatigue, mood changes.

INTERVENTION PROCEDURE

Chamomile Tea Group

- 2 g dried chamomile in 150–200 ml hot water, 10-minute steep
- Twice daily for 3 consecutive days from menstruation onset

Ginger Tea Group

- 2 g crushed ginger in 150–200 ml water, boiled for 10 minutes
- Twice daily for 3 consecutive days

Participants were monitored for adherence and side effects.

DATA COLLECTION PROCEDURE

- Obtain parental consent and participant assent.
- Pre-test NPRS and MSQ on Day 1 of menstruation.
- Administer tea intervention.
- Record daily pain scores for 3 days.
- Post-test NPRS and MSQ on Day 3.
- Compile data for analysis.

DATA ANALYSIS

Descriptive Statistics: mean, SD, frequency, percentage

Inferential Statistics:

- Paired t-test (within groups)
- Independent t-test (between groups)
- Chi-square (demographic associations)
- Significance level: $p < 0.05$



Cover Page



Gantt Chart: Study Timeline

Study Activity	Month 1	Month 2	Month 3
Preparatory Phase			
Literature review			
Proposal writing & ethics submission			
Tool development & pilot testing			
Recruitment of Participants			
Baseline Data Collection			
Intervention Phase			

ETHICAL CONSIDERATIONS

- Approval from Institutional Ethics Committee
- Informed assent and parental consent
- Voluntary participation and confidentiality
- Option to withdraw at any time
- Minimal risk intervention (herbal teas)

EXPECTED OUTCOMES

- Both teas reduce dysmenorrhea, with one being more effective.
- Increased comfort and daily functioning among adolescent girls.
- Evidence for safe, accessible herbal management of dysmenorrhea.



Cover Page



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IMPACT OF LAVENDER TEA ON PMS SYMPTOMS AMONG ADOLESCENT GIRLS: A STUDY IN MUNSHIGANJ, AMETHI

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ABSTRACT

Background: Premenstrual syndrome (PMS) is a frequent condition among adolescent girls that affects their emotional, physical, and social well-being. Lavender (*Lavandula angustifolia*) is known for its calming, analgesic, and antispasmodic properties. This study evaluates the effectiveness of lavender tea on PMS symptom reduction among adolescent nursing students.

Aim: To assess the impact of lavender tea in alleviating premenstrual syndrome symptoms and improving menstrual health awareness among adolescent girls.

Materials and Methods: A quasi-experimental one-group pre-test and post-test design was employed. Fifty-two adolescent girls aged 17–21 years were selected by convenience sampling. Participants consumed lavender tea twice daily for 15 days. Data were collected using structured questionnaires and PMS symptom checklists and analyzed using descriptive and inferential statistics.

Results: The post-test mean knowledge scores increased from 9.04 to 13.19, while the severity of PMS symptoms decreased from 18.06 to 15.06. The calculated t-value was 1.828, which was significant at $p < 0.05$. This suggests that lavender tea effectively reduces PMS symptoms. It is a safe, affordable, and non-pharmacological intervention for managing PMS among adolescent girls. Lavender tea, as a simple dietary intervention, may assist adolescent girls in coping with menstrual pain and improve their general well-being.



Cover Page



Keywords

Adolescent girls, Herbal therapy, Lavender tea, Premenstrual syndrome, Reproductive health

INTRODUCTION

Menstruation is a normal physiological process that reflects a healthy reproductive system; however, for many females¹, it is accompanied by distressing symptoms collectively known as Premenstrual Syndrome (PMS). PMS encompasses a combination of psychological and physical manifestations, including irritability, fatigue, headache, breast tenderness, abdominal cramps, and mood swings². Globally, more than 75 percent of women of reproductive age report some degree of premenstrual disturbance, and 3 to 8 percent suffer from severe forms known as Premenstrual Dysphoric Disorder (PMDD). In India, the prevalence among adolescent girls ranges from 45 to 70 percent, depending on lifestyle and socio-cultural factors^{3,4}.

Despite its high incidence, PMS remains underdiagnosed because many girls accept it as a normal part of womanhood. Painkillers and hormonal drugs are commonly used but often carry side effects and cost constraints⁵. This calls for safe and natural alternatives that can be easily integrated into daily life. Herbal and aromatic plants such as chamomile, ginger, peppermint, and lavender have been documented to reduce menstrual pain and stress⁶.

Lavender (*Lavandula angustifolia*) is a beautiful evergreen shrub that thrives in the Mediterranean region and is celebrated for its calming fragrance and remarkable phytochemical benefits. With a long history of traditional use, lavender effectively helps to relieve insomnia, reduce headaches, and ease muscle spasms, making it an essential addition to your wellness routine. Scientific studies have demonstrated that its essential oils possess analgesic and anxiolytic actions through the modulation of gamma-aminobutyric acid (GABA) receptors in the brain. Consuming lavender as an herbal tea is a simple method to harness these benefits⁷.

Adolescent girls undergoing menstrual changes are particularly susceptible to emotional instability and pain. By introducing herbal interventions like lavender tea, nurses can promote holistic care and reduce dependency on pharmacological methods. Hence, the present study aimed to evaluate the effectiveness of lavender tea on premenstrual syndrome among adolescent girls in a selected nursing college at Munshiganj, Amethi.



Cover Page



STATEMENT OF THE PROBLEM

With a wide spectrum of physical, mental, and behavioral symptoms that significantly affect daily functioning, academic performance, and quality of life, premenstrual syndrome (PMS) is a serious and underappreciated health concern among teenage females. A comprehensive review and meta-analysis³ in India indicated that PMS affects around 43% of reproductive-age women, with a pooled prevalence of roughly 49.6% among teenagers (10-19 years). Therefore, the purpose of the study is to assess the effectiveness of lavender tea in lowering PMS symptoms in teenage girls between the ages of 17 and 21 at particular nursing campuses in Munshiganj. By doing this, the study aims to close the interventional gap (the lack of evidence for accessible, natural treatments) and the lack of incidence statistics in the management of PMS for this age range.

OBJECTIVES

1. To assess the level of knowledge regarding PMS among adolescent girls before and after the administration of lavender tea.
2. To evaluate the effectiveness of lavender tea in reducing PMS symptoms.
3. To compare pre-test and post-test symptom scores after lavender tea consumption.
4. To identify associations between demographic variables and post-test PMS scores.

HYPOTHESES

- H₀: No significant difference exists between pre-test and post-test PMS scores after lavender tea consumption.
- H₁: A significant difference exists between pre-test and post-test PMS scores after lavender tea consumption.

METHODOLOGY

Research Approach and Design

A quantitative, evaluative research approach was adopted using a quasi-experimental one-group pre-test and post-test design. This design enabled the assessment of changes in knowledge and PMS symptom severity following lavender tea administration, without the inclusion of a control group, in alignment with SPIRIT 2013⁸ guidelines (Figure 1).

Setting and Target Population

The study was carried out at Indira Gandhi School and College of Nursing, Munshiganj, Amethi, Uttar Pradesh. The target population included all adolescent girls aged 17–21 years experiencing PMS symptoms.



Cover Page



Sampling and Sample Size

A sample of 52 participants was selected through convenience sampling, with participants meeting the inclusion criteria and providing voluntary consent. Sample size adequacy was determined using G*Power. The calculation assumed a two-tailed test with significance level $\alpha = 0.05$, statistical power $(1 - \beta) = 0.80$, an expected effect size (Cohen's d) of 0.50 (medium), and an anticipated attrition rate of 5%, yielding a final target sample of 52 participants (Figure 2).

Figure 1: SPIRIT 2013: Schedule of enrolment, intervention, and assessment in the SISMA–PA pre-post time-series study. –t=time point for screening study participants; t₀=time point for baseline assessment; t₁= intervention

	STUDY PERIOD			
	Enrolment	Post-allocation		
TIME POINT	-t ₁	Baseline t ₀	t ₁ (2 weeks)	Post- test
ENROLMENT:				
Eligibility screen	X			
Informed consent from parents	X			
Assent consent	X			
INTERVENTIONS:				
<i>Structured Teaching Program x 45 minutes x 1 session</i>			Exp 1 group	
<i>Lavender Tea x 15 days</i>			Exp group	
ASSESSMENTS:		Experimental (n=26) + Control group (n=26)		
Knowledge on PMS among adolescent girls by structured questionnaire		X		X
<i>Level of PMS Symptoms among adolescent girls by checklist</i>		X		X

Variables

Independent Variable: Structured Teaching Program (STP) on Knowledge regarding PMS, Symptoms of PMS, and Use and Effectiveness of Lavender Tea for PMS Relief.



Dependent Variables: level of knowledge regarding PMS and lavender tea and severity of PMS symptoms among adolescent girls.

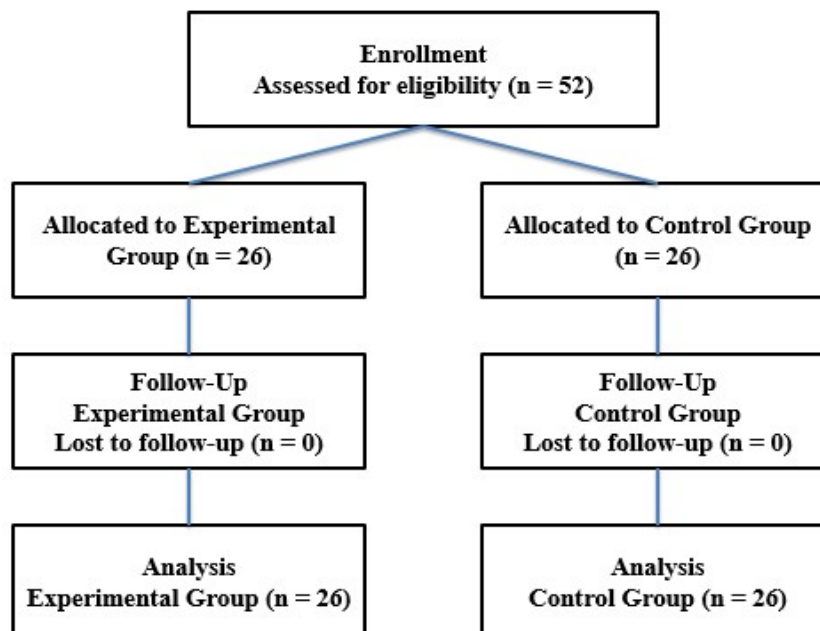
Demographic Variable: age, education status of father, education status of mother, occupation of father and mother, BMI, locality of residence, family medical history, monthly income.

Selection Criteria

Inclusion

- Adolescent girls aged 17–21 years
- Regular menstrual cycles for the past 3–6 months
- Experiencing mild to moderate PMS symptoms as per the structured PMS checklist
- Willing to participate in the intervention and control procedures
- Able to consume lavender tea for the study duration
- Provided informed consent/assent

Figure 2: CONSORT (Consolidated Standards of Reporting Trials) guidelines for allocation of participants





Cover Page



Exclusion

- Currently on hormonal therapy, contraceptive pills, or medications influencing menstrual cycles
- Diagnosed gynecological disorders (e.g., PCOS, dysmenorrhea requiring treatment)
- Known allergy or hypersensitivity to lavender or herbal infusions
- Chronic medical or psychiatric conditions that may influence PMS scoring
- Participation in any other intervention trial during the study period
- Underweight or normal-weight participants (below the 85th percentile BMI)

Description of The Tool

- **Section A:** Socio-demographic variables
- **Section B:** Structured knowledge questionnaire on PMS among adolescent girls - A structured knowledge questionnaire consisting of 20 multiple-choice questions (MCQs) was developed to assess the knowledge of adolescent girls regarding Premenstrual Syndrome (PMS). The items cover key areas including the definition, causes, signs and symptoms, risk factors, management strategies, and the role of lavender tea in symptom relief. Each question has four options with one correct answer. A score of 1 is allotted for every correct response and 0 for an incorrect response, yielding a maximum score of 20. Higher scores indicate better knowledge about PMS. The tool was validated by subject experts, and necessary modifications were made based on their feedback to ensure clarity, relevance, and content validity.
- **Section C:** Structured PMS rating scale among adolescent girls - The PMS severity rating is based on the average score of symptoms reported by the student. If the average score is less than 3, it indicates mild PMS, meaning symptoms are present but do not disturb daily activities much. An average score of 3 to 4 shows moderate PMS, where symptoms cause noticeable discomfort and may affect some daily tasks. Scores between 4 and 5 indicate Severe PMS, where symptoms significantly interfere with routine activities

Intervention Protocol

Dried lavender flowers were obtained from a certified herbal supplier. For each serving, 2 grams of dried lavender were infused in 200 mL of boiling water and allowed to steep for five minutes. Participants consumed 100 mL of freshly prepared lavender tea twice daily for 15 days prior to the onset of menstruation. Adherence to the intervention was monitored using a daily compliance checklist provided to each participant in experimental group.

Data Collection Procedure

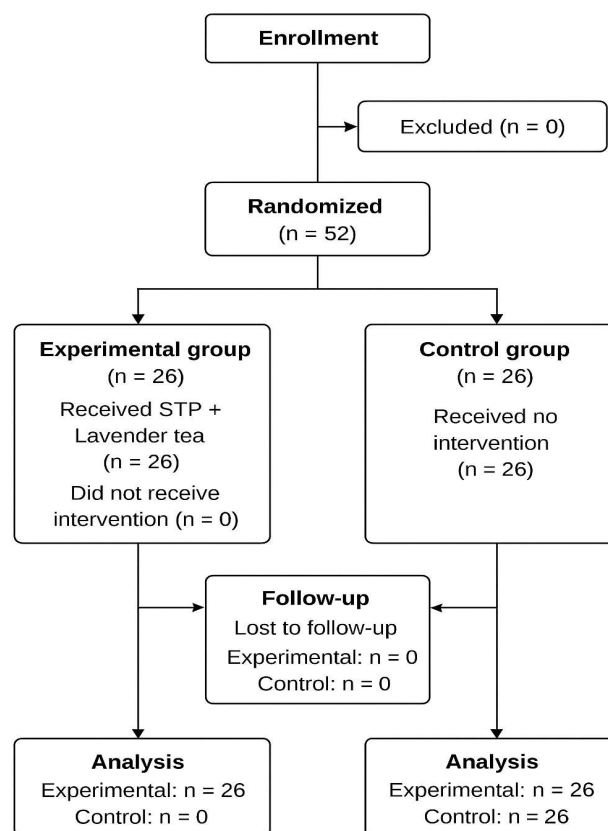
Data were collected after obtaining institutional ethical approval and written informed consent and assent



from participants and their guardians/parents. Eligible adolescent girls were screened using predetermined inclusion and exclusion criteria and then allocated into the experimental (n = 26) and control (n = 26) groups.

Baseline PMS knowledge and symptom scores were assessed using a validated structured PMS questionnaire and rating scales. The experimental group received lavender tea daily for 15 days. The control group did not receive any STP or intervention and continued with their routine activities. Compliance with the intervention was monitored through daily logs. After completion of the intervention period, post-test PMS scores were collected from both groups using the same questionnaire. All data were recorded confidentially, checked for completeness, and prepared for statistical analysis.

Figure 3: CONSORT (Consolidated Standards of Reporting Trials) guidelines for data analysis



Data Analysis

Data were analyzed using SPSS (version 20). Descriptive statistics were presented as mean \pm standard deviation (SD) for continuous variables and frequencies for categorical variables. Baseline differences between



Cover Page



the experimental ($n = 26$) and control ($n = 26$) groups were assessed using the chi-square test. The normality of PMS score distributions was checked using the Shapiro–Wilk test. Pre-test to post-test were analyzed using the paired t-test for normally distributed data. Between-group differences in mean change scores were examined using the independent t-test. Statistical significance was set at $p < 0.05$.

RESULTS

A total of 52 adolescent girls were enrolled and randomized equally into the experimental group ($n = 26$) and the control group ($n = 26$). No participants were lost to follow-up

1. Baseline characteristics of participants in both experimental and control groups.
2. Association between level of knowledge and effectiveness of lavender tea on PMS among adolescent girls.
3. Comparison of PMS severity scores between experimental and control groups.
4. Comparison of association between post-test knowledge and demographic variables.

Section 1: Baseline characteristics of participants in both experimental and control groups

The study involved 52 adolescent girls, evenly divided between experimental and control groups. Most participants were aged between 18 and 20, showing a similar age pattern in both groups. BMI distribution differed, with the experimental group having more overweight and obese participants, while the control group had a larger proportion with normal BMI. A majority of the girls resided in rural areas, with rural representation slightly higher in the control group. Both groups showed comparable patterns in family monthly income, with most families falling within middle-income categories. Mothers were primarily homemakers, and fathers commonly worked as farmers or in private jobs, indicating similar socio-economic backgrounds. Parental educational levels were also alike, with many having completed secondary or higher education. Most families reported no significant medical history, suggesting limited variation in hereditary health factors across groups. Overall, the two groups were demographically well balanced, except for BMI differences (Table 1).

In table 2, the experimental group shows a statistically significant improvement after the intervention ($t = 1.828$, $p < 0.05$), indicating that lavender tea and structured teaching were effective in reducing PMS symptoms and improving knowledge. The control group shows no significant change ($t = 0.069$).

In the experimental group, the mean PMS severity score decreased from 3.92 ± 0.68 in the pre-test to 2.78 ± 0.71 in the post-test. The mean difference of -1.14 was statistically significant ($t = 8.21$, $p < 0.001$), indicating a substantial reduction in PMS symptoms following the lavender tea intervention.

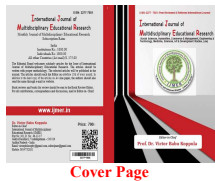


Cover Page



Table:1 Demographic Variables of Experimental & Control group (n=52)

Variables	Experimental group		Control Group	
	Frequency	%	Frequency	%
Age of student				
17-18	1	3.85	2	7.69
18-19	10	38.46	8	30.77
19-20	9	34.61	12	46.16
20-21	6	23.08	4	15.38
BMI				
Normal	8	26.92	17	65.38
Moderate	16	38.46	9	34.62
Obese	2	34.62	0	0
Locality of residence				
Rural	19	73.08	24	92.31
Urban	7	26.92	2	7.69
Monthly income of family				
15000-20000	9	34.61	10	38.47
20000-25000	5	19.23	2	7.69
25000-30000	0	0	3	11.53
30000-35000	6	23.08	6	23.08
Above	6	23.08	5	19.23
Occupation of father				
Farmer	16	61.54	7	26.93
Private job	5	19.23	16	61.54
Government job	5	19.23	3	11.53
Un employed	0	0	0	0
Occupation of mother				
Housewife	24	92.30	21	80.77
Private job	1	3.85	4	15.38
Government job	1	3.85	1	3.85
Unemployed	0	0	0	0
Educational status of father				
Illiterate	4	15.38	3	11.54
10 th pass	5	19.24	5	19.23
12 th pass	4	15.38	3	11.54
Graduate	13	50	15	57.69
Educational status of mother				
Illiterate	3	11.54	7	26.92
10 th pass	12	46.15	4	15.39
12 th pass	3	11.54	7	26.92
Graduate	8	30.77	8	30.77
Family medical history				
Obesity	0	0	1	3.85
Hypertension	6	23.08	4	15.38
Diabetes mellitus	6	23.08	8	30.77
PCOD	0	0	0	0
None	14	53.84	13	50



Section 2: Association between level of knowledge and effectiveness of lavender tea on PMS among adolescent girls.

Table 2: Association between level of knowledge and effectiveness of lavender tea on PMS among adolescent girls with selected demographic variables. (n=52)

Group	Pre-test		Post-test		't' Value
	Mean	SD	Mean	SD	
Experimental	18.06	7.52	15.06	5.46	1.828*
Control	9.65	8.93	12.80	7.21	0.069

*Significant at $p < 0.05$

Section 3: Comparison of PMS severity scores between experimental and control groups.

Table 3: Comparison of PMS Severity Scores Between Experimental and Control Groups (n = 52)

Group	Test	Mean	SD	MD	t-value & p-value	Interpretation
Experimental (n=26)	Pre-test	3.92	0.68	-1.14	8.21	Significant reduction in PMS severity after lavender tea
	Post-test	2.78	0.71	< 0.001*		
Control (n=26)	Pre-test	3.85	0.72	-0.18	1.14	No significant change without intervention
	Post-test	3.67	0.75	> 0.05		

*Significant at $p < 0.05$

In contrast, the control group showed a marginal decrease in PMS severity from 3.85 ± 0.72 to 3.67 ± 0.75 , with a mean difference of -0.18 . This change was not statistically significant ($t = 1.14$, $p > 0.05$), confirming that PMS symptoms remained largely unchanged without any intervention. These findings demonstrate that lavender tea, combined with STP, was effective in reducing PMS symptom severity, whereas no meaningful improvement occurred in the control group (Table 3).

Section 4: Comparison of association between post-test knowledge level and demographic variables on PMS in the Experimental and Control Groups.

The chi-square analysis revealed that none of the examined demographic characteristics had a statistically significant association with pre-test PMS levels in either the experimental or control group ($p > 0.05$ for all comparisons). Variables such as age, BMI, place of residence, monthly family income, parental occupation, parental education, and family medical history showed no meaningful relationship with baseline PMS severity.



Cover Page



Table 4: Association Between Demographic Variables and Post-test Knowledge level on PMS in the Experimental and Control Groups (n = 52)

Variables	Experimental Group χ^2 (df)	Control Group χ^2 (df)
Age	0.10 (df = 6)	0.76 (df=6)
BMI	0.04 (df = 4)	0.028 (df=4)
Locality	0.31 (df = 2)	0.03 (df=2)
Monthly Income	3.68 (df = 8)	0.47 (df=8)
Father's Occupation	0.59 (df = 6)	8.42 (df=6)
Mother's Occupation	0.59 (df = 6)	1.14 (df=6)
Father's Education	0.59 (df = 6)	0.81 (df=6)
Mother's Education	6.46 (df = 6)	1.64 (df=6)
Family Medical History	0.93 (df = 8)	0.38 (df=8)

*Significant at $p < 0.05$

Although the control group recorded a comparatively higher chi-square value for father's occupation ($\chi^2 = 8.42$), it remained non-significant. Likewise, a slightly elevated chi-square value for mother's education in the experimental group ($\chi^2 = 6.46$) did not reach significance. Overall, these findings (Table 4) indicate that initial PMS levels were not influenced by the socio-demographic factors assessed in this study.

DISCUSSION

The present study demonstrated that lavender tea combined with structured teaching was effective in reducing PMS symptoms among overweight and obese adolescent girls, whereas no significant improvement was observed in the control group. These results align with earlier research showing that lavender aromatherapy or oral lavender preparations can significantly reduce premenstrual discomfort and emotional distress. A previous study reported⁹ that lavender intervention substantially decreased PMS symptom scores compared to controls. Similar reductions in physical and psychological symptoms were noted in the previous work, who found that lavender aromatherapy improved both somatic and emotional domains of PMS¹⁰.

The current findings also support evidence suggesting that non-pharmacological herbal therapies are beneficial for menstrual-related symptoms, particularly among adolescents. Previous studies on herbal teas, such as chamomile or fennel, have shown improvements in menstrual pain and mood disturbances, consistent with the symptom reduction observed in our experimental group.



Cover Page



In contrast, the lack of change in the control group mirrors findings from other trials where participants who received no intervention showed stable PMS levels over time. Furthermore, the absence of statistically significant associations between demographic variables and baseline PMS levels in this study is in agreement with earlier literature. A research similarly reported no meaningful relationship between socio-demographic characteristics and PMS severity, suggesting that PMS occurs across diverse demographic groups irrespective of age, residence, or parental educational status¹¹.

Overall, this study strengthens the growing evidence that lavender-based interventions are a practical, low-cost, and culturally acceptable method for alleviating PMS symptoms among adolescent girls, irrespective of their demographic background.

LIMITATIONS OF THE STUDY

- The study involved a small sample of 52 participants from a single institution, which limits the wider applicability of the results.
- PMS symptoms were measured through self-reported questionnaires, which may be affected by recall or subjective bias.
- Only short-term outcomes were assessed, so the sustained effects of lavender tea could not be determined.

RECOMMENDATIONS FOR FUTURE RESEARCH

- Conduct large-scale randomized controlled trials to validate the effectiveness of lavender tea in different populations.
- Compare lavender tea with other evidence-based herbal interventions such as chamomile, fennel, or ginger to determine relative efficacy.
- Investigate long-term use and sustained outcomes across multiple menstrual cycles.

CONCLUSION

The study demonstrates that lavender tea is a beneficial, safe, and cost-effective non-pharmacological option for alleviating premenstrual syndrome among adolescent girls. Regular intake was associated with reduced physical discomfort and emotional symptoms, contributing to improved overall well-being. These findings highlight the value of integrating simple herbal therapies into nursing care and health education to support holistic menstrual health and reduce reliance on synthetic medications.



Cover Page



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Cover Page



A COMPARATIVE STUDY ON THE EFFECTIVENESS OF CHAMOMILE TEA VERSUS GINGER TEA IN REDUCING DYSMENORRHEA AMONG ADOLESCENT GIRLS IN SELECTED RURAL AREAS: A STUDY PROTOCOL

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ABSTRACT

Background: Dysmenorrhea is a leading cause of school absenteeism and reduced quality of life among adolescent girls. Herbal remedies such as chamomile and ginger have gained attention for their antispasmodic, anti-inflammatory, and analgesic effects. Existing evidence suggests both herbs can reduce menstrual pain, yet limited studies have directly compared their effectiveness, particularly among adolescents in rural settings.

Aim: To compare the effectiveness of chamomile tea and ginger tea in reducing dysmenorrhea among adolescent girls in selected rural areas.

Methods: A quasi-experimental comparative study design will be used. A sample of 74 adolescent girls aged 13–19 years with primary dysmenorrhea will be selected using purposive sampling and assigned into two intervention groups: The Chamomile Tea Group (n=37) and the Ginger Tea Group (n=37). Both teas will be administered twice daily for three consecutive menstrual days. Dysmenorrhea will be assessed using the Numerical Pain Rating Scale (NPRS) and the Menstrual Symptom Questionnaire (MSQ) before and after intervention. Data will be analyzed using paired t-tests, independent t-tests, and chi-square tests for associations, with significance set at $p < 0.05$.

Expected Outcome: Both teas are expected to reduce menstrual pain, but ginger tea may show greater pain reduction due to its stronger anti-inflammatory effect on prostaglandin inhibition.

Conclusion: The study will provide evidence on which herbal tea is more effective for managing dysmenorrhea in rural adolescents and may support integration of herbal alternatives into menstrual health programs.

Keywords: Adolescent Girls, Chamomile Tea, Comparative Study, Dysmenorrhea, Ginger Tea, Herbal Therapy.



Cover Page



INTRODUCTION

Dysmenorrhea affects 60–90% of adolescent girls worldwide and is often undertreated in rural populations (Iacovides et al., 2015). Excessive prostaglandins cause uterine contractions, leading to pain and associated symptoms such as nausea, fatigue, and irritability. While NSAIDs are effective, adolescents often seek herbal alternatives due to side effects or cultural preferences (Oladosu et al., 2018).

Chamomile (*Matricaria chamomilla*) contains flavonoids such as apigenin and bisabolol that reduce prostaglandin synthesis and relax smooth muscles (Khalesi et al., 2019; Shabani et al., 2022). Ginger (*Zingiber officinale*) acts through gingerol and shogaol compounds that inhibit cyclooxygenase and lipoxygenase pathways, reducing inflammation and menstrual cramps (Daily et al., 2015).

Although both herbs are individually effective, there is limited comparative evidence in rural adolescent populations. This study protocol outlines a comparative evaluation of chamomile and ginger teas to determine which is more effective for dysmenorrhea relief.

NEED FOR THE STUDY

Rural adolescents face barriers in accessing healthcare and rely on traditional remedies for menstrual discomfort. A comparative evaluation of chamomile and ginger tea can help identify a safe, effective, and culturally acceptable intervention. Evidence-based recommendations can enhance self-care practices and reduce absenteeism, improving health and educational outcomes.

Niazi et al. (2021) reported that chamomile extract reduces the production of prostaglandins and leukotrienes, the key mediators responsible for uterine muscle contractions and menstrual cramps. Their findings demonstrated a significant decrease in pain severity among women who consumed chamomile compared to non-users. Khalesi et al. (2019) found that chamomile inhibits cyclooxygenase (COX) activity, leading to decreased inflammatory responses and improved pain tolerance. Their study showed reductions in both intensity and duration of menstrual discomfort.

Mollabashi et al. (2021) showed that chamomile capsules were significantly more effective than placebo in improving mood disturbances and alleviating pain associated with menstruation, suggesting broader therapeutic benefits. Shabani et al. (2022) concluded that chamomile tea was as effective as mefenamic acid—a widely used NSAID—in reducing menstrual cramps, but with fewer adverse effects. This supports chamomile as a safer alternative for adolescent use.



Cover Page



Despite strong evidence for chamomile's effectiveness in managing dysmenorrhea, there is limited research comparing chamomile with other widely used natural remedies, such as ginger tea, particularly among adolescent girls in rural areas. Moreover, most existing studies have been conducted on adult populations or in controlled clinical environments, leaving a gap in community-based data.

Adolescents in rural settings often rely on home remedies due to limited access to healthcare services. Therefore, comparing chamomile tea with another common herbal remedy like ginger tea could provide insight into which option may be more beneficial, accessible, and acceptable for reducing menstrual pain among this population.

Given these factors—and supported by the existing literature on chamomile's anti-inflammatory, analgesic, and antispasmodic properties—a comparative study is warranted to generate evidence that can guide safe, culturally appropriate, and cost-effective menstrual health interventions for adolescent girls.

CONCEPTUAL FRAMEWORK

Based on Wiedenbach's Helping Art of Clinical Nursing Theory

Central Purpose: Reduce menstrual pain among adolescent girls.

Prescriptive Components: Assessment of pain, administration of herbal intervention (chamomile or ginger tea), monitoring, and feedback.

Realities:

Agent: Researcher

Recipient: Adolescent girls with dysmenorrhea

Goal: Relief from menstrual pain

Means: Chamomile or ginger tea

Framework: Rural school setting

Expected Outcomes: Reduced pain intensity, improved comfort, and increased acceptability of herbal intervention.

OBJECTIVES

General Objective

To compare the effectiveness of chamomile tea versus ginger tea in reducing dysmenorrhea among adolescent girls in selected rural areas.



Cover Page



Specific Objectives

- Assess baseline menstrual pain using NPRS and MSQ.
- Administer chamomile or ginger tea intervention for 3 days during menstruation.
- Assess post-intervention pain intensity.
- Compare pre-test and post-test pain scores between the two groups.
- Determine the association between pain reduction and demographic variables.

HYPOTHESES

H1: Chamomile tea is more effective than ginger tea in reducing dysmenorrhea.

H2: Both chamomile and ginger tea reduce pain intensity from pre-test to post-test.

H3: There is no significant association between demographic factors and intervention effectiveness.

OPERATIONAL DEFINITIONS

- Adolescent Girls: Females aged 13–19 years residing in selected rural areas.
- Dysmenorrhea: Painful menstruation assessed via NPRS and MSQ.
- Chamomile Tea: 2 g dried chamomile flowers steeped in 150 ml water, consumed twice daily.
- Ginger Tea: 2 g crushed ginger root boiled in 150 ml water, consumed twice daily.
- Effectiveness: Reduction in NPRS pain score from pre-test to post-test.

RESEARCH DESIGN

Quasi-experimental, pre-test post-test comparative design with two intervention groups.

SETTING

Selected rural villages and associated schools/colleges in the target district.

POPULATION AND SAMPLE

Population: Adolescent girls aged 13–19 with primary dysmenorrhea.

Sample Size: 32 participants per group (effect size $d=0.7$, $\alpha=0.05$, power=0.80).

Adjusted for 10% dropout: 36 per group → total of 72 participants.

Sample size was calculated a priori using GPower (t-tests—means: difference between two independent means). For a two-tailed test with $\alpha = 0.05$, power = 0.80, and an expected standardized effect size (Cohen's d) of 0.70, the required sample is 33 participants per group (total 66). Allowing for an anticipated 10% loss to follow-up increases the recruitment target to 37 per group (total 74).



SAMPLING TECHNIQUE

Purposive sampling followed by random allocation to the chamomile or ginger tea group.

SAMPLE SELECTION CRITERIA (Figure 1)

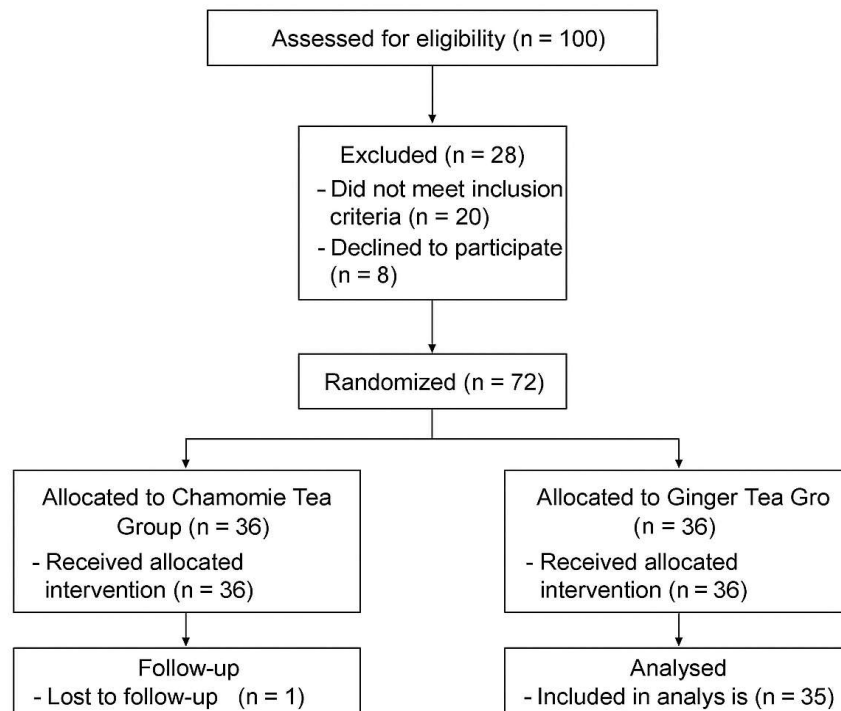
INCLUSION CRITERIA

- Age 13–19 years
- Primary dysmenorrhea
- Regular menstrual cycles
- Willingness to participate and consume herbal tea

EXCLUSION CRITERIA

- Secondary dysmenorrhea (pelvic pathology)
- Allergy to chamomile or ginger
- Current NSAID or hormonal therapy use
- Chronic systemic illnesses

Figure 1: CONSORT Guidelines for participants' selection





Cover Page



DATA COLLECTION TOOLS

Demographic Proforma – age, education, BMI, family history, menstrual history.

Numerical Pain Rating Scale (0–10) – pain severity.

Menstrual Symptoms Questionnaire (MSQ)—cramps, back pain, nausea, fatigue, mood changes.

INTERVENTION PROCEDURE

Chamomile Tea Group

- 2 g dried chamomile in 150–200 ml hot water, 10-minute steep
- Twice daily for 3 consecutive days from menstruation onset

Ginger Tea Group

- 2 g crushed ginger in 150–200 ml water, boiled for 10 minutes
- Twice daily for 3 consecutive days

Participants were monitored for adherence and side effects.

DATA COLLECTION PROCEDURE

- Obtain parental consent and participant assent.
- Pre-test NPRS and MSQ on Day 1 of menstruation.
- Administer tea intervention.
- Record daily pain scores for 3 days.
- Post-test NPRS and MSQ on Day 3.
- Compile data for analysis.

DATA ANALYSIS

Descriptive Statistics: mean, SD, frequency, percentage

Inferential Statistics:

- Paired t-test (within groups)
- Independent t-test (between groups)
- Chi-square (demographic associations)
- Significance level: $p < 0.05$



Cover Page



Gantt Chart: Study Timeline

Study Activity	Month 1	Month 2	Month 3
Preparatory Phase			
Literature review			
Proposal writing & ethics submission			
Tool development & pilot testing			
Recruitment of Participants			
Baseline Data Collection			
Intervention Phase			

ETHICAL CONSIDERATIONS

- Approval from the Institutional Ethics Committee
- Informed assent and parental consent
- Voluntary participation and confidentiality
- Option to withdraw at any time
- Minimal risk intervention (herbal teas)

EXPECTED OUTCOMES

- Both teas reduce dysmenorrhea, with one being more effective.
- Increased comfort and daily functioning among adolescent girls.
- Evidence for safe, accessible herbal management of dysmenorrhea.



Cover Page



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Cover Page



A STUDY TO EVALUATE THE EFFECTIVENESS OF VIDEO-ASSISTED TEACHING PROGRAMME ON KNOWLEDGE REGARDING POST-OPERATIVE EXERCISE AMONG PATIENTS UNDERGOING CARDIO-THORACIC SURGERY IN HOSPITAL AT GWALIOR

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ABSTRACT

This study evaluated the effectiveness of a video-assisted teaching programme on knowledge regarding post-operative exercises among patients undergoing cardiothoracic surgery in Gwalior. The objectives were to assess patients' baseline knowledge, determine the effectiveness of the teaching intervention, and examine associations between pre-test knowledge and selected demographic variables. Findings showed that most participants were adults aged 56–65 years, predominantly male (77%), married (78%), and belonged mainly to the Hindu community (72%). In the pre-test, 57% of patients had inadequate knowledge, whereas in the post-test, none remained in this category; instead, 67% achieved adequate knowledge. The mean post-test knowledge score (75%) was significantly higher than the pre-test score (55.6%). Paired *t*-test ($t = 30.4$) confirmed a statistically significant improvement, demonstrating the effectiveness of the video-assisted teaching programme. Significant associations were identified between pre-test knowledge and education, residence, and dietary habits, while no association was observed with age, sex, religion, marital status, occupation, income, or personal habits. The study concludes that cardiothoracic surgery patients initially had insufficient knowledge about post-operative exercises, but the video-assisted intervention effectively enhanced their understanding, supporting its use in patient education.

KEYWORDS:

Cardiothoracic surgery, Health education, Nursing practice, Patient knowledge improvement, Post-operative exercises, Teaching effectiveness, Video-assisted teaching programme

INTRODUCTION

Cardiovascular diseases (CVDs) remain the leading cause of global morbidity and mortality, accounting for a rising burden in both developed and developing countries, including India, where coronary artery disease



Cover Page



occurs 10–15 years earlier than in Western populations. The increasing prevalence of modifiable risk factors—sedentary lifestyle, unhealthy diet, obesity, smoking, and diabetes—has contributed significantly to early cardiac illness, making cardiac surgery a common and essential intervention. Despite advances in surgical techniques, patients undergoing cardiothoracic surgery remain vulnerable to post-operative complications such as pulmonary dysfunction, arrhythmias, infections, and reduced functional capacity, all of which prolong hospital stay and impair recovery. Evidence shows that structured post-operative exercises, including breathing exercises, incentive spirometry, mobilisation, and limb movements, play a crucial role in preventing complications and improving outcomes. However, inadequate patient knowledge and limited pre-operative education often hinder adherence to these exercises. Video-assisted teaching has emerged as an effective educational strategy for enhancing patient understanding and engagement. Therefore, evaluating its effectiveness in improving knowledge regarding post-operative exercise among cardiothoracic surgery patients is essential to promote recovery and reduce complications.

STATEMENT OF THE PROBLEM

Cardio-thoracic surgery often leads to significant physiological changes that require well-structured postoperative exercises to support recovery, prevent complications, and enhance overall functional outcomes. Despite the availability of guidelines, many patients have a limited understanding of the type, frequency, and importance of these exercises. Inadequate knowledge may result in poor adherence to rehabilitation protocols, delayed recovery, and increased risk of postoperative complications such as respiratory problems, reduced mobility, and prolonged hospital stay.

In the selected hospital at Gwalior, preliminary observations and clinical interactions indicate that patients frequently rely on incomplete or inconsistent information, leading to uncertainty and anxiety during the recovery period. Conventional verbal instructions alone may not adequately meet the learning needs of patients, especially when they are experiencing pain, fatigue, or stress after surgery.

Video-assisted teaching, being interactive and visually supported, has the potential to improve patient understanding and retention of essential post-operative exercises. However, its effectiveness in enhancing knowledge among patients undergoing cardio-thoracic surgery in this setting has not been systematically evaluated. Therefore, the present study seeks to assess the effectiveness of a video-assisted teaching programme in improving knowledge regarding post-operative exercises among patients undergoing cardiothoracic surgery in a hospital at Gwalior.



Cover Page



OBJECTIVES

1. To assess the level of knowledge regarding post-operative exercise among patients undergoing cardiothoracic surgery.
2. To evaluate the effectiveness of the video-assisted teaching program on postoperative exercise among patients undergoing cardiothoracic surgery.
3. To find out the association between pretest level of knowledge on postoperative exercise among patient undergoing cardiac surgery with their selected demographic variables.

HYPOTHESIS

H1: There will be a significant difference between the pre-test level of knowledge and post-test level of knowledge regarding post-operative exercise among patients undergoing cardio-thoracic surgery.

H2: There will be a significant association between the knowledge regarding the postoperative exercise among cardiothoracic surgery patients with their selected demographic variables.

OPERATIONAL DEFINITION

Knowledge: It refers to the correct response of the people to the knowledge items on the closed-ended questionnaire regarding post-operative exercise.

Assess: It is a statistical measurement of people regarding post-operative exercise observed by a closed-ended questionnaire.

Effectiveness: It is the statistical measurement of the difference between pretest and post-test knowledge scores.

Video-assisted teaching: A multimedia teaching or which an organised and sequential representation of information regarding dengue is explained in detail.

Postoperative exercise: The exercises performed by the patient who has undergone cardiac surgery, such as diaphragmatic breathing exercise, coughing with splinting, arm stretch, elbow flexing, elbow extension, leg exercise, turning, and incentive spirometry exercise.

Cardiac Surgery Patients: The patients who are undergoing Cardiac Surgery.

Evaluation: Evaluation is defined as a form of an idea of the amount of number or value of a study that will assist in evaluating the impact of recent changes (a system for evaluating how well a use form is performing).

RESEARCH METHODOLOGY

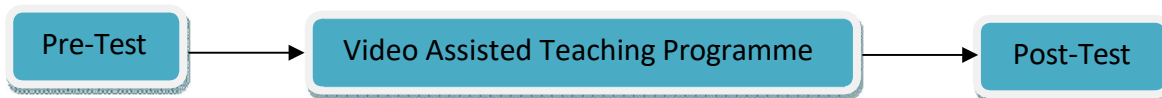
RESEARCH APPROACH: Quasi-experimental approach, a subtype of quantitative approach, was used for the present study.



Cover Page



RESEARCH DESIGN: Research design is the researcher's overall plan for obtaining answers to the research questions. The investigator has employed for pre-experimental, one-group pre-test-post-test design with the help of a questionnaire about postoperative exercise after cardiothoracic surgery.



VARIABLES

Independent Variables: Independent variables are the variables that stand alone and are not dependent on any other variable. Video-assisted teaching programme about postoperative exercise after cardiothoracic surgery.

Dependent Variables: Dependent variables are the variables that the researcher is interested in understanding, explaining, or predicting. In this study dependent variable refers to a 32% increase in the level of knowledge about postoperative exercise after cardiothoracic surgery.

POPULATION: Population refers to the entire aggregation of cases that meet the defined criteria. The population of the present study includes all the patients who are admitted to Yadav Hospital, Gwalior.

SAMPLE: The sample for the study consists of the patients who are undergoing cardiothoracic surgery.

SIZE: The sample size of the present study comprised 60 patients.

SAMPLING TECHNIQUE: Non-probability purposive sampling technique was adopted.

SITE: The site for study was conducted at Yadav Hospital, Gwalior.

SETTING: The Present study was conducted at a selected cardiothoracic unit of Yadav Hospital at Gwalior.

CRITERIA FOR THE SELECTION OF SAMPLE

Inclusion Criteria

- The adults whose age limit is between 20 – 65 years.
- Both males and females who are admitted to Yadav Hospital.
- Adults who can understand English.

Exclusion Criteria

- Patients who are not willing to participate.
- Adults who have visual and hearing disability.
- Those who have undergone a similar teaching programme.

SELECTION AND DEVELOPMENT OF THE DATA COLLECTION INSTRUMENT

A modified structured tool selected on the basis of the objectives of the study.



Cover Page



DEVELOPMENT OF THE TOOL

A modified structured tool was prepared to assess the effectiveness of a video-assisted teaching program on postoperative exercise after cardiothoracic surgery.

DESCRIPTION OF DATA COLLECTION INSTRUMENTS

The researcher developed a modified structured tool, which consisted of the following aspects,

SECTION I – Demographic variables of cardiothoracic surgery patients.

SECTION II -Structured questionnaire about postoperative exercise and its complications.

DEVELOPMENT OF VIDEO TEACHING PROGRAMME

A video-assisted teaching programme was developed to educate cardiothoracic surgery patients regarding post-operative exercises after cardiothoracic surgery. The video teaching programme consists of post-operative exercises after cardiothoracic surgery, which was developed to enhance the knowledge of post-operative exercises after cardiac surgery among patients who have undergone cardiac surgery. The video-assisted teaching programme was organized in sequence and continuity.

VALIDITY OF THE TOOL

The content validity of the tool was ascertained in consultation with experts in the field of medical-surgical nursing. The experts were requested to give their opinion regarding relevance, appropriateness, and degree of agreement in each item in the tool.

RELIABILITY OF THE TOOL

In order to establish the reliability of the tool. It was administered to 6 cardio-thoracic surgery patients; those not in the sample are excluded. The reliability of the tool was established through the test and retest method.

PLAN FOR DATA ANALYSIS

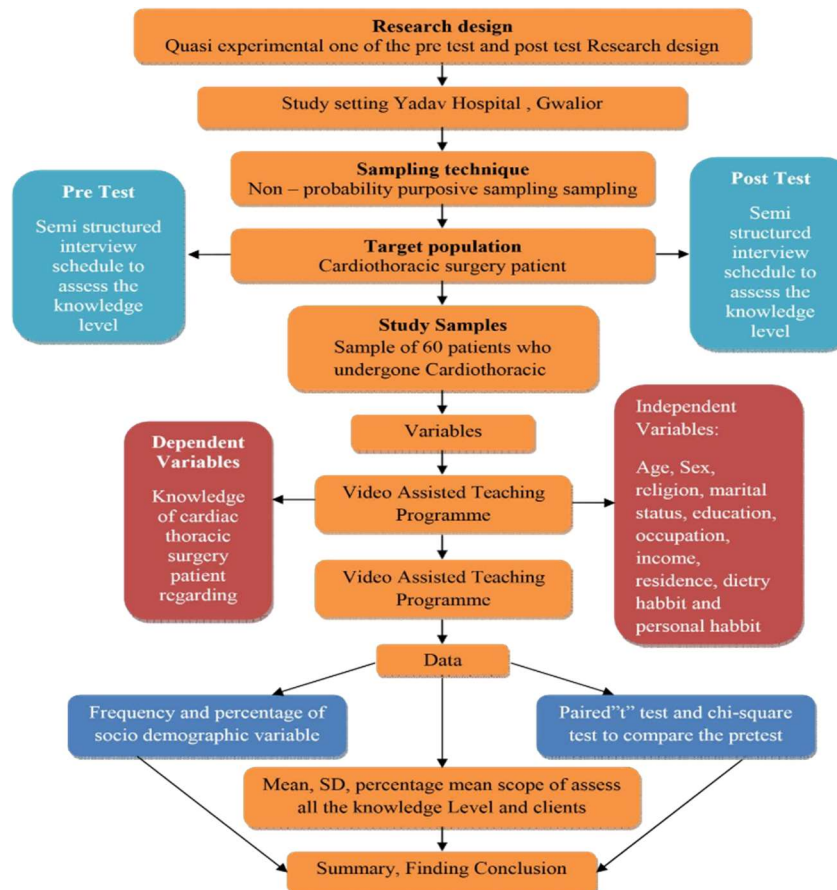
ANALYSIS	METHOD	REMARKS
Descriptive	Mean, standard deviation, percentage	Assess the level of knowledge about postoperative exercise after cardiothoracic surgery.
Inferential statistics	Chi-square test	Analyze the association between demographic variables and knowledge about postoperative exercise after cardiothoracic surgery.



THE DATA WILL BE ANALYZED AS FOLLOWS

- Organize data in the master coding sheet.
- Demographic variables are to be analyzed in terms of frequencies and percentages.
- Knowledge scores are to be presented in the form of mean, mean percentage, and standard deviation.
- Paired t-test was used to determine the significance of the difference between mean pretest scores and posttest scores of the study group and the mean gain scores of the study group before and after the video teaching programme.
- Chi-square test was used to determine the association between demographic variables and knowledge about postoperative exercise after cardiothoracic surgery.

RESEARCH DESIGN OF THE STUDY DESIGN





Cover Page



DATA ANALYSIS AND INTERPRETATION

DESCRIPTION OF DATA COLLECTION INSTRUMENTS:

Section I - Demographic variables

It consists of 10 items related to socio-demographic data, which include variables like age, gender, religion, marital status, educational status, occupation, and family income, place of residence, dietary habits, and personal habits.

Section II - Structured questionnaire about postoperative exercise and its complications

Structured questionnaire to assess the level of knowledge about postoperative exercise after cardiothoracic surgery. It consists of 30 items divided into 2 areas. They are:

- Knowledge about post-operative exercise – 20 items
- Complications of cardio thoracic surgery – 10 items

All the items were multiple-choice questions, which had 4 options each. A score value of 1 (one) was allotted to each correct answer, and for a wrong answer, 0 (zero) was awarded. Thus, there were 30 maximum obtainable scores.

RESULT

The study included 60 participants, and their demographic characteristics are summarized in Table 1. With respect to age, the highest proportion of participants were in the 56–65 years' age group (37%), followed by those aged 46–55 years (32%). Participants aged 36–45 years accounted for 18%, while the 25–35 years' group represented 13%. The majority of the participants were male (77%), whereas 23% were female. Regarding religion, most participants were Hindu (72%), followed by Christians (27%), and only 1% belonged to Islam. In terms of marital status, a large proportion were married (78%). About 12% were unmarried, 9% were widowed or widowers, and 1% were divorced. Concerning educational status, 32% had completed graduation, 28% had secondary education, 27% had primary education, and 13% were illiterate. For occupational status, 33% were private employees, 25% were involved in business, 22% were government employees, and 20% reported other types of work. With respect to monthly income, more than half (57%) belonged to the income group above ₹9000, followed by 25% in the ₹6001–₹9000 category. Ten percent were in the ₹3001–₹6000 range, and 8% earned below ₹3000.

A majority of the participants (58%) belonged to an urban area, while 42% were from rural settings. Regarding dietary habits, most participants were non-vegetarian (78%), whereas 22% followed a vegetarian diet. Considering personal habits, 27% reported alcohol or smoking, 23% smoked tobacco, 10% consumed betel nut, 8%



Cover Page



chewed tobacco, and 7% consumed alcohol alone. A quarter of the participants (25%) had no personal habits.

Table 1: Distribution of percentages related to demographic variables (n=60)			
Variables	Categories	Frequency	Percentage
Age Group	25 – 35	8	13
	36 – 45	11	18
	46 – 55	19	32
	56 – 65	22	37
Sex	Male	46	77
	Female	14	23
Religion	Hindu	43	72
	Christian	16	27
	Islam	1	1
Marital Status	Married	47	78
	Unmarried	7	12
	Divorced	1	1
	Widow/Widower	5	9
Educational Status	Illiterate	8	13
	Primary	16	27
	Secondary	17	28
	Graduate	19	32
Occupational Status	Private Employee	20	33
	Government Employee	13	22
	Business	15	25
	Others	12	20
Income Group	Below 3000	5	8
	3001 – 6000	6	10
	6001 – 9000	15	25
	Above 9000	34	57
Residence	Rural		42
	Urban	35	58
Dietary Habit	Vegetarian	13	22
	Non-Vegetarian	47	78
Personal Habit	Alcohol/Smoking	16	27
	Alcohol	4	7
	Smoking	14	23
	Tobacco chewing	5	8
	Betal Nut chewing	6	10
	None	15	25



Cover Page



TABLE 2: Assessment of Knowledge regarding post-operative exercise of Cardiothoracic surgery using VAT (n=60)

Overall Knowledge Score	No. of questions	Min. – Max score	Pre-test Knowledge		Post-test Knowledge	
			Mean score	%	Mean score	%
			8.91	55.6 %	19.41	74.7%
	30	0-30				

Table 2 presents the comparison of pre-test and post-test knowledge scores of patients regarding post-operative exercises following cardiothoracic surgery after administration of the Video-Assisted Teaching (VAT) programme. The overall knowledge score was assessed using 30 questions, with a possible score range from 0 to 30. In the pre-test, participants obtained a mean score of 8.91, which corresponds to 55.6%, indicating a moderate baseline level of knowledge. After the implementation of the VAT programme, there was a marked improvement in the participants' knowledge. The post-test mean score increased to 19.41, equivalent to 74.7%. The findings clearly demonstrate a significant enhancement in knowledge levels following the video-assisted teaching intervention, showing its effectiveness in improving understanding of post-operative exercises among patients undergoing cardio-thoracic surgery.

Table 3 shows the association between pre-test knowledge scores and selected demographic variables of patients undergoing cardiothoracic surgery. The findings indicate that age, sex, and religion did not show a statistically significant association with pre-test knowledge, as their chi-square values ($\chi^2 = 1.752$, 1.752 , and 0.933 , respectively) were not significant. Similarly, marital status ($\chi^2 = 5.475$) and income status ($\chi^2 = 7.632$) did not exhibit any significant relationship with knowledge levels in the pre-test. Educational status also showed no significant association with pre-test knowledge, although variations were observed across categories. However, a notable finding was seen in occupational status, where the chi-square value ($\chi^2 = 9.937$) suggests a potential association between occupation and pre-test knowledge level, indicating that patients in different employment categories had varying levels of baseline knowledge. Overall, the data reveal that most demographic variables did not significantly influence pre-test knowledge, except for occupational status, which appears to have some degree of association. This suggests that baseline knowledge regarding post-operative exercises was relatively independent of most demographic characteristics.



Cover Page



Table 3: Association between pre-test knowledge with their selected demographic variables (n=60)						
Demographic variables		Level of knowledge				Chi-square values
		Inadquate		Moderately adequate		
		F	%	F	%	
Age group	26 – 35	3	5	5	8.33	=1.752
	36 – 45	5	8.33	4	6.66	
	46 – 55	13	21.66	7	11.66	
	56 – 65	13	21.66	10	16.6	
Sex	Male	27	45	19	31.66	=1.752
	Female	7	11.66	7	11.66	
Religion	Hindu	24	40	20	33.33	=0.933
	Christian	10	16.66	5	8.33	
	Islam	0	0	1	1.66	
	Unmarried	01	1.66	4	6.66	
Marital status	Married	31	51.66	18	30	=5.475
	Separated	0	0	1	1.66	
	Widow/Widower	2	3.33	3	5	
	Illiterate	4	6.66	4	6.66	
Educational Status	Primary School	10	16.66	6	10	= -1.309*
	Secondary School	11	18.33	5	8.33	
	Graduate	9	15	11	18.33	
	Govt.Emp	3	5	10	16.6	
Occupational status	Private Emp	11	18.33	8	13.33	=9.937
	Business	13	21.66	3	5	
	Others	7	11.6	5	8.33	
	Below 3000	2	3.33	3	5	
Income status	3001-6000	4	6.66	2	3.33	=7.632
	6001-9000	10	16.6	4	6.66	

*p<0.05

CONCLUSION

The following conclusions are drawn from the finding of the study. No cardio thoracic surgery patients have adequate knowledge regarding post operative exercise after cardio thoracic surgery. After administration of video assisted teaching program, the knowledge score was improved. The video assisted teaching program is found to effective in terms of gain in knowledge. So the video assisted teaching program is effective in improving the knowledge of cardio thoracic surgery patients.



Cover Page



IMPLICATIONS OF THE STUDY

Nursing Practice: A nurse can play an important role to enhance the importance of post- operative exercises after cardiac surgery. Nurse can also help the people to cope up with the problems associated with complications of cardiac surgery and improve the quality of life of people as a teacher, counselor and facilitator. Researcher encourage the patients to follow the proper diet, medication, involve in resuming activities and regular exercise. The nurse should conduct teaching programme on the importance of post-operative exercises after cardiac surgery in the wards as well as in the community area to improve the knowledge of the patients. Nursing students also should be educated about the importance of post-operative exercises, after cardiac surgery to provide proper care to the patient.

Nursing Education: Post-operative care of cardiac patients places high demand on cardiac rehabilitative measures and nursing care to promote the quality of life. The nursing students must be able to understand the complete care of cardiac surgery patients and know about the complications and their prevention. Health education programme can conducted in cardio-thoracic intensive care units and medical and surgical wards to enhance the knowledge of post-operative exercises. If the students have an adequate knowledge regarding post-operative exercises, they will be able to motivate the patients, in clinical setup by applying their theoretical knowledge into real practical life.

Nursing Administration: The findings of the study indicate the need for conducting in service education and traning programme for practicing nurses to create awareness in preventing complications among cardiac surgery patients. The nurse administrator can conduct a workshop and possibly make students and nursing staff to participate in awareness. The nurse should prepare, case presentation, clinical presentation, nursing rounds, clinical demonstration, on importance of post-operative exercises with the preparation of pamphlet for the benefit of patients.

Nursing Research: There should be a more scope for research in the knowledge and practice of post-operative exercises. Study reveals that overall knowledge of subjects regarding post-operative exercises were not up to expectations. It reveals that a greater need for nurses to conduct an awareness and teaching programme regarding treatment of post- operative exercises of cardio thoracic patients. This would be promoting awareness of the patient and improved their knowledge on importance of post- operative exercises.

RECOMMENDATIONS

- A similar study can be conducted for large group of sample and findings can be generalized.



Cover Page



- A study can be conducted among caregivers of cardiac surgery patients to assess their knowledge of post-operative exercises after cardiac surgery.
- A similar study can be conducted among patients who are undergoing gastric surgery.
- A similar study can be conducted by involving students during an educational programme.
- A similar study can be conducted in a cardiac clinic, in an outpatient setup.

LIMITATIONS

- The study was conducted only in adults.
- Adults who could communicate in Hindi and English were included in this study.
- The study was limited to adults admitted to Yadav Hospital at Gwalior.
- The study was limited to measuring the knowledge of adults regarding postoperative exercise after cardiothoracic surgery.

Inclusion Criteria

- Adolescent girls aged 11–18 years.
- Residing in the selected community area.
- Available during the period of data collection.
- Willing to participate in the study.

Exclusion Criteria

- Girls who had attended similar educational programs recently.
- Girls with known cognitive impairments affecting comprehension.

Description of the Tool

A structured knowledge questionnaire was developed based on published guidelines, training modules, and operational manuals of KSY (Government of India, 2017).

The questionnaire consisted of:

Part A: Demographic variables

Part B: Knowledge items on themes such as nutrition, health services, ICDS benefits, vocational training, and adolescent empowerment

Items were primarily multiple-choice questions.



Cover Page



Development of the Data Collection Tool

A structured knowledge questionnaire was developed based on selected themes of KSY such as:

- Nutrition supplementation
- Health services
- Life-skill education
- Objectives and components of the programme

The tool consisted of multiple-choice items. Content validity was ensured by expert review from nursing faculty and community health specialists.

Reliability Testing

Internal consistency reliability was tested using Cronbach's Alpha, yielding a reliability coefficient of 0.82. This indicates that the questionnaire was highly reliable for assessing knowledge among adolescent girls.

Ethical Considerations

- Informed consent was obtained from participants and their guardians.
- Confidentiality and anonymity were maintained.
- The participants were free to withdraw at any stage.

Intervention: The STP included: introduction to ksy, components of the scheme, available icds services, nutrition and health benefits, vocational skill development opportunities, access procedures and eligibility, teaching methods included interactive discussions, charts, and real-life examples with the duration of 45 minutes.

Data Collection Procedure:

- Administration of the pretest questionnaire.
- Conduct of the Structured Teaching Program.
- Administration of a post-test after seven days to measure knowledge retention.

Data Analysis: Data were analyzed using descriptive (mean, standard deviation) and inferential (paired t-test) statistics.

RESULTS

Table 1 showed a marked improvement in knowledge following the Structured Teaching Program. The mean pre-test score of 9.33 ± 2.42 indicated limited baseline awareness. After the intervention, the mean post-test score



increased to 18.16 ± 1.47 , suggesting substantial improvement. The paired t-test value of 7.82 (df = 5) confirmed a statistically significant difference, demonstrating the preliminary effectiveness of the STP.

Table 1: Comparison of Knowledge Scores (n = 6)			
Test	Mean	SD	t-value
Pre-test	9.33	2.42	7.82*
Post-test	18.16	1.47	
Significant at $p < 0.05$			

Feasibility Findings:

The pilot study also helped assess feasibility:

- The time schedule for testing and teaching was appropriate.
- Materials and visual aids were found effective and well understood.
- Participants were cooperative, indicating smooth process flow.
- No major modifications were required in the tool or methodology.

These findings confirm that the main study can proceed without significant procedural changes.

Preliminary Effectiveness

Participants demonstrated:

- Better recall of KSY components
- Improved understanding of ICDS services
- Enhanced awareness of nutritional supplements
- Clearer knowledge of vocational training opportunities

Thus, the STP showed promising effectiveness.

DISCUSSION

The purpose of the pilot study was to evaluate the feasibility of the research design and obtain preliminary evidence regarding the effectiveness of the Structured Teaching Program on knowledge of adolescent girls about selected themes of the Kishori Shakti Yojana. The results demonstrated a significant improvement in knowledge following the intervention, indicating that the STP was effective even in a small sample.



Cover Page



The notable increase in post-test scores suggests that adolescent girls lacked adequate baseline awareness of KSY, highlighting a gap in community-level health communication efforts. Similar findings have been reported in studies evaluating awareness of government schemes targeted at adolescents, where structured education significantly improved knowledge outcomes. The reliability coefficient (0.82) further confirms that the questionnaire was well constructed and sufficiently consistent for measuring knowledge levels. The feasibility assessment revealed that the research procedures were practical, achievable, and well understood by participants.

The pilot results align with previous studies showing that adolescent girls often lack awareness about welfare schemes. Similar findings were reported by Nair et al. (2019), who noted poor knowledge regarding adolescent health programmes. The improvement in post-test scores reflects the effectiveness of structured teaching. This is consistent with studies by Agarwal & Sethi (2020), who demonstrated significant knowledge gains following educational interventions among adolescents.

High reliability indicates that the questionnaire items accurately captured the intended constructs. Tavakol & Dennick (2011) emphasize that a Cronbach's alpha between 0.7 and 0.9 represents good internal consistency, validating the tool's appropriateness for the main study. Pilot feasibility was confirmed as sampling, data collection, and teaching procedures were smoothly executed. Comparable pilot studies (Hertzog, 2008; Leon et al., 2011) emphasize the importance of pilot testing to refine methodological procedures.

Pilot studies serve an important role in identifying methodological issues before the main research is undertaken. In this study, the pilot helped refine the teaching content, confirm the clarity of questions, and verify participant engagement. The positive response suggests that the main study can be carried out successfully with the existing plan.

CONCLUSION

The pilot study provided valuable insights into the feasibility and preliminary effectiveness of the Structured Teaching Program on the knowledge of adolescent girls regarding the Kishori Shakti Yojana. The tool was found to be reliable, and the procedure was practical and appropriate for a larger study. The significant improvement in knowledge indicates that structured teaching programs may play a key role in enhancing awareness and utilization of government schemes among adolescent girls.

The findings support moving forward with the main study using the finalized tools and methodology.



Cover Page



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Cover Page



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Cover Page



A COMPARATIVE STUDY ON EVALUATION OF A VIDEO STRUCTURED PARENTING PROGRAM ON BEHAVIORAL PROBLEMS OF PRESCHOOL CHILDREN AMONG WORKING AND DOMESTIC MOTHERS IN SELECTED COMMUNITY AREAS: A STUDY PROTOCOL

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ABSTRACT

Background: Behavioral problems are increasingly observed among preschool children and can negatively affect social, emotional, and cognitive development. Parental involvement, especially through structured educational programs, plays a crucial role in promoting healthy behaviors.

Aim: This study aims to assess the effectiveness of a video-structured parenting program on behavioral problems of preschool children and to compare the outcomes between working and domestic mothers in selected community areas.

Methods: A quasi-experimental comparative design will be used. Mothers of preschool children (aged 3–5 years) will be selected through stratified random sampling. The intervention group will receive a six-module video-structured program focusing on positive parenting and behavior management. Data will be collected using standardized tools Behavioral Problems Assessment Rating Scale (BPARS), at baseline and post – post-intervention.

Expected outcome: The study is expected to demonstrate that the video-structured parenting program significantly improves the parenting knowledge of both working and domestic mothers. After receiving the intervention, mothers are expected to develop a better understanding of child behavior, positive parenting strategies, reinforcement techniques, and effective communication methods



Cover Page



Keywords: Behavioral Problems, Domestic Mothers, Preschool Children, Video-Structured Program, Working Mothers.

INTRODUCTION

Behavioral problems in preschool children are often tied to their developmental stage, which includes a strong desire for independence, limited self-regulation, and emotional development. Common issues range from typical challenges like tantrums and refusal to follow rules to more specific problems like biting, hitting, and difficulty with social interaction.

NEED FOR THE STUDY

The preschool period is one of the rapid changes in development, social, emotional, cognitive, and linguistic abilities. The child is progressively developing more autonomy. Preschool children with early emergent behavior problems are likely to evince serious behavior problems, social skills deficits, and academic difficulties later in life. The preschool period is one of the rapid changes in development, social, emotional, cognitive, and linguistic abilities. The child is progressively developing more autonomy. Preschool children with early emergent behavior problems are likely to exhibit serious behavior problems, social skills deficits, and academic difficulties later in life.

Prakasam, Tar Abada, and Valand (2023) conducted behavioral problems among preschool children of Working and non-working mothers of selected rural areas. Too strict parents, rejection, insecurity, and aggression. A descriptive research Design was adopted using a non-probability purposive sampling technique to collect the 50 samples by administering a three-point Likert scale on behavioral problems. Result:8.0% (4) of working mothers had their preschool children with severe behavioral problems, and 34.0% (17) of preschool children with moderate behavioral problems.

Jadhav M.R., Avinash S., Kadam (2022) conducted a comparative study to assess the behavioral problems among preschool children of employed and unemployed mothers in selected schools of radiators, behavioral problems of physical development, 16 (0.53%) present on unemployed mothers of preschool children, and the majority 13(0.43%) behavioral problems present on employed mothers of preschool children. Self-help skill activity 26 (0.86%) is present on employed mothers of preschool children, and the majority, 23(0.76%), have behavioral problems present on unemployed mothers of preschool children.

CONCEPTUAL FRAMEWORK

Central Purpose: Reduce behavioural problems.



Cover Page



Prescriptive Components: Administration of the Video-Structured parenting programs, Pretest Assessment, Implementation of the intervention, Post-test evaluation, Comparative assessment.

Realities:

Agent: Researcher

Recipient: Preschool children with behavioral problems

Goal: Reduce behavioral problems

Means: Video Structured programme

Framework: Community Area

Expected outcome: The program is expected to improve parenting practices and reduce behavioral problems in preschool children.

OBJECTIVES

1. To assess the level of behavior problems among preschool children of working and domestic mothers before the implementation of the video structured program.
2. To evaluate the level of behavior problems among preschool children of working and domestic mothers after the implementation of the video–structured program.
3. To determine the effectiveness of the video structured program on reducing behavior problems among preschool children of working and domestic mothers.
4. To compare the effectiveness of the video structured program on behavior problems among preschool children of working and domestic mothers.
5. To associate the post–test level of behavior problems among preschool children of working and domestic mothers with selected demographic variables.

NULL HYPOTHESIS

H₀₁: There is no significant difference in the level of behavioral problems among preschool children of working and domestic mothers before and after the video structured program.

H₀₂: There is no significant difference in the effectiveness of the video–structured program among preschool children of working and domestic mothers.

H₀₃: There is no significant association between the posttest behavior problems scores with selected demographic variables among preschool children of working and domestic mothers.

OPERATIONAL DEFINITIONS

- **Preschool children** – In this study, preschool refers to children in the age group 3–6 years



Cover Page



- **Behavioral problem** – refers to any inappropriate, disruptive, or withdrawn behavior exhibited by preschool children (3–5 years) living in selected community areas, as measured by the Behavioral Problems Assessment Rating Scale. The total score on the scale indicates the presence and severity of behavioral problems before and after the video-structured parenting program among working and domestic mothers.
- **Working mother-** In this study, working mothers refer to women who are working outside the home for income.
- **Domestic mother-** In this study, Domestic mother refers to women who manage the household and care for their child and family, prioritizing their needs and well-being.
- **Video structured program** – A planned audiovisual intervention designed to teach mothers about behavior management.

RESEARCH METHODOLOGY

- **Research approach:** A Quantitative research approach
- **Research design:** Quasi–experimental comparative design
- **Research setting:** Selected community area.
- **Population:** Preschool children of working and domestic mothers.
- **Accessible Population:** Preschool children of working and domestic mothers in selected rural areas in selected Amethi district
- **Sample:** Preschool children of working and domestic mothers in a selected community area.
- **Sample size:** Assuming an effect size of 0.70, a significance level of 0.05, a statistical power of 0.80, and an equal allocation ratio, the required sample size was 34 participants per group, yielding a total of 68 participants. To compensate for an anticipated 10% dropout rate, the sample size was adjusted by dividing the required number per group by 0.90, resulting in approximately 38 participants per group. Thus, the final adjusted total sample size was 76 participants.
- **Sample and sampling technique:** Non-probability purposive sampling technique.
- **Criteria for sample selection**

Inclusion criteria:

- Mothers who have preschool children (3-6 years)
- Working and domestic mothers living in the selected community area.
- Mothers who are willing to participate in the study.



Exclusion criteria:

- Mothers of children with known behavioural problems.
- Mothers not available during the data collection period.

Description of Tools:

Section A: Demographic variables are the age of mothers, gender, family type, religion, occupation of mothers, number of children, family income, working hours of mothers, and educational qualification.

Section B: Behavioral Problems Assessment Rating Scale (BPARS).

Intervention Procedures:

Pre-Test Assessment
Video - Structured Parenting Programme <ul style="list-style-type: none"> Understand Child Behaviour Positive Parenting Strategies Behaviour management technique Emotional Regulation Strategies
Post-Test Assessment
Comparative Analysis

Analysis of data

- Descriptive statistics:** mean, frequency, percentage to describe demographic data and behavior scores
- Inferential statistics:** Chi-square test to compare behavior problems between preschool children of working and domestic mothers.

Ethical considerations

- Approval from relevant authorities and the Institutional Ethics Committee.
- Informed consent from participants.
- Confidentiality and anonymity of all participants maintained.
- Participation will be voluntary, and participants may withdraw at any time.

EXPECTED OUTCOMES

- Increase in Parenting knowledge among both working and domestic mothers after receiving the video – structured parenting programme.



Cover Page



- Increase in positive parenting practices.
- Reduction in behavioral problems among preschool children in both after the intervention.

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Cover Page



A STUDY TO ASSESS THE EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAM ON KNOWLEDGE REGARDING ANTENATAL CARE AMONG PRIMIGRAVIDA MOTHERS AT SELECTED COMMUNITY AREA, AMETHI, UTTAR PRADESH

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ABSTRACT

Pregnancy is a crucial period in a woman's life, bringing both joy and potential risks, especially for many women in India. As the fetus grows over 40 weeks, timely and proper antenatal care becomes essential. Regular check-ups, good nutrition, and early identification of complications help protect the health of both mother and baby. Quality antenatal care not only promotes a healthy pregnancy but also supports safer childbirth and better outcomes for newborns. The study assessed the effectiveness of a structured teaching program on antenatal care knowledge among primigravida mothers in selected community areas of Amethi, Uttar Pradesh, using a one-group pre-test post-test design with convenient sampling. A self-structured questionnaire was administered before and after the intervention. The mean knowledge score increased from 41.4 (SD±12.49) in the pre-test to 71.11 (SD±17.11) in the post-test, with a statistically significant t value of 16.42 ($p < 0.001$). These results confirm that the structured teaching program markedly improved antenatal care knowledge, highlighting the importance of continued health education to enhance maternal outcomes. The findings indicate that the structured teaching program significantly improved antenatal care knowledge among primigravida mothers in the selected community of Amethi, Uttar Pradesh. The substantial rise in post-test mean scores and the highly significant t value ($t = 16.42, p < 0.001$) confirm the effectiveness of the intervention. These results underscore the importance of structured health education in empowering first-time mothers and enhancing maternal health outcomes.

KEYWORDS

Antenatal Care, Community-Based Study, Health Promotion, Knowledge, Maternal Health Education, Primigravida Mothers, Structured Teaching Program



Cover Page



INTRODUCTION

Pregnancy and childbirth are significant life events, yet many women—particularly in low- and middle-income countries—face preventable risks due to limited access to quality antenatal care. Antenatal services are essential for early detection of complications, promotion of healthy practices, and guidance throughout pregnancy. In India, where maternal health disparities persist, strengthening awareness and education among expectant mothers is crucial. Enhancing antenatal care knowledge not only safeguards maternal and neonatal health but also empowers women to achieve safer pregnancy and childbirth outcomes.

STATEMENT OF THE PROBLEM

Primigravida mothers often enter pregnancy with limited knowledge and inadequate preparedness regarding essential components of antenatal care. Lack of awareness about nutrition, danger signs, hygiene, rest, immunization, and regular antenatal check-ups increases the risk of preventable complications for both the mother and fetus. In many community areas of Amethi, Uttar Pradesh, early pregnancy education remains insufficient due to barriers such as low literacy levels, limited access to health services, and inadequate health education opportunities. Strengthening maternal awareness through structured teaching programs is therefore essential to promote safe motherhood practices. However, there is a need to systematically assess whether such structured teaching interventions effectively improve the knowledge of primigravida mothers in this setting. Hence, the present study aims to evaluate the effectiveness of a structured teaching program on knowledge regarding antenatal care among primigravida mothers in a selected community area of Amethi, Uttar Pradesh.

OBJECTIVES

- To assess the pre-test and post-test level of knowledge regarding antenatal care among primigravida mothers.
- To compare the pre-test and post-test levels of knowledge regarding antenatal care among primigravida mothers.
- To associate the mean difference score of knowledge regarding antenatal care among primigravida mothers with their selected demographic variables.

OPERATIONAL DEFINITIONS

Assess: A systematic process of collecting and evaluating knowledge on antenatal care among primigravida mothers.

Effectiveness: The improvement in knowledge indicated by the difference between pre-test and post-test scores.



Cover Page



Knowledge: The correct responses given by participants, classified as adequate, moderate, or inadequate.

Primi Gravida Mother: A woman pregnant for the first time; in this study, mothers in the first and second trimesters.

Primary Health Centre: The basic functional unit providing essential public health services.

Antenatal Care: Regular and systematic supervision of pregnant women from early pregnancy to the onset of labour.

HYPOTHESES

H₁- There will be a significant difference in the pre-test and post-test level of knowledge of antenatal care among primigravida mothers.

H₂- There will be a significant association of the mean difference score of knowledge of primigravida mothers with their selected demographic variables.

ASSUMPTIONS

- ❖ Antenatal mothers will gain adequate knowledge regarding antenatal care after the STP.
- ❖ STP may improve the knowledge of antenatal mothers regarding antenatal care and help during pregnancy.
- ❖ Primi primigravida mother may have a low or moderate level of knowledge.
- ❖ A structured teaching programme may increase the knowledge of primigravida mothers from low level to moderate level and from moderate level to high level.
- ❖ STP may enhance the knowledge of the mother and promote a healthy life for the mother.

MATERIALS AND METHODS

Research Approach: The research design used in the study was a quantitative research approach.

Research Design: The research design adopted for this study was a one-group pretest-posttest pre-experimental design.

Setting: The study was conducted at the primary health centre, Darpipur village, Amethi district.

Target Population: The Target population is the entire population, in which a researcher is interested and to which he or she would like to generalise the study results. The target population of the study was primigravida mothers in the Amethi district.

Sampling

Sampling Size: The sample size chosen by the researcher is 100 primigravida mothers.



Cover Page



Sampling Techniques: In this study, a non-probability convenience sampling technique was used for selecting the sample.

Criteria for Sample Selection

❖ Inclusion Criteria:

- Primigravida mothers at Ist and IInd, and Trimester.
- Antenatal mothers who are living in Asaidapur village.
- Antenatal mothers who were willing to participate in the study.

❖ Exclusion Criteria:

- Multi-gravida mothers.
- Antenatal mothers who were at high risk.

VARIABLES

- **Independent variable** – Structured teaching programme
- **Dependent variable** – Knowledge regarding Antenatal care
- **Extraneous variables-** Age, gestational weeks, education, occupation, type of family, breadwinner of the family, education of spouse, income, and source of previous information.

DATA COLLECTION TOOL: The tool used for data collection has two sections.

SECTION A: Demographic variables.

Age, gestational week. education, occupation, type of family, the breadwinner of the family, spouse education, income sources of information of primi mothers,

SECTION B: Structured teaching program used to assess the level of knowledge.

SCORING INTERPRETATION:

The level of knowledge is assessed in terms of scores. The total maximum score is 30, with a minimum score of 0.

SCORE	INTERPRETATION
76-100%	Adequate knowledge
50-75%	Moderate knowledge
<50%	Inadequate knowledge



Cover Page



CONTENT VALIDITY: Content validity of the structured questionnaire was established by one gynaecologist and five nursing experts from the Obstetrics and Gynaecology department. Based on their suggestions and recommendations, minor modifications were made to the tool in consultation with the research guide.

RELIABILITY OF THE TOOL: The reliability of the tool was established using the test-retest method, yielding a reliability score of $r = 0.85$. This indicates high consistency and confirms the tool as reliable for the main study.

ETHICAL CONSIDERATIONS: Formal permission and informed consent were obtained, confidentiality was maintained, and no harm was caused to the participants.

PROCEDURE FOR DATA COLLECTION: Formal permission was obtained from institutional and community authorities to conduct the study in Asaidapur village in September 2024. Participants were selected through convenience sampling, and informed consent was secured. After collecting demographic data and administering a pre-test, a structured teaching session on antenatal care was provided using a lecture-cum-discussion with a PowerPoint presentation. A post-test was conducted after seven days to assess the effectiveness of the intervention.

PLAN FOR DATA ANALYSIS

Data were analysed by using descriptive and inferential statistics.

Descriptive statistics

1. Frequency and percentage distribution were used to analyse the demographic variables of the primigravida mother.

2. Mean and standard deviation were used to assess the level of knowledge of primigravida mothers.

Inferential statistics

1. A paired t-test was used to compare the pre-test and post-test levels of knowledge of primigravida mothers.

2. Chi-square was used to find the homogeneity of demographic variables.

RESULT

Section 1: Description of demographic variables among primigravida mothers.

Section 2: Assess the pre-test and post-test level of knowledge among primigravida mothers.

Section 3: Comparison of pre-test and post-test levels of knowledge among primigravida mothers.

Section 4: Association of the mean difference score of knowledge among primigravida mothers with their selected demographic variables.



Cover Page



Table 1: Frequency and percentage distribution of demographic variables (n=100)

Variable	Frequency
Age in years	
a) 18 – 20 years	57
b) 21 – 25 years	23
c) 25 – 30 years	20
Gestational weeks	
a) 1 – 4 Months	51
b) 5 – 7 Months	32
c) 7 – 9 Months	17
Education	
a) Illiterate	12
b) Primary School	19
c) Higher Secondary School	35
d) Any degree	34
Occupation	
a) Housewife	64
b) Coolly	19
c) Office work	17
Type of family	
a) Nuclear	37
b) Joint	63
Breadwinner of the family	
a) Father-in-law	9
b) Husband	74
c) Wife	17
Education of spouse	
a) Illiterate	15
b) Primary School	23
c) Higher secondary school	39
d) Any degree	23
Income	
a) Rs. 75000/Month	47
b) Rs. 6000 – 10000 /Month	39
c) Rs. 10000 above /Month	14
Source of Previous information	
a) Any media	21
b) Through VHN	62
c) Any relatives	17



Cover Page



Table 1 indicates that the demographic analysis of primigravida mothers showed no significant association with knowledge scores ($p < 0.05$). Most participants were aged 18–20 years (57%) and in 1–4 months of gestation (51%). Higher secondary (35%) and degree-level education (34%) were the most common. A majority were housewives (64%) and belonged to joint families (63%). Husbands were the primary earners in most families (74%), with 39% having higher secondary education. Nearly half of the participants had a monthly income of ₹7,500 or below (47%). Village Health Nurses were the main source of prior information (62%).

Table 2: Pre-test and post-test levels of knowledge among primigravida mothers (n=100)

Level of knowledge	Adequate 76-100%		Moderate 50 -75%		Inadequate <50%	
	f	%	f	%	f	%
Pre-test	0	0	41	41	59	59
Post-test	76	76	24	24	0	0

Table 2 shows the distribution of pre-test and post-test knowledge levels regarding antenatal care among 100 primigravida mothers. In the pre-test, none of the mothers (0%) had adequate knowledge, while 41% had moderate knowledge, and the majority, 59%, had inadequate knowledge. This indicates that most participants lacked an essential understanding of antenatal care before the structured teaching program. Following the intervention, there was a marked improvement in knowledge levels. In the post-test, 76% of mothers demonstrated adequate knowledge, and 24% showed moderate knowledge, while none fell in the inadequate category. The shift from predominantly inadequate knowledge in the pre-test to a high proportion of adequate knowledge in the post-test clearly demonstrates the effectiveness of the structured teaching program in enhancing the antenatal care knowledge of primigravida mothers.

Table 3: Comparison of pre-test and post-test levels of knowledge among primigravida mothers (n=100)

Level of Knowledge	Pre-test		Post-test		t-value
	Mean	SD	Mean	SD	
Over All	41.4	12.49	41.4	12.49	16.42***

Compares the pre-test and post-test knowledge scores of 100 primigravida mothers. The mean pre-test score was 41.4 with a standard deviation of 12.49, while the post-test score showed a significant improvement, as indicated by the calculated t-value of 16.42 at $p < 0.001$. This highly significant difference demonstrates the effectiveness of the intervention in enhancing the knowledge levels of primigravida mothers (Table 3).



Cover Page



Table 4: Association of pre-test and post-test mean difference score of knowledge among primigravida mothers with their selected demographic variables (n=100)

Variables	Pre test		Post test		Mean Difference		χ^2
	Mean	SD	Mean	SD	Mean	SD	
Age in years							0.159
a) 18 – 20 years	65.3	7.7	13.3	7.4	34.03	0.31	
b) 21 – 25 years	56.8	12.6	30.2	8.6	26.6	4	
c) 25 – 30 years	61.5	9.9	29.6	8.2	31.9	1.7	
Gestational weeks							0.501
a) 1 – 4 Months	58	12.9	34.7	9.5	23.3	3.4	
b) 5 – 7 Months	60.6	7.7	26	12.6	34.6	4.2	
c) 7 – 9 Months	49	9.5	28	7.2	42	6.0	
Education							0.87
a) Illiterate	49.4	10.7	22.1	6.9	31.3	1.8	
b) Primary School	53.9	8.2	21.2	3.8	27.7	6.4	
c) Higher Secondary School	50.7	6.1	19.6	4.2	30.1	2.1	
d) Any degree	47.9	10.2	23.2	2.8	19.7	2.4	
Occupation							0.52
a) Housewife	62.2	9.2	33	9.1	29.2	0.1	
b) Cooly	59.6	3.2	100	49.1	20.4	51.9	
c) Office work	51.4	0.9	27.1	6.9	24.3	4	
Gestational weeks							7.34*
a) 1 – 4 Months	60.5	11.9	29.5	6.5	31	5.4	
b) 5 – 7 Months	36.9	9.7	0.2	8.8	6.7	5.9	
c) 7 – 9 Months	49	8.3	26	7.9	24	4.4	
Source of Previous information							6.16*
a) Any media	63.4	11.7	28.5	8	34.9	3.7	
b) Through VHN	54.3	3.8	28.4	7.9	25.9	5.9	
c) Any relatives	62.7	1	34.5	7.2	8.2	3.8	
d) Any degree	51.2	1.8	30.4	1.1	20.8	0.7	



Cover Page



Table 4 presents the association between the mean difference in pre-test and post-test knowledge scores of primigravida mothers and their selected demographic variables. Most variables—including age, gestational weeks, education, and occupation—showed no significant association with the knowledge gain, as indicated by non-significant chi-square values. However, gestational weeks and the source of previous information showed a statistically significant association with the improvement in knowledge, suggesting that mothers' pregnancy stage and prior information sources may influence their learning outcomes.

SUMMARY

This study assessed the effectiveness of a structured teaching programme (STP) in improving antenatal care knowledge among primigravida mothers. Pre- and post-test comparisons showed that most participants initially had inadequate knowledge, but the majority achieved adequate knowledge after the intervention. The post-test mean score was significantly higher than the pre-test score ($t = 16.42$, $p < 0.001$), confirming the effectiveness of the STP. Knowledge improvement was significantly associated with gestational weeks and prior sources of information, while other demographic variables showed no association. Overall, the findings demonstrate that structured teaching is an effective strategy for enhancing antenatal care knowledge among primigravida mothers.

CONCLUSION

The present study evaluated the effectiveness of a structured teaching programme on knowledge regarding antenatal care among primigravida mothers. The results demonstrated a statistically significant improvement in post-test knowledge scores, indicating that the educational intervention was successful in enhancing maternal understanding of essential antenatal practices. The findings affirm that structured, evidence-based teaching serves as an effective strategy to bridge knowledge gaps among first-time mothers and can contribute to better maternal health behaviours and outcomes.

NURSING IMPLICATIONS

The investigator has drawn the following implications from the study, which are a vital concern in the field of nursing practice, nursing education, nursing administration, and nursing research.

Nursing Practice: Nursing personnel should develop strong knowledge and skills in antenatal care, especially when working with antenatal mothers in community settings. Collaboration with other health professionals is essential for effective knowledge transfer. Nurses, including psychiatric nurses, must be competent in teaching antenatal care to primigravida mothers, and self-instructional materials may be distributed to support learning.



Cover Page



Nursing Education: Nurse educators must possess adequate knowledge and provide proper training to nursing students and staff regarding antenatal care. They should help students understand structured teaching programs and strengthen the curriculum to enhance knowledge and skills in antenatal care. Nurses should stay updated to effectively educate primigravida mothers.

Nursing Administration: Nursing administrators should plan strategies to enhance antenatal knowledge in OPDs and arrange regular in-service education for home-care nurses. They can organise conferences, workshops, and seminars for healthcare staff, collaborate with governing bodies to develop protocols and policies, and offer opportunities for nurses to attend specialised training programs.

Nursing Research: Nursing researchers should promote more studies on structured teaching programs for antenatal care, disseminate findings through conferences and publications, and encourage evidence-based practice in both clinical and community settings.

RECOMMENDATIONS

- Future studies may involve larger populations to improve generalizability.
- The study can be replicated among antenatal mothers in different settings.
- Longitudinal studies may assess the long-term effectiveness of structured teaching programs.
- Similar studies can be conducted among other age groups.
- Additional studies can further evaluate structured teaching programs among primigravida mothers.
- A comparative study may be conducted between elderly individuals living with families and those in old-age homes.

LIMITATION

- The findings can be generalised only to the selected study sample.

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Cover Page



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Cover Page



INNOVATIVE APPLICATIONS OF MIXED METHODS IN CLINICAL NURSING PRACTICE

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INTRODUCTION

Mixed Methods Research (MMR) integrates both quantitative (numerical) and qualitative (narrative) data to provide a comprehensive understanding of complex phenomena in nursing practice. In clinical settings—where human behavior, emotions, and physiological outcomes intersect—MMR provides a holistic evidence base for improving care quality, patient safety, and health outcomes.

MIXED METHOD RESEARCH IN NURSING

Mixed methods is the deliberate combination of qualitative and quantitative methods within a single study or program of research to gain a more comprehensive understanding. Mixed Methods Research involves the systematic integration of quantitative and qualitative approaches within a single study or program of inquiry.

IN CLINICAL NURSING, WHY MMR?

- Complicated, situation-specific phenomena (e.g., pain experiences, therapeutic partnerships, care transitions).
- The necessity of quantifying results while elucidating meanings, methods, and processes.
- Improving translational impact: from scalable practice modifications to bedside observations.

Mixed Methods' Significance in Clinical Nursing:

Nursing Care Complexity—There are biological, psychological, social, and ethical aspects to clinical nursing. The complete patient experience cannot be captured by quantitative measurements alone (e.g., blood pressure, glucose levels).

Closing the Evidence-Practice Divide—It offers both statistical validity and experiential meaning. It assists nurses in converting clinical evidence into culturally and contextually appropriate practice.

Care Focused on the Patient—Nurses can create individualized interventions by using qualitative insights to identify patient views, obstacles, and adherence facilitators.

INNOVATIVE APPLICATIONS OF MIXED METHODS IN CLINICAL NURSING PRACTICE

Evaluating Nursing Interventions



Cover Page



For instance, evaluating an oncology nurse stress-reduction program based on mindfulness. The quantitative approach is to measure cortisol levels and stress scales, and the qualitative approach is to explore nurses' experiences of emotional resilience and Integrated findings show the sustainable mental health strategies for nursing staff.

Enhancing Evidence-Based Practice (EBP) Implementation

Mixed methods help to identify and address the multilevel (nurse-level, organizational-level) factors that influence the adoption and implementation of EBP guidelines in clinical settings. For example, in Cancer Pain Management Documentation, the Quantitative data (e.g., specific cancer centre's documentation rates for EBP pain management) and the Qualitative findings (interviews with staff) are used to understand why some procedures were used more widely than others.

Enhancing Patient Safety and Quality of Care Application:

MMR in geriatric unit fall prevention initiatives. The qualitative interviews are nurses' opinions on environmental conditions, and the quantitative statistics are fall incidence rates. Redesign of hospital safety procedures based on evidence is the result.

Clinical Tool Development and Validation

The creation of tools is aided by mixed approaches (e.g., pain assessment in nonverbal patients). The quantitative phase verifies correctness and dependability, while the qualitative phase finds pertinent behavioral indicators.

Enhancing the Management of Chronic Illnesses

Diabetes self-management education is one example. The Quantitative data assess the adherence rates and HbA1c levels. While the qualitative data recognize patient motivation and obstacles to changing one's lifestyle, this results in designing a customized instructional material for a range of patient demographics.

Nursing Leadership and Workforce Research

Burnout, work satisfaction, and retention in nursing teams are investigated using mixed approaches. Systemic reasons and coping methods are identified through qualitative focus groups, while quantitative surveys evaluate prevalence.

Digital Health and Tele-Nursing Innovations

In order to assess telehealth initiatives, MMR combines quantitative data from usability analytics with qualitative data from user input. The outcome is the capacity to improve digital care systems.



Patient-centered outcomes and symptom management

An illustration would be a mixed-methods study on postoperative patients' difficult pain treatment. The quantitative data are length of stay, analgesic use, and pain scores, and the qualitative data are patient accounts of their expectations, experiences with pain, and obstacles to successful treatment. The result of the study finds discrepancies between patient-perceived and measurable pain alleviation; use this information to enhance patient education and customized multimodal pain treatments.

Planning for discharge and care transitions

For instance, using MMR to lower readmission rates. Readmission rates and compliance with discharge guidelines are quantitative; patient and caregiver experiences with follow-up obstacles and discharge procedures are qualitative. The result will improve support services and discharge checklists to fill in the gaps found.

Nursing workflows, safety culture, and burnout

An example would be a measure to enhance patient safety and handover quality. The quantitative data are nurse burnout scores, mistake rates, and handover completeness, and the qualitative data are team communication, time constraints, and handover quality perceptions. The result will create a uniform training program and handover procedure; comprehend the contextual elements affecting adoption.

Precision nursing and patient-reported outcomes

For instance, tailoring nursing interventions according to clinical data and patient-reported outcomes. The Quantitative data are biomarker data and symptom trajectories (if applicable), and the qualitative data are therapies that are guided by patient preferences and values. The outcome will create decision-support systems that combine patient objectives with objective facts.

Challenges in Applying Mixed Methods

- Time and resource intensity.
- Integration difficulties during analysis.
- Requirement of multidisciplinary collaboration.

Solutions in Applying Mixed Methods

- Use of software tools (NVivo, MAXQDA, SPSS integration).
- Training in both paradigms (quantitative & qualitative).
- Adopting team-based research involving statisticians, clinicians, and social scientists.



Cover Page



Future Directions in Mixed Methods Clinical Nursing Research

- **Artificial Intelligence Integration-** AI tools for data triangulation and pattern recognition between narrative and numeric datasets.
- **Global Collaborative Networks-** Cross-cultural MMR studies to compare nursing outcomes internationally.
- **Patient Co-Researcher Models-** Including patients and families as partners in mixed methods design enhances authenticity and impact.

Translational impact: from research to practice

1. How to move findings into practice:

- Co-design with clinicians, patients, and leaders.
- Develop practical guidelines, checklists, and training modules.
- Plan for implementation, monitoring, and ongoing evaluation.

2. Stakeholder engagement:

- Involve nursing leadership, frontline nurses, patients, and families early.
- Build an implementation science framework and metrics to track success.

3. Policy and education implications:

- Curriculum integration for nursing education.
- Policy briefs for hospital administrators and regulators.

4. Sustainability

- Create scalable models adaptable to different settings.
- Build capacity for mixed-methods research within nursing teams.

5. Practical guidance for researchers and clinicians

- **Planning and protocol development:** Develop a clear joint research question that justifies mixed methods. Predefine an integration plan and joint display strategies.
- **Team composition:** Assemble a multidisciplinary team with expertise in qualitative and quantitative methods, statistics, and clinical nursing.
- **Data governance:** Align data collection procedures with ethics approvals and data security standards.
- **Dissemination:** Publish complementary articles (one focusing on the quantitative results, one on the qualitative insights) with an integrative synthesis.



Cover Page



Conclusion

Mixed Methods Research represents a powerful and innovative paradigm in clinical nursing practice. It bridges the gap between empirical evidence and human experience, leading to more holistic, patient-centered, and contextually relevant care.

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Cover Page



PILOT EVALUATION OF A PLANNED TEACHING PROGRAM TO IMPROVE POSTNATAL MOTHERS' KNOWLEDGE ON NEONATAL HYPOTHERMIA PREVENTION IN AMETHI, UTTAR PRADESH

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ABSTRACT

Neonatal hypothermia remains a preventable yet persistent contributor to neonatal morbidity and mortality in low-resource settings. This pilot study evaluated the feasibility and preliminary effectiveness of a Planned Teaching Program (PTP) for improving knowledge of neonatal hypothermia prevention among postnatal mothers at a community hospital in Amethi, Uttar Pradesh. A pre-experimental one-group pretest–posttest design was used with a pilot sample of seven postnatal mothers selected through convenience sampling. Data were collected using a structured knowledge questionnaire comprising demographic characteristics and 30 knowledge items. The findings demonstrated an improvement in mean knowledge scores following the PTP, indicating that the intervention was feasible, acceptable, and likely to be effective. The pilot also confirmed clarity of items, appropriateness of the teaching duration, and logistical feasibility for the main study. The results support proceeding to the full-scale study with minor modifications.

KEYWORDS: Hypothermia, Knowledge, Neonate, Postnatal Mothers, Prevention.

INTRODUCTION

Neonatal hypothermia—defined as a core body temperature below 36.5°C—is a major risk factor for neonatal morbidity and mortality worldwide (World Health Organization [WHO], 2015). It exacerbates complications such as respiratory distress, metabolic acidosis, and hypoglycemia, and contributes substantially to preventable neonatal deaths, especially in low- and middle-income countries (Agarwal & Natarajan, 2020). India continues to face significant challenges in maintaining thermal protection among newborns due to early bathing,



Cover Page



inadequate skin-to-skin care, insufficient awareness among caregivers, and limited postnatal education (Sharma et al., 2019).

Postnatal mothers often lack adequate knowledge regarding thermal care practices, including immediate drying, proper wrapping, delayed bathing, Kangaroo Mother Care (KMC), and maintaining a warm environment (Kumar et al., 2021). Structured teaching programs have shown potential in improving knowledge and shaping positive newborn care practices (Bhandari & Singh, 2018). However, prior to conducting a full-scale study, pilot testing is essential to evaluate feasibility, refine instruments, determine procedural clarity, and identify potential implementation challenges (Polit & Beck, 2021).

This pilot study aimed to assess the feasibility and initial effectiveness of a planned teaching program designed to improve knowledge on neonatal hypothermia prevention among postnatal mothers in Amethi, Uttar Pradesh.

OBJECTIVES

1. To assess baseline knowledge of postnatal mothers regarding neonatal hypothermia prevention.
2. To implement a planned teaching program among postnatal mothers.
3. To evaluate the preliminary effectiveness of the PTP on postnatal mothers' knowledge.
4. To assess feasibility related to data collection tools, time management, flow of administration, and participant response.
5. To identify required modifications before conducting the full-scale study.

CONCEPTUAL FRAMEWORK

The Revised Pender's Health Promotion Model (Pender, N. J. et al, 2011) posits that postnatal mothers' preventive behaviors depend on their individual characteristics and cognitive perceptions. The Planned Teaching Program acts on behavior-specific cognitions by enhancing perceived benefits, reducing barriers, and increasing self-efficacy related to thermal protection practices. These improvements strengthen mothers' commitment to action and lead to enhanced knowledge and adoption of neonatal hypothermia prevention behaviors.

MATERIALS AND METHODS

Study Design: A pre-experimental one-group pretest–posttest design was adopted to assess feasibility and preliminary effectiveness.



Cover Page



Setting: The pilot study was conducted in the postnatal ward of a community health facility in Amethi District, Uttar Pradesh, an area characterized by varied literacy levels and limited maternal-child health awareness programs.

Sample and Sampling Technique: A pilot sample of seven postnatal mothers was selected using convenience sampling, adhering to the methodological recommendation that 10% of the anticipated sample size is usually adequate for pilot testing (Hertzog, 2008).

Inclusion Criteria

- Postnatal mothers within 48 hours after delivery.
- Mothers who were willing to participate.
- Mothers are able to read or understand Hindi.

Exclusion Criteria

- Mothers with critically ill neonates.
- Mothers who had previously received structured education on hypothermia prevention.

Tools and Instruments

- A structured knowledge questionnaire was used, consisting of:
- Demographic variables: age, education, occupation, type of family, income, number of children, health services used, and type of delivery.
- Thirty knowledge questions related to neonatal hypothermia definition, causes, signs, risk factors, prevention measures, KMC, early breastfeeding, room temperature maintenance, and safe newborn care practices.
- Each question was multiple-choice with one correct answer, scored as 1 for correct and 0 for incorrect. The maximum score was 30.

Validity and Reliability

- Content validity was established by five experts in maternal and child health nursing.
- The reliability of the knowledge questionnaire, assessed using KR-20, was 0.82, indicating good internal consistency.

Intervention: Planned Teaching Program

The PTP covered the following topics:



Cover Page



- Definition and classification of neonatal hypothermia
- WHO thermal care guidelines
- Importance of immediate drying and delayed bathing
- Kangaroo Mother Care
- Proper wrapping and clothing
- Environmental warmth and safe room practices
- Early initiation of breastfeeding
- Teaching methods included lecture-cum-discussion with Power Point presentation(PPT) and total duration of 45 minutes.

Data Collection Procedure

- Pretest knowledge assessment (Day 1)
- Administration of the Planned Teaching Program immediately after the pretest
- Posttest knowledge assessment after 7 days

Ethical Considerations

Ethical approval was obtained from the institutional review board. Informed consent was taken from all participants. Confidentiality was strictly maintained.

Results

Demographic Characteristics

Among the seven participants, the majority ($n = 4$) were between 26 and 30 years of age. In terms of educational background, three mothers had completed secondary education, two had studied up to middle school, and two were graduates. With respect to occupation, most participants ($n = 5$) were homemakers, while one was employed in a private job and another in a government job. Regarding family structure, four participants belonged to nuclear families, whereas three lived in joint families. Considering obstetric history, four were primiparous mothers and three were multiparous.

There was a marked improvement in posttest knowledge following the PTP. A paired-samples t-test showed that posttest knowledge scores ($M = 23.71$, $SD = 2.56$) were significantly higher than pretest scores ($M = 11.57$, $SD = 2.01$), $t(7) = 9.87$, $p < .001$, indicating a strong effect of the planned teaching program.



Table 1: Pre-post-test Knowledge Scores (n=7)			
Knowledge	Mean	SD	t- value
Pretest	11.57	2.01	9.87***
Posttest	23.71	2.56	

FEASIBILITY FINDINGS

Time Feasibility:

- The pretest required approximately 15 minutes.
- PTP delivery was feasible within 45 minutes.
- The posttest required 10–12 minutes.

Tool Feasibility:

- All items were clear and understandable.
- No participants reported difficulty answering the questionnaire.
- PPTS were effective.

Participant Response:

- Mothers showed interest and active participation.
- Many expressed a preference for Hindi-language educational materials.

Logistical Feasibility:

- Nursing staff cooperation was adequate.
- Space for group teaching was available and appropriate.

Modifications Identified:

- For the main study, add a short break between teaching.
- Provide the questionnaire in a bilingual format (Hindi + English).

DISCUSSION

Pilot testing demonstrated that the structured teaching program effectively improved maternal knowledge regarding neonatal hypothermia prevention. The findings align with earlier studies showing that educational interventions significantly enhance postnatal mothers' knowledge and newborn care behaviors (Bhandari &



Cover Page



Singh, 2018; Singh et al., 2020). The marked improvement in mean posttest scores suggests that mothers benefited from clear and simple content reinforced by visual aids.

This pilot also showed that the knowledge tool was reliable and user-friendly, and the study procedure was practical for the clinical environment. Pilot studies are essential to refine protocols, avoid procedural errors, and ensure the validity and reliability of the tools before conducting the main study (Polit & Beck, 2021).

The improvement in scores suggests readiness for scaling up to the main study with minor procedural modifications. Since hypothermia continues to be a significant neonatal risk factor in India, educational interventions targeting mothers are critical in reducing neonatal complications and mortality (Sharma et al., 2019).

Conclusion

The pilot study confirmed that the Planned Teaching Program was feasible, acceptable, and effective in improving postnatal mothers' knowledge regarding neonatal hypothermia prevention. The structured questionnaire, teaching methods, and data collection procedures were appropriate and required only minor adjustments before implementation in the full-scale study. The encouraging results support progression to a larger study to assess effectiveness across a more representative sample.

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Cover Page



EFFECT OF NUTRITIONAL LADOO SUPPLEMENTATION ON HAEMOGLOBIN AND NUTRITIONAL STATUS AMONG ADOLESCENT GIRLS IN SELECTED SCHOOL: STUDY PROTOCOL

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ABSTRACT

Background: Adolescence is a transitional phase marked by rapid growth and increased nutritional needs. Adolescent girls are particularly vulnerable to nutritional deficiencies due to physiological demands, menstrual blood loss, and poor dietary intake. Food-based interventions using locally available, affordable, and culturally acceptable ingredients offer a sustainable solution. Nutritional ladoos made with jaggery, groundnuts, dates, protein, and essential micro nutrients, helping improve hemoglobin and overall nutritional status.

Aim: Evaluate the effectiveness of nutritional ladoos supplementation on haemoglobin levels and overall nutritional status among adolescent girls in selected schools."

Methods: Pre-experimental pretest–posttest design is adopted. Adolescent girls aged 13–19 years will be selected through purposive sampling. The intervention group will get one ladoo (30–40 g) per day. Data will be collected using a purposive sampling technique

Expected outcomes: Change in haemoglobin concentration (g/dL) and nutritional status among adolescent girls.

KEYWORDS: Adolescent girls, Haemoglobin level, Nutritional Ladoos, Nutritional Status

INTRODUCTION

Adolescence is a crucial phase of rapid growth and development, requiring adequate nutrition for physical health, cognitive development, and future reproductive well-being. However, iron deficiency anemia remains a widespread problem among adolescent girls, leading to fatigue, poor concentration, weakened immunity, and reduced academic performance. Due to rapid growth and increased iron requirements during puberty, adolescent girls are especially vulnerable. Poor dietary habits, cultural food restrictions, early menstruation, and lack of awareness further contribute to inadequate intake of iron and essential micronutrients.



Cover Page



NEED OF THE STUDY

Adolescence is a key growth stage with increased nutritional demand, especially for girls who are at high risk of iron deficiency anemia due to menstruation, inadequate diet, and limited awareness. WHO reports that anemia is a major global health concern among adolescent girls. In India, NFHS-5 data show that over 50% of adolescent girls are anemic, leading to fatigue, poor academic performance, reduced concentration, and future pregnancy-related complications. Nutritional laddoos made with iron-rich ingredients such as jaggery, dates, peanuts, sesame seeds, soy flour, and millets offer a culturally acceptable, affordable, and easy-to-consume alternative, potentially improving hemoglobin levels and overall nutritional status.

Rao and Singh (2021) conducted a comprehensive review on value addition and fortification of non-centrifugal sugar (jaggery) and highlighted its potential role as a functional and nutraceutical food. The authors emphasized that jaggery, a traditional unrefined sugar, retains significant amounts of essential minerals such as iron, calcium, magnesium, potassium, and trace elements, in contrast to refined white sugar, which lacks micronutrients. The review discussed how traditional processing methods preserve the natural nutritional profile of jaggery, making it a valuable dietary component in preventing micronutrient deficiencies, particularly iron-deficiency anemia.

Given these factors and supported by existing literature on value addition and fortification of non-centrifugal sugar (jaggery), and highlights its potential role as a functional and nutraceutical food. A study is warranted to generate evidence that can guide safe, culturally appropriate, and cost-effective nutritional laddoo intervention for adolescent girls.

OBJECTIVES

1. To assess the baseline hemoglobin levels of adolescent girls in the selected school.
2. To determine the association between anemic status and selected demographic variables of the adolescent girls.
3. To evaluate the effect of nutritional laddoo supplementation on improving hemoglobin levels among adolescent girls.

HYPOTHESIS

H₀: Nutritional laddoo supplementation will not produce any significant change in hemoglobin levels or nutritional status among adolescent girls in selected schools.

H₁: Nutritional laddoo supplementation will significantly improve hemoglobin levels and nutritional status among adolescent girls in selected schools.



Cover Page



OPERATIONAL DEFINITION

- **Nutritional Ladoo:** A specially prepared nutrient-dense food supplement made from ingredients such as jaggery, groundnuts, sesame seeds, dates, millets, or other iron-rich and calorie-dense components. In this study, each ladoo weighs 30-40 grams and provides a fixed amount of calories, iron, and micronutrients. Participants will consume one ladoo per day for the specified intervention period.
- **Supplementation:** The daily consumption of the standardized nutritional ladoo by adolescent girls for the duration of 45 days of the intervention.
- **Hemoglobin Level:** The concentration of hemoglobin in the blood, measured in grams per deciliter (g/dL). In this study, hemoglobin levels will be measured using a hemoglobinometer before and after supplementation.
- **Nutritional Status:** The physical health condition of the adolescent girls based on anthropometric indicators (BMI). In this study, nutritional status will be assessed using Body Mass Index (BMI): Calculated as weight (kg) ÷ height (m²), classified according to IAP.
- **Adolescent Girls:** Female students aged 13–19 years, studying in the selected school(s), who meet the inclusion criteria and consent to participate in the study.
- **Effectiveness:** refers to the measurable impact of nutritional laddoo supplementation on the health outcomes of adolescent girls, demonstrated by statistically significant improvements in hemoglobin levels and nutritional status indicators (BMI) after the intervention period, as compared to their baseline values.

RESEARCH METHODOLOGY

Research Approach: A quantitative research approach will be used to assess the effectiveness of nutritional laddoo supplementation on hemoglobin levels and nutritional status.

Research Design: An experimental design (pretest and post-test design will be adopted.

Research Setting: The study will be conducted in selected schools

Population: Adolescent girls aged 13–19 years enrolled in selected schools.

Sample Size Determination: The required sample size was calculated using G*Power 3.1 for a paired pre–post test design to evaluate the effect of nutritional laddoo supplementation on hemoglobin and nutritional status. A two-tailed paired t-test was selected, with the statistical parameters set at $\alpha = 0.05$, power $(1-\beta) = 0.95$, and a medium effect size of 0.50. The G*Power computation indicated that a minimum of 54 participants is required to detect a statistically significant difference between pre- and post-supplementation scores. To account for potential



Cover Page



sample loss, adjustments were made: with a 10% attrition rate, the required sample increases to 60 participants. Therefore, depending on expected feasibility, the final recommended sample size ranges up to 60 adolescent girls.

Sampling Technique: Purposive sampling will be used to select schools.

CRITERIA FOR SAMPLE SELECTION:

Inclusion Criteria:

- Adolescent girls aged 13–19 years
- Willing to participate and available during the study period

Exclusion Criteria:

- Girls with chronic illnesses affecting hemoglobin levels.
- Girls are already taking iron supplements or fortified nutritional supplements

DESCRIPTION OF THE TOOL

The tool used for data collection in this study was a structured questionnaire and assessment proforma developed specifically to measure hemoglobin levels and nutritional status among adolescent girls. It consisted of three sections.

Section A captured baseline demographic variables such as age, class, dietary habits, and menstrual history.

Section B assessed hemoglobin levels using a validated hemoglobin testing method (hemoglobinometer), recorded in grams per deciliter (g/dL).

Section C included the nutritional assessment, comprising anthropometric measurements such as height, weight, and Body Mass Index (BMI), interpreted using the Indian Academy of Pediatrics to determine nutritional status categories (underweight, normal, overweight).

The tool was validated by experts in nursing, nutrition, and public health, and reliability will be ensured through a pilot study using test-retest. The structured nature of the tool facilitated uniform data collection before and after the nutritional laddoo supplementation, enabling accurate comparison of changes in hemoglobin levels and nutritional status.

DATA ANALYSIS

Descriptive statistics: Mean, percentage, standard deviation

Paired t-test: to compare the pre- and post-test within-group

Ethical Considerations

- Approval from relevant authorities and the Institutional Ethics Committee.



Cover Page



- Informed consent from participants.
- Confidentiality and anonymity of all participants maintained.
- Participation will be voluntary, and participants may withdraw at any time.

EXPECTED OUTCOMES: Change in haemoglobin concentration (g/dL) and nutritional status (BMI) among adolescent girls.

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Cover Page



EFFECTIVENESS OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING KANGAROO MOTHER CARE AMONG ANTENATAL MOTHERS IN A SELECTED HOSPITAL: RESEARCH PROTOCOL

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ABSTRACT

Background: Kangaroo Mother Care (KMC) is a cost-effective, evidence-based method that promotes thermal regulation, breastfeeding, bonding, and improved survival rates among newborns, especially low-birth-weight and preterm infants. Despite its proven benefits, awareness and adoption of KMC practices among antenatal mothers remain limited in many healthcare settings. Providing structured and focused teaching can significantly improve mothers' understanding of KMC, thereby enhancing newborn care practices and contributing to better neonatal outcomes. Strengthening maternal knowledge during the antenatal period is an essential step toward promoting the routine implementation of KMC in hospital and community settings.

Aim: To assess the effectiveness of a structured teaching programme in improving mothers' knowledge regarding Kangaroo Mother Care in a selected hospital.

Methods: A pre-test–post-test research design will be used to evaluate the knowledge of mothers before and after administering a structured teaching program on Kangaroo Mother Care. The pre-test will assess baseline knowledge, followed by the teaching intervention, and then a post-test to determine knowledge improvement.

Expected Outcome: The structured teaching programme is expected to significantly enhance mothers' knowledge and understanding of Kangaroo Mother Care, leading to better preparedness for newborn care practices.

KEYWORDS: Antenatal Mothers, Kangaroo Mother Care, Newborn Care, Structured Teaching Programme



Cover Page



INTRODUCTION

Kangaroo Mother Care (KMC) is an effective and low-cost method of caring for preterm and low-birth-weight babies. It involves continuous skin-to-skin contact between the mother and the newborn, exclusive breastfeeding, and early discharge with appropriate follow-up. KMC helps maintain the newborn's body temperature, enhances mother–infant bonding, supports successful breastfeeding, and reduces neonatal morbidity and mortality. However, many mothers still lack adequate knowledge regarding KMC practices, particularly in hospital settings. Implementing a structured teaching programme can significantly improve mothers' understanding of KMC and promote correct and consistent practices.

OBJECTIVES

1. To assess the knowledge level regarding Kangaroo Mother Care among antenatal mothers in a selected hospital.
2. To evaluate the effectiveness of a structured teaching programme on knowledge regarding Kangaroo Mother Care among antenatal mothers in a selected hospital.
3. To determine the association between knowledge regarding Kangaroo Mother Care and selected sociodemographic variables among antenatal mothers.

HYPOTHESES

H₁: There will be a significant difference between the pre-test and post-test knowledge scores regarding Kangaroo Mother Care among antenatal mothers.

H₂: There will be a significant association between selected sociodemographic variables and post-test knowledge scores regarding Kangaroo Mother Care among antenatal mothers in a selected hospital.

NEED FOR THE STUDY

Kangaroo Mother Care (KMC) has been globally recognized as an essential, evidence-based intervention for improving the health outcomes of preterm and low-birth-weight newborns. Despite its proven benefits, awareness and consistent practice of KMC among mothers—especially antenatal mothers—remain limited in many healthcare settings. Strengthening maternal knowledge during pregnancy is crucial, as it prepares mothers for early adoption of KMC after birth and promotes better neonatal care.

Recent studies strongly highlight the importance of educating mothers about KMC. Dr. Elvis Elias et al. (2023) conducted a study among 80 low-birth-weight babies admitted to the NICU at Rajah Muthiah Medical College Hospital, Tamil Nadu. Their findings demonstrated that KMC significantly improved neonatal outcomes,



Cover Page



particularly thermal regulation, mother–infant bonding, and breastfeeding success. These outcomes emphasize that KMC is not only effective clinically but also essential for the holistic care of vulnerable newborns.

Similarly, Nirmala et al. (2022) examined perceptions of KMC among mothers and healthcare workers using a repeated-measure design. The study, which included 50 neonates and follow-up of 45 mothers over 6 weeks, revealed that continued KMC practice led to improved maternal confidence, enhanced neonatal weight gain, and strong healthcare staff support. These findings indicate that when mothers receive proper guidance and reinforcement, KMC becomes a sustainable and beneficial practice.

Although evidence supports the effectiveness of KMC, inadequate knowledge, misconceptions, and lack of structured education continue to hinder its optimal implementation. Therefore, there is a pressing need to provide antenatal mothers with structured teaching programmes that enhance their understanding and prepare them to practice KMC confidently after delivery. Improving maternal knowledge has the potential to positively influence newborn outcomes, reduce neonatal complications, and strengthen maternal-infant bonding.

RESEARCH METHODOLOGY

Research Approach: A quantitative research approach will be used for this study.

Research Design: A pre-experimental one-group pre-test–post-test design will be adopted to assess the effectiveness of the structured teaching programme.

Research Setting: The study will be conducted at a selected hospital, Amethi, Uttar Pradesh.

Target Population: The target population for the study will be postnatal mothers.

Accessible Population: The accessible population includes postnatal mothers who are available and willing to participate during the period of data collection in the selected hospital.

Sample Size: The sample will consist of 60 postnatal mothers.

The sample size for the study was determined based on a paired pre-test–post-test comparison using a paired t-test. The calculation assumed a significance level of $\alpha = 0.05$ (two-tailed, $Z_{\alpha/2}=1.96$), a statistical power of 0.80 ($Z_{\beta} 0.84$), and an expected effect size of 0.40, which represents a small to moderate impact typically seen in structured teaching interventions when pilot data are unavailable. Using Cohen's formula for paired designs, $n=(Z_{\alpha/2}+Z_{\beta})^2/d^2$, the initial sample size was calculated as $(1.96+0.84)^2/0.16=49$. To account for an anticipated 20% non-response rate, the adjusted sample size was computed as $49/0.80=61.25$



Cover Page



49/0.80=61.25, which was rounded to 62 participants. Considering feasibility in the hospital setting, a sample size of 60 postnatal mothers was selected, which remains sufficiently close to the attrition-adjusted estimate and provides adequate statistical power to detect a meaningful difference in knowledge scores at $\alpha = 0.05$.

Sampling Technique: The purposive sampling technique is being adopted for this study.

Criteria for Sample Selection

Inclusion Criteria:

- Mothers who are willing to participate in the study.
- Mothers who are available at the time of data collection.
- Mothers who have undergone either home delivery or institutional delivery.

Exclusion Criteria:

- Mothers who are not willing to participate in the study.
- Mothers who are unable to read or understand Hindi/English.
- Mothers who are not present at the time of data collection.

Research Variables

Independent Variable: The Structured Teaching Programme (STP).

Dependent Variable: Knowledge level regarding neonatal hypothermia and kangaroo mother care.

Description of the Tool

The tool used to collect data from the selected participants consists of two sections:

Section I: Demographic Data

This section includes demographic variables such as age, marital status, education, religion, occupation, socioeconomic status, type of family, and parity of the mother.

Section II: Structured Questionnaire

A self-structured questionnaire was developed by the investigator to assess knowledge regarding neonatal hypothermia and kangaroo mother care (KMC).

It includes items on the meaning and definition of KMC, types, components, and essential measures of care.

Components of the tool:

- Self-administered questionnaire
- Pre-test to assess baseline knowledge
- Structured Teaching Programme (intervention)



Cover Page



- Post-test to evaluate gain in knowledge

Reliability and Validity of the Tool

Reliability

The reliability of the tool will be established using the test–retest method. The pre-test will be conducted using a self-structured questionnaire to assess the participants' knowledge of kangaroo mother care. The same questionnaire will be administered again during the post-test to determine the consistency and stability of the responses.

Validity

The content validity of the tool will be ensured by obtaining expert opinions. The tool will be reviewed by one medical expert in child health and seven nursing experts specializing in child health nursing. The tool was considered adequate, and minor modifications suggested by the experts were incorporated.

Ethical Considerations

This study aims to assess the effectiveness of a structured teaching programme on knowledge regarding Kangaroo Mother Care (KMC) among mothers attending selected hospital. Informed consent will be obtained from all participants before data collection. Confidentiality of the collected data will be strictly maintained, and personal information will not be disclosed to any unauthorized person.

No harm will be caused to any participant at any stage of the study. Mothers will be fully informed about the purpose, procedures, potential benefits, and their right to withdraw from the study at any time without penalty. Ethical clearance will be obtained from the Institutional Ethical Committee before commencing the study.

Procedure for Data Collection

Data will be collected using a self-structured questionnaire developed to assess mothers' knowledge regarding Kangaroo Mother Care. After obtaining administrative permission and ethical approval, mothers who meet the inclusion criteria will be identified. Informed consent will be taken from each participant before administering the pre-test. The Structured Teaching Programme (STP) will then be implemented, followed by a post-test to evaluate improvement in knowledge.

Plan for Data Analysis

After ethical clearance and administrative permission, eligible mothers will be selected based on the inclusion and exclusion criteria. Informed consent will be obtained before initiating the study. The collected data will be organized, coded, and analyzed using descriptive and inferential statistics. Descriptive statistics



Cover Page



(frequency, percentage, mean, and standard deviation) will be used to describe demographic variables and knowledge scores. Inferential statistics (paired t-test) will be used to assess the effectiveness of the structured teaching programme.

Discussion

The purpose of this study was to assess the effectiveness of a structured teaching programme in improving the knowledge of mothers regarding Kangaroo Mother Care at a selected hospital. The findings of the study indicate that the Structured Teaching Programme had a significant positive impact on the knowledge levels of the participants. Mothers demonstrated improved understanding of KMC concepts, procedures, and benefits following the intervention, highlighting the importance of structured education in enhancing maternal and neonatal care practices.

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DESCRIPTIVE STUDY ON THE IMPACT OF A STRUCTURED TEACHING PROGRAMME ON STRESS AND COPING KNOWLEDGE AMONG HIGHER SECONDARY STUDENTS OF AMETHI

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ABSTRACT

Background: Stress among higher secondary students is becoming increasingly common due to academic pressure, social expectations, and competitive environments. Lack of coping knowledge and stress-management skills can negatively affect students' emotional well-being and academic performance. Structured teaching programs have proven effective in enhancing students' understanding and coping abilities. The finding indicates that well-designed, systematic teaching interventions significantly improve students' understanding of stress, its symptoms, and effective coping mechanisms.

Aim: This study aims to evaluate the impact of a structured teaching program on stress and coping knowledge among higher secondary students in Amethi.

Methods: A pre-experimental one-group design will be used. Higher secondary students (aged 15–18 years) will be selected using stratified sampling techniques. The intervention group will receive a structured teaching program consisting of five modules covering stress recognition, stress-management strategies, relaxation techniques, time-management, and problem-solving skills. Data will be collected using a standardized Stress and Coping Knowledge Questionnaire (SCKQ) at baseline and post-intervention.

Results: The mean stress scores notably decreased from a pre-test average of 25.14 ($SD = 5.88$) to a post-test average of 19.86 ($SD=5.50$), indicating a beneficial trend in stress reduction. Concurrently, participants demonstrated clear knowledge acquisition, with the mean coping knowledge score substantially increasing from 8.00 ($SD=2.1$) at pre-test to 14.57 ($SD=1.94$) at post-test. These descriptive findings, while not statistically



significant due to the small pilot sample size, provide encouraging preliminary evidence that the intervention is effective in improving knowledge and potentially reducing stress among higher secondary students.

KEYWORDS: Adolescents, Coping Knowledge, Higher Secondary Students, Stress, Stress-Management, Structured Teaching,

INTRODUCTION

Adolescence is a sensitive developmental stage marked by emotional fluctuations, academic responsibilities, and increased social pressures. Higher secondary students often experience stress stemming from exam pressure, parental expectations, peer influence, and uncertainty about future career pathways. If students lack adequate coping skills, stress may result in anxiety, poor academic performance, reduced concentration, and behavioural issues. Effective teaching interventions can play a vital role in strengthening students' coping abilities and promoting emotional resilience. It's a systematically planned and organized method of delivering content.

OBJECTIVES

1. To assess the level of stress and coping knowledge among higher secondary students before the structured teaching program.
2. To evaluate the level of stress and coping knowledge among higher secondary students after the structured teaching program.
3. To determine the effectiveness of the structured teaching program in improving coping knowledge.
4. To associate post-test stress and coping knowledge scores with selected demographic variables

HYPOTHESIS

H1: There will be a significant difference in stress and coping knowledge among higher secondary students before and after the structured teaching programme.

H2: There will be a significant association between stress and coping knowledge and selected demographic variables of higher secondary students.

NEED FOR THE STUDY

Adolescence is a critical period marked by rapid physical, emotional, and social changes, which often make students vulnerable to stress. Academic demands, peer pressure, and personal expectations are major contributors to psychological distress among higher secondary students (Smith et al., 2019). If not addressed, chronic stress can negatively affect mental health, academic performance, and overall well-being.



Research indicates that structured educational interventions can play a key role in improving adolescents' coping abilities. Rubenstein et al. (2020) found that structured programs significantly enhanced students' awareness of coping strategies and reduced stress symptoms. Similarly, Dodge et al. (2021) reported that teaching relaxation techniques improved concentration and reduced anxiety among higher secondary students. Nair et al. (2023) further demonstrated that structured teaching modules increased coping knowledge among adolescents by over 40%.

Despite these findings, many schools still lack systematic programs to educate students about stress management and coping strategies. This highlights the need for implementing structured teaching programmes specifically designed to enhance stress and coping knowledge among higher secondary students. Improving students' understanding and application of effective coping strategies is expected to reduce stress levels, enhance academic performance, and promote psychological well-being.

RESEARCH METHODOLOGY

- Research approach: Quantitative research approach
- Research design: Pre-experimental one-group pretest-post-test design
- Research setting: Selected higher secondary schools in Amethi
- Population: Higher secondary students studying in classes XI and XII
- Sample: Students from selected schools in Amethi
- Sample size: Total 60 students
- Sampling technique: Non-probability purposive sampling
- Criteria for Sample Selection

Inclusion criteria:

- Students studying in classes XI–XII
- Students willing to participate
- Students available during data collection

Exclusion criteria:

- Students previously trained in stress-management
- Students diagnosed with Psychological Disorder



DESCRIPTION OF TOOLS

Section A: Demographic variables consisting of age, gender, class, parental occupation, family income, academic stream, and study hours.

Section B: Stress and Coping Knowledge Questionnaire (SCKQ)

ANALYSIS OF DATA:

- Descriptive statistics: Mean, frequency, and percentage for demographic variables and knowledge scores
- Inferential statistics: Chi-square test to compare stress and coping knowledge before and after the intervention

ETHICAL CONSIDERATIONS

- Permission obtained from the Institutional Ethics Committee
- Informed consent from participants
- Confidentiality and anonymity assured
- Participation is voluntary with freedom to withdraw

RESULT

Table 1: Descriptive Statistics For Stress And Coping Knowledge Scores

Variable	Time Point	Mean	SD	Range
Stress Level Score	Pre-test	25.14	5.88	18 - 34
	Post-test	19.86	5.50	12 - 28
Coping Knowledge Score	Pre-test	8.00	2.16	5 - 11
	Post-test	14.57	1.94	12 - 17
Mean Difference (Gain)	Post-test - Pre-test	5.28	2.50	1 - 9

The descriptive statistics for stress and coping knowledge scores are presented in Table 1. The pre-test mean score for stress level among higher secondary students was 25.14 (SD = 5.88), which decreased to 19.86 (SD = 5.50) in the post-test, indicating a reduction in stress levels following the structured teaching programme. Similarly, the coping knowledge scores improved significantly. The pre-test mean score was 8.00 (SD = 2.16),



which increased to 14.57 (SD = 1.94) in the post-test, reflecting a mean gain of 5.28 (SD = 2.50) in coping knowledge. The range of gain scores varied from 1 to 9, demonstrating that most students benefited from the intervention. These findings suggest that the structured teaching programme was effective in reducing stress and enhancing coping knowledge among higher secondary students.

Feasibility Findings: The pilot study also helped assess feasibility:

- The schedule for testing and teaching was appropriate.
- Materials and visual aids were found effective and well understood.
- Participants were cooperative, indicating smooth process flow.
- No major modifications were required in the tool or methodology.

DISCUSSION

The study findings indicated that post-test stress and coping knowledge scores showed significant improvement after the structured teaching program. Students demonstrated enhanced understanding of stress-management strategies such as deep breathing, time-management, positive thinking, and emotional regulation.

Feasibility and Methodology Assessment: The research evaluated the operational feasibility of the study design. Key indicators confirmed that the recruitment process was effective (87.5% consent rate), participant retention was outstanding (100% completion), and the data collection tools were suitable and well received by the student demographic. Minor methodological observations were noted, mainly regarding the necessity to improve clarity in the instructions of the questionnaires and to allocate more time for interactive components within the teaching module. The pilot study effectively illustrated that a comprehensive study utilizing these improved methods is both feasible and justified.

Descriptive Analysis of Outcomes: Descriptive statistics indicated encouraging trends in the desired outcomes. A significant decrease in perceived stress levels was recorded, with the mean score dropping from 25.14 (SD=5.88) at the pre-test to 19.86 (SD=5.50) on the post-test. This implies a potentially positive effect of the intervention on managing student stress. Additionally, a considerable improvement in coping knowledge scores was observed, increasing from a mean of 8.00 (SD=2.16) pre-intervention to 14.57 (SD=1.94) post-intervention, signifying effective knowledge transfer through the organized teaching program.



Implications and Future Research Direction: The results offer robust preliminary evidence that the structured teaching program positively influences coping knowledge and may alleviate stress levels. The pilot data provided essential parameters (notably, the standard deviation of the difference $SD_{diff}=2.50$ and mean difference $d=5.28$) necessary for conducting an accurate sample size calculation for the main trial. The subsequent step involves utilizing these estimates to empower a main study aimed at formal hypothesis testing, facilitating a more conclusive determination of the program's effectiveness and its wider implications for student well-being in Amethi.

Overall, structured teaching proved to be an effective and practical approach for enhancing coping knowledge among adolescents in school settings.

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Cover Page



EFFECTIVENESS OF STRUCTURE TEACHING PROGRAM ON NEGATIVE IMPACT OF SUBSTANCE ABUSE AMONG ADOLESCENTS: A STUDY IN MUNSHIGANJ, AMETHI UTTAR PRADESH

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ABSTRACT

Background: Adolescence is a crucial stage of development often marked by vulnerability to substance abuse due to peer pressure, stress, and accessibility. Structured educational programs are essential to raise awareness and prevent their negative impacts on youth.

Methodology: A non-equivalent control group pre-test–post-test design was adopted with 60 conveniently selected intermediate students (30 experimental, 30 control). Knowledge was measured using a self-structured questionnaire, and data were analysed using descriptive and inferential statistics.

Aims: To assess the effectiveness of a structured teaching program in enhancing adolescents' knowledge about the negative impacts of substance use, compare pre-and post-test results between groups, and identify associations with selected demographic variables.

Result: The experimental group showed a significant increase in knowledge from a pre-test mean of 14 (SD 2.875) to a post-test mean of 24.9 (SD 3.525), with a t -value of 11.1593 ($p < 0.05$). The control group showed no meaningful improvement, with pre- and post-test means of 12.133 (SD 3.212) and 12.367 (SD 3.701), respectively, and a t -value of -0.057 . Post-test knowledge in the experimental group was significantly associated only with father's education and class of study, while the control group showed significant associations with multiple demographic variables.

KEYWORDS: adolescents, knowledge, negative impacts, structured teaching program, substance abuse.

INTRODUCTION

"Our greatest glory is not in never failing, but in rising up every time we fail" - Ralph Waldo Emerson

Adolescence is the transitional stage between childhood and adulthood, during which individuals aged



Cover Page



15–19 years, as defined by WHO, experience major physical, psychological, emotional, and social changes. This developmental phase is critical, as behaviors adopted during this period can predispose adolescents to various risks, including substance abuse. Substance abuse refers to the non-medical self-administration of drugs in amounts or frequencies that impair normal functioning and lead to physical, emotional, or social consequences. Multiple factors contribute to adolescent substance use, such as hereditary vulnerability, psychological or physical dependence, environmental influences, peer pressure, school-related stress, social media exposure, boredom, low self-esteem, lack of supervision, poverty, unemployment, and easy access to substances, particularly in urban and industrial areas (*R. Manisha & N. Neelam, 2019*).

Globally, 29.4 million people are affected by drug abuse, highlighting its serious physical and mental health consequences and the need for immediate treatment (*Global Burden of Disease Study, 2015*). In India, the *Drug Preventive Society (2023)* reports 1.44 crore substance abusers, including 4 million opium, 3 million inhalants, 3 million alcohol, 2 million sedative and cannabis, and 0.2 million hallucinogen and cocaine users. A 2024 report on determinants of youth substance use shows varying prevalence across Indian states: Tamil Nadu (46.3%), Karnataka (54.4%), Kerala (7.5%), Andhra Pradesh (14.8%), Punjab (9.5%), Haryana (8.2%), Uttarakhand (9.9%), Himachal Pradesh (19%), Gujarat (61%), Assam (46%), Odisha (37%), West Bengal (17.2%), and Uttar Pradesh (39.2%). According to the Ministry of Health (2021), substance abuse prevalence in Uttar Pradesh includes alcohol (12.8%), cannabis (6.6%), tobacco (29%), and other substances (0.6%).

As per NFHS-5 (2019–21), among adolescents aged 15 years and above in Amethi, tobacco use is 11.5% and alcohol use is 0.4% in females, while males report 49.3% tobacco and 9.1% alcohol consumption.

STATEMENT OF PROBLEM

Substance abuse is a major health problem among adolescents, leading to physical, psychological, and behavioural harm that impacts academic and social performance. National data shows that 18 to 22 percent of young Indians use substances, often between the ages of 12 and 19. The increasing prevalence in semi-urban and rural areas, particularly in parts of Uttar Pradesh, suggests increased vulnerability due to peer pressure, academic stress, and lack of awareness. Low awareness widens the prevention gap even further.

Therefore, this study aims to evaluate the effectiveness of a structured teaching program (STP). The aim is to create awareness among young people about the negative effects of drug abuse in selected colleges in Ramnagar, Amethi.



Cover Page



OBJECTIVE

1. To assess the pre-test and post-test knowledge on the negative impact of substance abuse in the experimental and control groups among adolescents.
2. To compare the level of knowledge within the experimental and control groups among adolescents.
3. To compare the level of knowledge between the experimental and control groups among adolescents.
4. To associate the post-test knowledge score with the negative impact on in experimental group and the control group among adolescents.

ASSUMPTION

1. Adolescents may lack knowledge or awareness of the negative impact of substance abuse.
2. An STP may improve the knowledge of the negative impact of substance abuse among adolescents.
4. Adolescent may have a positive attitude about their studies and overall health.

NULL HYPOTHESIS

H₀₁- There is no significant difference in the pre- and post-test level of knowledge between the experimental and control groups of adolescents.

H₀₂- There is no significant difference in the pre- and post-test level of knowledge between the experimental and control groups of adolescents.

H₀₃- There is no significant association of the mean difference score of knowledge in the experimental and control groups of adolescents with their selected demographic variables.

METHODOLOGY

Research approach: The quantitative research approach

Research design: Non-equivalent control group pre and post-test design.

Variables

Independent variables: Structured teaching program.

Dependent variables: Negative impact of substance abuse.

Demographic variable: Age, gender, education, occupation, family income, types of family, mode of stay, class of studying.

Setting: Ranveer Inter College Ram Nagar Amethi U.P



Cover Page



Population: Student age group between 15-9 years.

Target population: In this study, adolescents aged 15-19 years residing in selected settings who fulfill the sample selection criteria.

Accessible population: It refers to adolescents who are available at the time of study in the selected setting.

Sample: In this study, adolescents residing in selected settings who fulfill the sample selection criteria.

Sample size: The investigation estimated a sample size of 60 to conduct the present study, 30 in the experimental group and 30 in the control group.

Sampling technique: In the present non-probability convenience sampling technique is used to select the sample.

Sample selection criteria

Inclusive criteria

- Adolescents who are willing to participate in the study.
- Adolescents who are aged between 15-19 years.
- Adolescents who are residing in selected settings.
- Those who are available at the time of data collection.

Exclusive criteria

- Those who are not willing to participate in the study.
- Adolescents who remain absent during intervention.
- Adolescents have already attended the STP.

Development and Description of the Tool: The tools comprise two sections,

Section A: Socio-demographic data – Section A deals with questions to elicit information on age, gender, religion, class of studying, education status of father and mother, occupation status of father and mother, monthly income, type of family, and residential area.

Section B: A knowledge questionnaire was used to assess the negative impact of substance abuse.

Procedure for data collection: Formal permission was obtained from the principal of Indira Gandhi School and College of Nursing and the authority of Ranveer Inter College. 60 adolescents (30 experimental, 30 control) were selected through convenience sampling. After obtaining written and verbal consent, pre-test data were collected, followed by the implementation of the structured teaching program. Post-test was conducted seven days later using the same knowledge questionnaire.



Cover Page



Data analysis and interpretation: The data were collected, assembled, analyzed, and tested individually, and the findings were described based on the statistical analysis and inferential analysis presented in this chapter are divided into four sections.

Section A: Frequency and percentage distribution of adolescents according to their demographic data in experimental and control groups.

Section B: Assessment of the pre-test and post-test knowledge level on the negative impact of substance abuse in experimental and control groups among adolescents.

Section C: Comparison of knowledge on the negative impact of substance abuse in pre-test and post-test of experimental and control group among adolescent with their demographic variable.

Section D: Association between the pre-test and post-test knowledge level on the negative impact of substance abuse among adolescent in the experimental and control groups, with their demographic variable.

Section A: Frequency and percentage distribution of adolescents according to their demographic data in experimental and control groups.

Table 1 shows that the demographic characteristics of adolescents in the experimental and control groups (n=30 each) were comparable. Most participants were 17 years old, followed by those aged 16, 18, and a few aged 19. In the experimental group, 46.67% were male, whereas in the control group, 53.33% were male. The majority in both groups were Hindu (93.33%). Fathers and mothers of most participants had primary or secondary education, with a few having higher secondary or diploma/graduation, and some being illiterate. Most fathers were farmers, while mothers were mainly unemployed or daily wage workers. Over half of the families had a monthly income below Rs 10,000. Most adolescents belonged to joint families (63.33%), and all were studying in the 12th standard.

Section B: Assessment of the pre-test and post-test knowledge level on the negative impact of substance abuse in experimental and control groups among adolescents.

In the pre-test, most adolescents in both groups had inadequate knowledge before the intervention. In the experimental group, 28(93.33%) had inadequate knowledge, while in the control group, 26(86.67%) showed inadequate knowledge, with very few having moderate knowledge and none having adequate. In the post-test, the experimental group showed a significant improvement, with 24(80%) achieving adequate knowledge, whereas the control group remained largely inadequate, with only minimal changes (Table 2).



Cover Page



Table 1: Distribution of demographic variables among adolescents in experimental and control groups. (n=60)

Variables	Experimental Group		Control Group	
	F	%	F	%
Age				
16	8	26.67	8	26.67
17	16	53.33	17	56.67
18	5	16.67	4	13.33
19	1	3.33	1	3.33
Gender				
Male	14	46.67	16	53.33
Female	16	53.33	14	46.67
Religion				
Hindu	28	93.33	28	93.33
Muslim	2	6.67	2	6.67
Others	0	0	0	0
Educational status of father				
Primary education	5	16.67	6	20
Secondary education	13	43.33	13	43.33
Higher secondary education	6	20	6	20
ITI/Diploma/Graduate and Above	3	10	2	6.67
Illiterate	3	10	3	10
Educational status of the mother				
Primary education	11	36.67	11	36.67
Secondary education	15	50	13	43.33
Higher secondary education	0	0	1	3.33
ITI/Diploma/Graduate and Above	1	3.33	2	6.67
Illiterate	3	10	3	10
Occupational status of father				
Daily wages	6	20	6	20
Farmer	20	66.67	21	70
Employed	3	10	2	6.67
Unemployed	1	3.33	1	3.33
Occupational status of mother				
Daily wages	10	33.33	8	26.67
Farmer	7	23.33	8	26.67
Employed	2	6.67	1	3.33
Unemployed	11	36.67	13	43.33
Monthly family income				
Less than Rs. 10,000	16	53.33	16	53.33
Rs. 10,001-15,000	6	20	5	16.67
Rs. 15,001-20,000	3	10	3	10
Above Rs. 20,000	5	16.67	6	20



Cover Page



Type of family				
Joint family	19	63.33	19	63.33
Nuclear family	10	33.33	10	33.33
Extended family	1	3.33	1	3.33
Class of studying				
10	0	0	0	0
11	0	0	0	0
12	30	100	30	100

Table 2: Frequency and percentage distribution of the pre-test and post-test level of knowledge related to the negative impact of substance abuse among adolescents in the experimental and control groups. (n=60)

Test	Group	Inadequate (1-15)		Moderate (16-22)		Adequate (23-30)	
		f	%	f	%	f	%
Pre-test	Experimental	28	93.33	2	6.67	0	0
	Control	26	86.67	4	3.33	0	0
Post-test	Experimental	0	0	6	20	24	80
	Control	26	86.67	3	10	1	3.33

Section C: Comparison of knowledge on the negative impact of substance abuse in pre-test and post-test of experimental and control group among adolescent with their demographic variable.

Table 3: Comparisons of knowledge on the negative impact of substance abuse in the pre-test and post-test of the experimental group and control group among adolescents (n=60)

Group	Pre test		Post test		Mean differences	‘t’ value
	Mean	SD	Mean	SD		
Experimental	14	2.875	24.9	3.525	10.9	11.1593*
Control	12.133	3.212	12.367	3.701	0.234	0.0573
‘t’value	2.372		13.430*			
*p<0.05						

Table 3 indicates that in the pre-test, the experiment group had a mean score of 14 ± 2.875 , while the control group obtained 12.133 ± 3.212 , with a calculated t value of 2.37220, indicating no significant difference between the two groups before the intervention. In the post-test, the experimental group demonstrated a substantial increase in knowledge with a mean score of 24.9 ± 3.525 , whereas the control group showed only a slight improvement



Cover Page



with a mean of 12.367 ± 3.701 . The 't' value of 13.4308632 confirmed a highly significant difference ($p < 0.05$) between the groups after intervention. Within the experimental group, the mean difference between pre-test and post-test scores was 10.9, supported by a significant t value of 11.1593, indicating that the educational intervention was highly effective. The control group showed a mean difference of 0.234, with a non-significant t value of 0.0573, suggesting no meaningful improvement. In the experimental group, only the mother's education and class of study showed a significant link with post-test knowledge. In the control group, all demographic variables were significantly associated with post-test knowledge on the negative impact of substance abuse ($p < 0.05$).

Section D: Association between the pre-test and post-test knowledge level on the negative impact of substance abuse among adolescent in the experimental and control groups, with their demographic variable.

Table 4: Association between post-test knowledge level in the experimental and control groups with their demographic variable. (n=60)		
Variables	Experimental group	Control group
Age	2.34375(df=6)	17.6131(df=6)*
Gender	0.033482(df=2)	81.07(df=2)*
Religion	1.088961(df=4)	5.34286(df=4)*
Educational status of father	1.088961(df=8)	8.4769(df=8)*
Educational status of the mother	6.44902(df=8)*	2.58203(df=8)
Occupational status of father	2.39583(df=6)	15.7418(df=6)*
Occupational status of mother	4.579327(df=6)	15.1138(df=3)*
Monthly family income	2.0833(df=6)	7.02163(df=6)*
Type of family	1.085526(df=4)	6.01667(df=4)*

*Significant at $p < 0.05$

Table 4 shows that in the experimental group, only the mother's education and the class of study were significantly associated with post-test knowledge. In the control group, all demographic variables showed a significant association with post-test knowledge on the negative impact of substance abuse ($p < 0.05$).

DISCUSSION

The study found that a structured teaching programme significantly improved adolescents' knowledge



Cover Page



about the harmful effects of substance abuse. Initially, both experimental and control groups showed low awareness, but after the intervention, the experimental group's knowledge increased sharply, unlike the control group. This demonstrates the effectiveness of focused educational strategies. These findings align with previous research showing that educational interventions enhance awareness and encourage positive behaviour among adolescents. The results highlight the value of school-based health education, as adolescents respond well to accurate and age-appropriate information. Overall, the study confirms that structured teaching programmes effectively raise awareness and support healthier decision-making, emphasizing the importance of integrating such programmes into regular school health activities to combat substance abuse.

NURSING IMPLICATION

The researcher concluded that the study's findings are essential for enhancing students' knowledge and awareness regarding the harmful effects of drug addiction. These results also carry important implications for nursing practice, education, and future research.

Nursing practice: Nurses and community health professionals can use a structured teaching programme as an effective tool to educate adolescents about the negative impact of substance abuse.

Nursing education: Teachers and health educators can adopt structured, evidence-based teaching methods to improve students' understanding and promote healthy behaviors. School authorities can incorporate substance abuse awareness sessions into the curriculum.

Nursing research:

1. This study highlights that structured teaching programs are effective. So more research should be done to test STP in different age groups, settings (schools and colleges), and cultures.
2. Nurses should develop and test a new educational module to improve knowledge, attitude, and behaviour towards substance abuse
3. The results highlight the need for further research to design, test, and further refine various educational interventions, such as audiovisual modules, peer teaching, and digital learning tools for substance abuse prevention.
4. Findings can guide evidence-based practice for substance abuse prevention.

LIMITATIONS

- The finding of this study was limited to the adolescents from the selected setting.
- The sample size was limited to 60.



Cover Page



- The study period was limited to only 4 weeks.

RECOMMENDATION

- The study can be conducted on a larger sample covering area in the state as well as in the country.
- A comparative study can be conducted to find the difference in knowledge towards the negative impact of substance abuse among the control and experimental groups.
- Implement structured teaching programmes regularly in schools to increase awareness and reduce the risk of substance abuse among adolescents.

CONCLUSION

From the result of the study, it was concluded that providing STP was very effective in improving knowledge level among adolescents on the negative impact of substance abuse, and it brings self-awareness; therefore, the investigator felt that more importance should be given to STP to improve the knowledge on the negative impact of substance abuse among adolescents.

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Cover Page



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Cover Page



EFFECTIVENESS OF STRUCTURED TEACHING ON MENSTRUAL HYGIENE KNOWLEDGE AMONG ADOLESCENT GIRLS IN A PARAMEDICAL INSTITUTE OF UTTAR PRADESH

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ABSTRACT

Introduction: Menstrual hygiene is an important aspect of adolescent girls' reproductive health. Lack of proper awareness leads to poor hygiene and health issues. This study aims to assess the effectiveness of a structured teaching program on knowledge regarding menstrual hygiene among adolescent girls.

Methodology: A pre-experimental one-group pre-test-post-test design was adopted among 60 adolescent girls aged 13–19 years. Data were collected using a structured questionnaire, and statistical analysis was performed using paired t-test and chi-square tests.

Results: The mean pre-test score was 15.83 (SD=3.54), which increased to 22.32 (SD=4.36) in the post-test. The difference was statistically significant ($t=9.49$, $p<0.05$). The source of information showed a significant association with knowledge.

Conclusion: The structured teaching program effectively improved menstrual hygiene knowledge among adolescent girls. Health education should be routinely provided to promote menstrual hygiene awareness.

KEYWORDS: Adolescent girls, Health education, Knowledge, Menstrual hygiene, Structured teaching program.

INTRODUCTION

"Menstrual hygiene is fundamental to the dignity and well-being of women and girls." - UNICEF, 2019

Adolescence is a vital phase in a girl's life characterized by major physical and psychological changes. Menstruation, though a natural process, is often associated with taboos and a lack of knowledge. The present study evaluates the effectiveness of structured teaching on menstrual hygiene among adolescent girls. Program to



Cover Page



improve knowledge regarding menstrual hygiene among adolescent girls. Adolescence marks the transition from childhood to adulthood, accompanied by several physiological changes, including menstruation. Despite being a natural biological process, menstruation is often surrounded by misconceptions and taboos, especially in developing countries. Lack of awareness and poor menstrual hygiene practices contribute to health issues such as urinary tract and reproductive tract infections, and lead to absenteeism from school.

According to the World Health Organization (2018), approximately 503 million women and girls globally lack access to menstrual hygiene facilities. In India, about 71% of adolescent girls do not have access to sanitary napkins (NFHS-5, 2019-21). Therefore, it is crucial to educate adolescent girls on menstrual hygiene practices through structured educational interventions. This study was conducted to assess the effectiveness of a structured teaching

OBJECTIVES

1. To assess the pre-test knowledge regarding menstrual hygiene among adolescent girls.
2. To evaluate the effectiveness of a structured teaching program.
3. To find an association between knowledge and selected demographic variables.

HYPOTHESES

H1: There will be a significant difference between pre-test and post-test knowledge scores.

OPERATIONAL DEFINITIONS

Effectiveness: It refers to how the menstrual hygiene education program achieves its intended outcome, resulting in improved knowledge related to menstrual hygiene.

Structured teaching program: It refers to the systematically organized instructions and discussion of knowledge regarding menstrual hygiene with the help of a structured teaching program.

Knowledge: It refers to understanding about menarche and menstrual management as measured through a self-administered questionnaire.

Menstrual hygiene: it refers to the practices and behaviors adopted by adolescent girls during their menstrual period to maintain physical and mental cleanliness, dignity, and overall health.

Adolescent girls: It refers to females between the ages of 10-19 years.

Assumptions

- All students have inadequate knowledge regarding menstrual hygiene among adolescent girls.
- A structured teaching program may enhance the knowledge regarding menstrual hygiene among adolescent



Cover Page



girls.

- The participants will provide honest and accurate information about their menstrual hygiene knowledge.
- The participants will not receive any other menstrual hygiene education or intervention during the study period.

MATERIALS AND METHODS

Research approach: Utilizing a quantitative approach to measure the impact of a structured teaching program on promoting menstrual hygiene is essential for fostering awareness and healthy practices.

Research design: Pre-experimental one-group pre-test post-test design.

Research variables:

Independent variable: Structured teaching program on menstrual hygiene

Dependent variable: Knowledge regarding menstrual hygiene

Demographic variables: Basic information of adolescent girls, such as age, religion, type of family, source of information, and course.

Setting: The study is conducted in IGIPS, located in Munshiganj, Amethi, Uttar Pradesh. The study will take place in the classroom where the participants will attend the intervention session.

Population: A target population selected for the study will be students studying for a degree and diploma in optometry, 1st year students.

Sample and sampling size: The Sample consisted of 60 students in IGIPS, Munshiganj, Amethi.

Sample size calculation: G*Power 3.1.9.4

Mean: difference from constant {one sample case}

According to a previous study

Pre-test mean = 4.46, SD 1= 4.66

Post -test mean =17.86, SD 2=3.19

$SD = \sigma_1 + \sigma_2 / 2 = 3.925$

Effect size {d} = pre-test mean – post-test/ SD

$= 4.46 - 17.86 / 3.925 = 3.4$

A Prior analysis

Since d= 3.4; we are taking a medium effect size = 0.5



Cover Page



$d\{\text{effect size}\} = 0.5$, $\alpha\{\text{level of significance}\} = 0.05$, $1-\beta\{\text{level of significance}\} = 0.95$, $n=54$

drop out 10%

$n = 54 \times 10 / 100 = 5.4$

$= 54 + 6 = 60$ Hence sample size is 60

Sample technique: Sampling is a process of selecting a sample from the target population that represents the entire population. A purposive sampling technique was used for this study.

Inclusion criteria for sampling:

- ❖ Girls studying for a degree and a diploma in optometry 1st year.
- ❖ Students who are present during data collection
- ❖ Students who are willing to participate in the study.

Exclusion criteria for sampling:

- ❖ Adolescent girls who are not students of IGIPS.
- ❖ Students who are absent during data collection.
- ❖ Students who are above 21 years.

Data Collection: Data Collection Process: First, administer a pre-test to assess the initial knowledge or skills of the participants. Following the pre-test, implement the STP (Segmentation, Targeting, Positioning) strategy to enhance the relevant program or intervention. Finally, conduct a post-test after a period of 7 days to evaluate any changes in knowledge or skills resulting from the STP implementation.

Description of Tools

Demographic Variables: This section addresses demographic variables, which include student age, religion, family type, sources of information, and the specific course being studied.

Structured Questionnaire on Menstrual Hygiene: The structured knowledge questionnaire on menstrual hygiene consists of 30 multiple-choice questions. Each question includes multiple options, with one correct answer that is considered the most appropriate.

Teaching Plan:

- Introduction to menstrual hygiene
- Definition of menstrual hygiene
- Anatomy and physiology of the uterus



Cover Page



- Challenges associated with menstrual hygiene
- Consequences of poor menstrual hygiene
- Importance of maintaining menstrual hygiene
- Proper use of sanitary napkins
- Myths and misconceptions related to menstrual hygiene.

Data Collection Procedure

The primary study will be conducted at the Indira Gandhi Institute of Paramedical Sciences (IGIPS), located in Munshiganj, Amethi.

Data collection will take place over a span of three weeks, which will allow for sufficient time to gather comprehensive data before the actual study begins.

Prior to starting the data collection, formal permission will be obtained from the principal of IGIPS. This step is crucial for ensuring ethical compliance.

On the first day of data collection, a pre-test will be administered to the students by the investigators. This assessment aims to evaluate the students' baseline knowledge.

On the second day, the specially designed teaching program will be conducted by the investigators. On the third day, exactly seven days after the completion of the interventions, a post-test will be conducted. This post-test will help in assessing the impact of the teaching program and any improvements in knowledge.

Data Analysis

Data analysis is an essential process that helps to organize, interpret, and derive meaningful insights from collected data. In this study, both descriptive and inferential statistics will be employed to provide a comprehensive understanding of the findings.

Descriptive statistics: It will focus on summarizing and presenting the demographic characteristics of the study participants. This will involve calculating frequency counts and percentages for various demographic variables. By utilizing these statistical measures, we aim to create a clear profile of the participants, which will allow for an easier interpretation of the data in the context of the research.



Cover Page



Inferential Statistics: For inferential statistics, a paired t-test will be utilized to compare the results of pre-tests and post-tests conducted with the participants. This statistical method is designed to assess whether there are statistically significant differences between the two sets of scores, indicating any changes in knowledge levels or attitudes regarding menstrual hygiene before and after a specific intervention.

In addition, a chi-square test will be applied to examine the relationship between the level of knowledge about menstrual hygiene. This test will help determine if there are any significant associations between knowledge levels and factors such as age, education, and socioeconomic status.

RESULT:

Organization of the Study Findings:

The collected data were meticulously entered into a master data sheet to facilitate comprehensive tabulation and statistical analysis. The findings of this study are systematically organized and presented in the following sections:

Section 1: This section provides a detailed frequency and percentage distribution of selected demographic variables.

Section 2: In this section, we compare the knowledge levels of participants regarding menstrual health before and after the intervention. This comparison includes statistical analyses that highlight any significant changes in awareness or understanding.

Section 3: This section explores the associations between post-test knowledge levels and various selected demographic variables. By analysing these relationships, we aim to identify factors that may influence the retention of knowledge related to menstrual health.

Section 1: Frequency and percentage distribution of selected demographic variables.

Table 1 presents the demographic profile of the adolescent girls in the sample. Most participants, 42 (70%), are aged 18–19, making them a key target group for interventions. Twelve (20%) are above 21, and six (10%) are 10–18 years old. The sample is largely Hindu (57 or 95%), with 3 (5%) identifying as Muslim. A majority, 37 (61.66%), come from joint families, while 23 (38.33%) are from nuclear families. Parents serve as the primary information source for 31 (51.66%) participants, followed by teachers (16 or 21.66%) and health personnel (5 or 8.33%). Notably, 7 (11.66%) reported having no information source, underscoring the need for improved outreach.



Cover Page



Table 1: Socio-demographic Data (n=60)		
Variables	Frequency	Percentage
Age (in years)		
18-19	42	70
20-21	06	10
Above 21	12	20
Religion		
Hindu	57	95
Muslim	03	5
Christian	00	0
Others	00	0
Types of family		
Joint family	37	61.66
Nuclear family	23	38.33
Sources of information		
Health personal	05	8.33
Parents	31	51.66
Teachers	16	21.66
Mass media	01	1.66
No information	07	11.66
Course		
BSc in Optometry	25	41.66
Diploma in Optometry	35	58.33

Section 2: Comparison of pre-test and post-test levels of knowledge regarding menstrual knowledge.

Table 2 summarizes the pre- and post-test findings on menstrual hygiene knowledge. Before the intervention, most participants had inadequate knowledge (34 or 56.66%), while 25 (41.66%) had moderate knowledge and only 1 (1.66%) showed adequate knowledge. Following the intervention, adequate knowledge increased to 29 (48.33%), moderate knowledge to 26 (43.33%), and only 5 (8.33%) remained in the inadequate category.



Cover Page



The mean score improved from 15.83 (SD = 3.54) in the pre-test to 22.32 (SD = 4.36) in the post-test. The significant t-value of 9.49 ($p < 0.05$) indicates a marked improvement, confirming the effectiveness of the structured teaching program.

Table 2: Comparison between pre-test & post-test on knowledge regarding menstrual hygiene among adolescent girls (n=60)										
Level of Knowledge	Score	Pre Test				Post Test				t-vale
		N	%	Mean	S.D.	N	%	Mean	S.D.	
Inadequate	<50%	34	56.66	15.83	3.54	5	8.33	22.32	4.36	9.49* df=59
Moderate	51-74	25	41.66			26	43.33			
Adequate	≥75%	01	1.66			29	48.33			

Table 3: Association between the post-test level of knowledge and the selected demographic variables (n=60)							
Variables	Post-test Level of Knowledge						χ^2 & df
	<50%		51-74%		≥75%		
	No.	%	No.	%	No.	%	
Age in years							
18-19	04	9.52	17	40.47	21	50	1.7224 dF=04
20-21	00	0	04	66.66	02	33.33	
Above 21	01	8.33	05	41.66	06	50	
Religion							
Hindu	05	8.77	24	42.10	28	49.12	0.8069 dF=06
Muslim	00	00	02	66.66	01	33.33	
Christian	00	00	00	00	00	00	
Others	00	00	00	00	00	00	
Types of family							
Joint family	05	13.51	15	40.54	17	45.94	0.8069 dF=02
Nuclear family	00	00	11	47.82	12	52.17	
Source of information							
Health personnel	00	00	04	80	01	20	3.3956* dF=08
Parents	00	00	11	35.48	20	64.51	
Teachers	02	12.5	09	56.25	05	31.25	
Mass medias	00	00	00	00	01	100	
No information	03	42.05	02	28.57	02	42.08	
Course							
Bsc in optometry	02	08	10	40	13	52	0.2348 dF=02
Diploma in Optometry	03	8.57	16	45.71	16	45.71	



Cover Page



Table 3 denotes, the analysis conducted in this study identified a statistically significant association between knowledge and source of information, with a p-value of less than 0.05, indicating a meaningful relationship. However, no significant associations were found between knowledge and other demographic factors among adolescent girls, including age, religion, family type, or the educational course they were pursuing (Table 3). This suggests that while certain demographics may influence knowledge levels, others do not appear to have an impact. As a result, the initial research hypothesis H1 is considered accepted, reinforcing the importance of focusing on the identified demographic variables in future studies.

DISCUSSION

This study evaluated the effectiveness of a structured teaching program on menstrual hygiene knowledge among adolescent girls. Most participants were 18–19 years old, belonged to the Hindu religion, and lived in joint families. Parents were the primary source of menstrual information, underscoring their influence on adolescents' awareness.

Pre-test results showed that over half of the participants (56.66%) had inadequate knowledge, with a mean score of 15.83 (52.76%). Following the intervention, knowledge levels improved markedly: 48.33% demonstrated adequate knowledge, and the mean score increased to 22.32 (74.4%). The paired t-test ($t = 9.49$, $p < 0.05$) confirmed a statistically significant improvement, indicating that the structured teaching programme effectively enhanced menstrual hygiene knowledge among adolescent girls.

CONCLUSION

The findings of the pre-test indicated that more than half of the participants, 34 (56.66%), had inadequate knowledge, while 25 (41.66%) demonstrated moderate knowledge and only 1 (1.66%) showed adequate knowledge. Following the structured teaching program, a marked improvement was observed. In the post-test, 29 (48.33%) participants achieved adequate knowledge, 26 (43.33%) had moderate knowledge, and only 5 (8.33%) remained in the inadequate category. From the researcher's perspective, these results clearly demonstrate that the structured teaching program was effective in enhancing menstrual hygiene knowledge among adolescent girls. A statistically significant association was also found between knowledge levels and selected demographic variables such as age, religion, type of family, source of information, and course. Overall, the study concludes that structured teaching programs serve as a valuable tool to improve menstrual hygiene awareness, thereby contributing to better health outcomes among adolescent girls.



Cover Page



IMPLICATIONS OF THE STUDY

Nursing Practice

- Nurses play a key role in providing accurate information and creating awareness.
- Regular training sessions should be conducted by nurses to enhance menstrual hygiene knowledge.
- School health nurses should periodically assess the knowledge level of adolescent girls.

Nursing Education

- The study highlights the need to strengthen educational content related to menstrual hygiene for adolescent girls.
- Student nurses should conduct periodic health education programs in schools and colleges to promote correct menstrual hygiene practices.

Nursing Administration

- Nursing administrators should implement effective strategies and policies to improve menstrual hygiene awareness.
- Nursing leaders should adopt evidence-based approaches to support and sustain positive changes in menstrual hygiene practices.

RECOMMENDATIONS

- Carry out periodic assessments to monitor students' knowledge.
- Organize community-based awareness programs.
- Encourage further research with larger and more diverse samples.

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Cover Page



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Cover Page



EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME (STP) ON EPISIOTOMY CARE AMONG PRIMIGRAVIDA MOTHERS: A REVIEW ARTICLE

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ABSTRACT

Background: Episiotomy is one of the most commonly performed obstetric procedures to facilitate childbirth and prevent perineal tears. However, a lack of knowledge regarding episiotomy care among postnatal mothers can lead to delayed wound healing and complications such as infection, pain, and discomfort. Educational interventions can play a crucial role in improving mothers' knowledge and self-care practices.

Aim: The study aimed to assess the effectiveness of a structured teaching programme (STP) on knowledge regarding episiotomy care among primigravida mothers admitted to a district hospital of Uttar Pradesh

Methods: A Quantitative research approach, a pre-experimental one-group pretest-posttest design was used among primigravida mothers admitted in a government district hospital of Uttar Pradesh. Self-structured questionnaire to assess the knowledge regarding episiotomy care before and after the STP. The reliability of the tool will be measured by the test-retest method.

Results:

The test-retest reliability coefficient is approximately 0.832. This value falls in the range of 0.8 to 0.9, indicating good reliability for the questionnaire. The mean score increased by 1.2 points, from 8.0 in the pre-test to 9.2 in the post-test, suggesting a positive effect of the STP. The test-retest reliability was assessed using the Pearson correlation coefficient.

Conclusion: The pilot study results, based on a 10-point self-structured questionnaire administered to five participants before and after a Structured Teaching Program (STP) on episiotomy care, showed improvement in knowledge levels. The mean pre-test score of 8.0 increased to a mean post-test score of 9.2. The test-retest



Cover Page



reliability of the questionnaire was confirmed with a Pearson correlation coefficient of approximately 0.832, indicating good stability of the tool for future use.

Keywords: - Effectiveness, episiotomy, episiotomy care, Primigravida Mothers, structured teaching programme.

Introduction

Episiotomy is one of the most commonly performed obstetric procedures worldwide. Although originally introduced to reduce severe perineal tears, modern evidence shows that routine episiotomy leads to physical and psychological complications such as perineal pain, delayed healing, infection, and dyspareunia. Global reports indicate episiotomy rates ranging from 16–38% in Europe and significantly higher in Asian countries due to anatomical and clinical factors. In India, approximately 63–80% of primigravida women undergo episiotomy during vaginal delivery.

The prevalence of episiotomy-related infection is approximately 10.4%. Poor perineal hygiene and lack of knowledge contribute significantly to complications. Studies show that 82% of postnatal mothers are unaware of proper perineal care practices.

Structured Teaching Programmes (STPs) are proven to enhance maternal knowledge, promote hygienic wound care practices, and prevent postpartum complications. Therefore, evaluating the effectiveness of STP among primigravida mothers is essential for improving maternal health outcomes.

2. Need and Rationale for the Study

Despite global recommendations to restrict routine episiotomy (WHO, ACOG), it remains highly prevalent in India. Primigravida mothers lack adequate knowledge on perineal hygiene, REEDA assessment, infection prevention, and wound management.

Education is one of the most effective and low-cost interventions to improve wound healing and prevent infection. An STP can bridge the knowledge gap and empower mothers in self-care.

Hence, this study aims to assess whether a structured educational intervention can significantly improve knowledge regarding episiotomy care among primigravida mothers.

PROBLEM STATEMENT

“A Study to Assess the Effectiveness of Structured Teaching Programme Regarding Episiotomy Care Among Primigravida Mothers at Selected District Hospital of Uttar Pradesh.”



Cover Page



The problem addresses the widespread lack of knowledge regarding episiotomy care among first-time mothers (primigravida), which leads to preventable postpartum complications like infection and pain. The research aims to evaluate whether a targeted, formal Structured Teaching Programme is a significantly more effective educational intervention than routine care for improving these mothers' knowledge, self-care practices, and overall recovery outcomes.

OBJECTIVES

Primary Objective

- To evaluate the effectiveness of the Structured Teaching Programme (STP) on knowledge regarding episiotomy care among primigravida mothers.

Secondary Objectives

- To assess the pre-test knowledge level regarding episiotomy care among primigravida mothers.
- To compare pre-test and post-test knowledge scores.
- To find the association between knowledge scores and selected demographic variables.

Research Hypotheses

H1: There will be a significant difference between mean pre-test and post-test knowledge scores regarding episiotomy care among primigravida mothers.

H2: There will be a significant association between knowledge scores and selected demographic variables

Operational Definitions

- Effectiveness:** Improvement in knowledge scores after the STP.
- Structured Teaching Programme:** A systematically prepared educational session on episiotomy care delivered through discussion, PPT, and visual aids (flash cards).
- Knowledge:** Information understood and retained by mothers about episiotomy care, measured through a structured questionnaire.
- Episiotomy:** Episiotomy is operationally defined as a surgically made incision on the perineum during the second stage of labour. In this study, the healing status of the episiotomy wound is measured using the REEDA Scale, which scores five parameters—Redness, Edema, Ecchymosis, Discharge, and Approximation of wound edges—each rated from 0 to 3, giving a total score of 0–15. A lower score indicates good healing, while a higher score indicates poor healing.
- Primigravida:** A woman pregnant for the first time.



Cover Page



Delimitations

- The study is limited to primigravida mothers who underwent episiotomy.
- Only mothers who are present during the data collection period will be included.
- The study is conducted only in one selected district hospital.

Conceptual Framework

The study is based on **Ludwig von Bertalanffy's General System Theory**, using:

- **Input:** Demographic characteristics and baseline knowledge.
- **Throughput:** Structured Teaching Programme (STP).
- **Output:** Post-test knowledge score.
- **Feedback:** Evaluation and reinforcement of learning.

RESEARCH METHODOLOGY

Research Approach: Quantitative research approach.

Research Design: Pre-experimental, one-group pre-test post-test design.

Setting: Government District Hospital, Sultanpur, Uttar Pradesh (500-bedded facility).

Population: Primigravida mothers who underwent vaginal delivery with episiotomy.

Sample and Sample Size

- Sample: Primigravida mothers meeting inclusion criteria.
- Sample Size: 60 mothers.

Sample Size Calculation

Using:

$$n = Z^2 \times p \times (1-p) / d^2$$

$n \approx 60$ after adjusting d to 0.12

Sampling Technique

Non-probability purposive sampling.

Selection criteria

Inclusion Criteria

- Primigravida mothers with episiotomy.
- Willing to participate.
- Able to understand Hindi/English.



Cover Page



- Present during data collection.

Exclusion Criteria

- Not willing to participate.
- Unable to read/understand Hindi/English.
- Not available at the time of data collection.

Variables

Independent Variable: Structured Teaching Programme (STP).

Dependent Variable: Knowledge regarding episiotomy care.

Data Collection Tools

Tool 1: Demographic Proforma

Age, education, occupation, family type, income, residence, parity, etc.

Tool 2: Structured Knowledge Questionnaire

- Meaning, indication, types of episiotomy
- Perineal hygiene
- REEDA assessment
- Infection prevention
- Postnatal care practices

Reliability

Test–retest method.

Validity

Content validity obtained from experts in OBG Nursing and Medical-Surgical Nursing.

13. Data Collection Procedure

1. Obtain ethical clearance & administrative permission.
2. Identify eligible primigravida mothers.
3. Explain study purpose and obtain informed consent.
4. Administer **pre-test** knowledge questionnaire.
5. Deliver **Structured Teaching Programme** (30–45 minutes):
 - Discussion
 - PPT



- Flash cards
- Question–answer

6. Conduct **post-test** after 7 days.

7. Collect and code data for analysis.

14. Ethical Considerations

- Approval will be obtained from the Institutional Ethical Committee.
- CTRI registration will be completed before enrolment.
- Written informed consent will be taken from participants.
- Confidentiality and anonymity will be strictly maintained.
- Participation will be voluntary with the right to withdraw anytime.

Table 1: Pre-test and Post-test Knowledge Scores of Participants (n=7)			
Participant ID	Pre-test Score (Time 1, Max 10)	Post-test Score (Time 2, Max 10)	Change in Score (Post – Pre-test Score)
P001	8	9	+1
P002	6	8	+2
P003	9	10	+1
P004	7	9	+2
P005	10	10	0
P006	8	9	+1
P007	7	8	+1
Mean Score	7.86	9	+1.14

Table 1 shows a paired comparison of pre-test and post-test knowledge scores conducted among seven participants. The findings showed a notable improvement following the intervention. The mean pre-test score was 7.86, which increased to 9.00 in the post-test, indicating an average increase of 1.14 points in knowledge levels. Individual score changes ranged from 0 to +2, with most participants demonstrating measurable improvement. One participant showed no change, while the highest gain observed was +2 points. Overall, the results suggest that the intervention had a positive effect on enhancing participants' knowledge.



Table 2: Data Preparation for Pearson Correlation Formula					(n=7)
Participant ID	X (Time 1)	Y (Time 2)	X^2	Y^2	XY
P001	8	9	64	81	72
P002	6	8	36	64	48
P003	9	10	81	100	90
P004	7	9	49	81	63
P005	10	10	100	100	100
P006	8	9	64	81	72
P007	7	8	49	64	56
Totals (Σ)	55	63	443	571	501

Table 2 determines the relationship between pre-test (Time 1) and post-test (Time 2) scores; the values of X, Y, X^2 , Y^2 , and XY were computed for all seven participants. The total pre-test score (ΣX) was 55, while the total post-test score (ΣY) was 63. The corresponding sums of squares were $\Sigma X^2 = 443$ and $\Sigma Y^2 = 571$, and the sum of the cross-products (ΣXY) was 501. These values indicate a strong positive linear relationship between pre-test and post-test scores, suggesting that participants who scored higher initially also tended to score higher after the intervention. The consistently high XY values support this positive association, demonstrating that the intervention improved knowledge without altering the relative ranking of participants. Overall, the computed totals reflect a positive correlation between X and Y, confirming that the post-test performance increased in alignment with pre-test trends.

Applying the Pearson Correlation Formula (N=7)

Use the totals from Table 2 and plug them into the formula provided:

Formula:

$$r = \frac{N\Sigma(XY) - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

Variables (from N=7 example data): $N = 7$

$$\Sigma X = 55$$

$$\Sigma Y = 63$$

$$\Sigma (XY) = 501$$

$$\Sigma X^2 = 443$$

$$\Sigma Y^2 = 571$$



Cover Page



Calculation steps:

1. Numerator:

$$N\Sigma(XY) - (\Sigma X)(\Sigma Y) = (7 \times 501) - (55 \times 63) = 3507 - 3465 = 42$$

2. Left Denominator Term:

$$[N\Sigma X^2 - (\Sigma X)^2] = [7 \times 443 - (55)^2] = [3101 - 3025] = 76$$

3. Right Denominator Term:

$$[N\Sigma Y^2 - (\Sigma Y)^2] = [7 \times 571 - (63)^2] = [3997 - 3969] = 28$$

4. Denominator Final:

$$\sqrt{[76][28]} = \sqrt{2128} \approx 46.13$$

$$r = \frac{42}{46.13} \approx 0.91$$

RESULTS

The formula for the Pearson correlation coefficient

$$r = \frac{N\Sigma(XY) - (\Sigma X)(\Sigma Y)}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

N= Total number of participants in the pilot study

X = Scores from the first test administration (Time 1)

Y = Scores from the second test administration (Time 2)

$\Sigma(XY)$ = Sum of the products of each participant's Time 1 and Time 2 scores

ΣX = Sum of all Time 1 scores

ΣY = Sum of all Time 2 scores

ΣX^2 = Sum of the squared Time 1 scores

ΣY^2 = Sum of the squared Time 2 scores

The mean score increased by 1.2 points, from 8.0 in the pre-test to 9.2 in the post-test, suggesting a positive effect



Cover Page



of the STP. The test-retest reliability was assessed using the Pearson correlation coefficient, which yielded a value of 0.83, indicating good stability and consistency of the questionnaire as a measurement tool.

Feasibility Findings: The pilot study also helped assess feasibility:

- The timeschedule for testing and teaching was appropriate.
- Materials and visual aids were found effective and well understood.
- Participants were cooperative, indicating smooth process flow.
- No major modifications were required in the tool or methodology.
- These findings confirm that the main study can proceed without significant procedural changes.

DISCUSSION

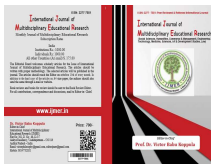
The purpose of the study was to assess the effectiveness of the structured Teaching programme (STP) on Episiotomy care among Mothers at the district hospital in Uttar Pradesh. The findings of the study indicate that the STP had a significant positive impact on the participants' knowledge level.

CONCLUSIONS

The review highlights that a Structured Teaching Programme (STP) is an effective intervention for improving knowledge regarding episiotomy care among primigravida mothers. The observed increase in post-test scores and the high reliability of the assessment tool confirm that structured education enhances mothers' understanding of perineal care, promotes better wound-healing practices, and reduces the risk of postpartum complications. Overall, the findings support the need to incorporate STPs into routine postnatal care to empower mothers with essential self-care skills and improve maternal health outcomes.

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Cover Page



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Cover Page



ASSESS THE EFFECTIVENESS OF SELF-ESTEEM AMONG THE COLLEGE FRESHER STUDENTS IN SELECTED NURSING COLLEGES

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ABSTRACT

Background: Self-esteem is a fundamental component of mental health and personality development. It influences how individuals perceive themselves, interact with others, and respond to life's challenges. During late adolescence and early adulthood, typically the age range of college fresher self-esteem undergoes significant changes as students encounter new academic, social, and personal responsibilities.

Aim: This study aims to assess the level of self-esteem among college fresher students in a selected nursing college of Amethi district.

Methods: Pre-experimental pretest-posttest design (single group) to evaluate the effectiveness of the self-esteem intervention program among first-year fresher students. The study will be conducted at the nursing college in Amethi district. Data collection and intervention will take place over 8 weeks (1-week baseline pretest, 4-week intervention, immediate posttest, reminder for follow-up, and analysis)

Expected outcome: The program is expected to improve self-esteem and increase the confidence level in the fresher student children.

KEYWORDS: Adolescents, College fresher students, Nursing college, Mental health, Self-esteem intervention program

INTRODUCTION: - The transition from school life to college represents a major developmental milestone for young adults. For many students, especially first-year entrants, this period is marked by significant psychological, social, and academic adjustments. Self-esteem—an individual's subjective evaluation of their own worth—plays a crucial role in determining how effectively students cope with these new demands. Assessing self-esteem at the beginning of the nursing program allows educators and administrators to identify students who may be vulnerable to low confidence or adjustment difficulties. With this information, timely interventions—such as counseling,



Cover Page



mentorship programs, peer-support groups, or life-skills training—can be implemented to strengthen students' psychological well-being.

OBJECTIVES

1. To assess the existing level of self-esteem.
2. To find the association between self-esteem and demographic variables.
3. To evaluate the effectiveness of an intervention.
4. To evaluate the effectiveness of a self-enhancement program (SEPNS) in raising the self-esteem of nursing students.
5. To compare pre-test and post-test self-esteem scores to determine the impact of the intervention.

HYPOTHESIS

H1: There is a significant association between the level of self-esteem and demographic variables.

H2: Fresher nursing students in the selected college have a low to moderate level of self-esteem.

H3: There is a significant positive correlation between the level of self-esteem and academic performance.

H4: A self-esteem enhancement program will lead to a significant increase in the self-esteem levels of the first-year nursing students.

REVIEW OF LITERATURE

- Sharma & Agarwal (2020) found that Indian college freshers frequently report low self-esteem due to high academic pressure and unfamiliar surroundings.
- Kumar (2019) observed that nursing students in India experienced reduced self-esteem during their first year because of heavy academic workload and clinical exposure.
- Priya & Ramesh (2021) reported that high self-esteem among Indian nursing students contributes to better communication and confidence in clinical practice.

RESEARCH METHODOLOGY

Research approach: Quantitative research approach

Research design: Pre-experimental pre-test post-test design

Research setting: Selected colleges

Population: Fresher student (First year)

Sample: A Fresher student selected in a nursing college

Sample size: 60 students



Cover Page



Sample and sampling technique: Non-probability purposive sampling techniques

Criteria for sample collection selection

Inclusion criteria: Fresher student enrolled in the nursing course, willing to participate and provide consent a viable for pre-test and post-test

- Description of tools
- sociodemographic data sheet
- Rosenberg self-esteem scale
- Intervention checklist
- feedback form (optional)

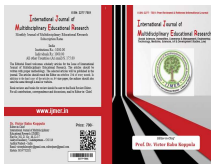
Ethical Considerations

- Obtain Institutional Ethics Committee (IEC/IRB) approval.
- Written informed consent from participants (and guardian consent if required).
- Confidentiality and anonymity (use codes, store data securely).
- Right to withdraw anytime without penalty.
- Provide support/referral if someone shows distress during sessions.
- If the control group is deprived of intervention, offer intervention after study completion (waitlist control) as ethical compensation

DISCUSSION

The present study was conducted to assess the effectiveness of self-esteem among college fresher students in a selected nursing college of Amethi district. The transition from school to college is a critical developmental phase characterized by new academic, social, and environmental challenges. These factors often influence the self-esteem of first-year students, making it important to evaluate their psychological well-being.

In the current study, the majority of fresher students demonstrated moderate levels of self-esteem, while a smaller proportion exhibited high or low self-esteem. These findings indicate that although many students are adjusting reasonably well, a considerable number still experience self-doubt, performance anxiety, and difficulty adapting to the new environment. The results are consistent with previous literature showing that first-year college students commonly face transitional stress that affects their self-confidence and coping ability.



Cover Page



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Cover Page



EFFECT OF A STRUCTURED TEACHING PROGRAMME ON PULMONARY REHABILITATION KNOWLEDGE AMONG COPD CLIENTS: A STUDY PROTOCOL

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ABSTRACT

Background: Chronic Obstructive Pulmonary Disease (COPD) is a major public health problem and one of the leading causes of morbidity and mortality worldwide. Pulmonary rehabilitation plays a vital role in improving the quality of life, exercise tolerance, and self-management of individuals with COPD. However, inadequate knowledge about pulmonary rehabilitation often limits patient compliance and outcomes. Structured teaching programs can effectively enhance patients' understanding and participation in rehabilitation.

Aim: The study aimed to assess the effectiveness of a structured teaching program on knowledge regarding pulmonary rehabilitation among clients with Chronic Obstructive Pulmonary Disease (COPD) in a selected hospital (SGH).

Methods: A pre-experimental design (pre-test and post-test) was adopted for the study. A total of 60 COPD clients were selected by using a purposive sampling technique. Data were collected using a structured knowledge questionnaire before and after the implementation of the teaching program. The collected data were analyzed using descriptive and inferential statistics. The effectiveness of the teaching program was determined by comparing the pre-test and post-test knowledge scores using paired t-tests.

Expected outcome: Increase in knowledge of pulmonary rehabilitation among clients with chronic obstructive disease

Keywords: Chronic Obstructive Pulmonary Disease (COPD), Knowledge improvement, pulmonary rehabilitation, Patient education, structured teaching program.

INTRODUCTION

Chronic Obstructive Pulmonary Disease (COPD) is a progressive and irreversible lung disease characterized by persistent airflow limitation that interferes with normal breathing. It primarily includes two



Cover Page



conditions, chronic bronchitis and emphysema, which often occur together and lead to the obstruction of airflow in and out of the lungs. The disease is a major cause of morbidity and mortality worldwide, and it is most commonly associated with long-term exposure to irritants such as cigarette smoke, air pollution, chemical fumes, and dust. COPD develops gradually over time and is often diagnosed in middle-aged or older adults who have a history of smoking.

NEED FOR THE STUDY

COPD is the third leading cause of death globally, and its incidence is steadily increasing, especially in developing countries like India. Limited awareness: Many clients with COPD have inadequate knowledge about pulmonary rehabilitation and its importance in improving quality of life. COPD is a progressive, irreversible lung disease characterized by airflow limitation, chronic cough, sputum production, and breathlessness. According to the Global Initiative for Chronic Obstructive Lung Disease (GOLD, 2023), COPD remains a significant global public health problem with increasing prevalence in developing countries.

Smith et al. (2019) reported that COPD affects more than 300 million people worldwide, with smoking and air pollution being major contributors. The study emphasized that inadequate knowledge about early symptoms such as dyspnoea and chronic cough, leads to delayed diagnosis and frequent exacerbations. Pulmonary rehabilitation (PR) is a multidisciplinary intervention designed to improve physical and psychological well-being in individuals with chronic respiratory diseases.

Spruit et al. (2018) demonstrated that PR significantly improves exercise capacity, muscle strength, and reduces dyspnoea in COPD clients. Their meta-analysis showed that PR reduces hospitalization rates by 30%. Given these factors, and supported by the existing literature on COPD effects and pulmonary rehabilitation (PR) is a multidisciplinary intervention designed to improve physical and psychological well-being in individuals with chronic respiratory diseases.

OBJECTIVES

1. To assess the baseline knowledge of client with COPD regarding pulmonary rehabilitation before the structured teaching program.
2. To evaluate the immediate post- intervention knowledge level after the structured teaching program on knowledge of client with COPD regarding pulmonary rehabilitation.
3. To determine the short- term effectiveness of the structured teaching program on knowledge regarding pulmonary rehabilitation.



Cover Page



4. To find the association between pre-test knowledge scores and selected demographic variables of clients with COPD regarding pulmonary rehabilitation.
5. To compare the immediate post-test and baseline knowledge scores to assess short-term improvement of the client with COPD regarding pulmonary rehabilitation.

HYPOTHESIS

H1: There will be a significant difference between pre-test and post-test knowledge scores of COPD clients after the structured teaching program.

H2: There will be a significant association between pre-test knowledge scores and selected demographic variables.

H3: There will be a significant association between post-test knowledge scores and selected demographic variables.

OPERATIONAL DEFINITIONS

- **Structured Teaching Program:** A planned, organized educational intervention using lectures, demonstrations, and audiovisual aids about pulmonary rehabilitation.
- **Knowledge:** Measured through a validated questionnaire assessing understanding of pulmonary rehabilitation (exercise, breathing techniques, nutrition, and lifestyle modification).
- **Effectiveness:** Improvement in knowledge scores after the intervention compared to baseline.
- **COPD:** A long-term lung disease in which the airways become blocked and damaged, making it hard to breathe.
- **Pulmonary rehabilitation-** It means doing special exercises and learning ways to breathe better for people with lung problems.

RESEARCH METHODOLOGY

Research approach: Quantitative Research Design

Research Design: Pre-experimental one-group pretest–posttest design.

Research Setting: Selected departments (Pulmonology OPD/IPD, Respiratory therapy/physiotherapy unit) of SGH.

Population: Above 40 years enrolled in the selected hospital

Research Sample size: 60 clients

Research Sampling technique: Purposive/convenience sampling of eligible COPD clients who consent.



Cover Page



CRITERIA OF SAMPLE COLLECTION SELECTION

Inclusion criteria

- Diagnosed COPD (stable, not in acute exacerbation).
- Age ≥ 40 years (or as local policy).
- Able to understand local language.
- Willing to participate and provide consent.

Exclusion criteria

- Severe cognitive impairment.
- Severe comorbidity precluding participation (unstable cardiac disease, recent MI).
- Already completed a formal PR program in the past 6 months.

DESCRIPTION OF TOOLS

Section A: Demographic variables age, sex, education, occupation, habits, and disease duration.

Section B: Structured knowledge questionnaire

Section C: Program feedback form (clarity, usefulness, duration, suggestions) — Likert scale.

DATA ANALYSIS

Descriptive stats: mean, SD (knowledge scores); frequencies/percentages (demographics).

Inferential: Chi-square, Correlation

ETHICAL CONSIDERATIONS

- Institutional Ethics Committee approval.
- Written informed consent.
- Confidentiality and anonymity.
- Right to withdraw anytime without affecting care.
- Minimal risk; program educational in nature

EXPECTED OUTCOMES: A structured teaching program on pulmonary rehabilitation among clients with chronic obstructive pulmonary disease in a selected hospital in Munshiganj is expected to significantly improve their knowledge, enhance adherence to rehabilitation practices, and ultimately promote better self-management and quality of life.



Cover Page



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ADVANCE CARDIAC LIFE SUPPORT

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ADVANCED LIFE SUPPORT (ALS)

Advanced Cardiac Life Support (ACLS) is a set of advanced techniques and procedures used to treat life-threatening cardiovascular emergencies, such as cardiac arrest and stroke

SYSTEM OF CARE

- Provides the links for the chain of survival
- Determines the strength of each links and of the chain
- Determines the ultimate outcome
- Provide the collective support and organization



Fig.1 systemic care

ELEMENTS OF CHAIN OF SURVIVAL

- Prevention and preparedness
- Activation of the emergency response system



Cover Page



- High quality cpr
- Advanced resuscitation interventions
- Post cardiac arrest care
- Recovery
- Post cardiac arrest syndrome
- Patients with achieve ROSC after cardiac arrest in any setting have Complex pathophysiologic processes
- It includes-
- Post arrest brain injury
- Post arrest myocardial dysfunction
- Systemic ischemia and reperfusion response
- Persistent acute and chronic pathology that may have precipitated the cardiac arrest

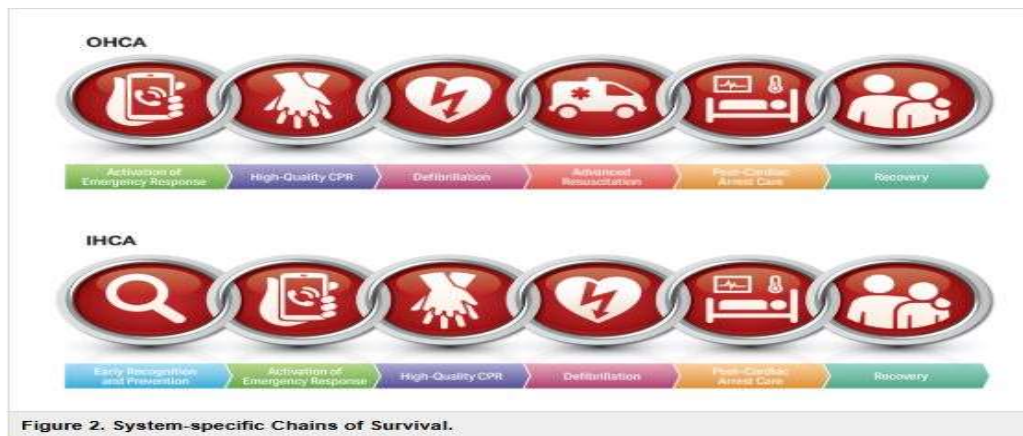


Fig.2 chain of survival

STEMI System of Care

- The goal of STEMI care is to minimize heart damage and maximize the patient's recovery.
- It is a link indicate the actions that patients, family members, and healthcare providers can rapidly to take to maximize STEMI recovery



Caution: Agonal Gasps

- Agonal gasps may be present in the first minutes after sudden cardiac arrest.
- Agonal gasps are not normal breathing.

The gasp may sound like a snort, snore, or groan. Gasping is a sign of cardiac arrest.



Fig.3 The STEMI chain of survival

1.Starting with Dispatch

Dispatchers and EMS providers recognize ACS symptoms. Dispatchers should tell patients with no history of aspirin allergy or signs of active or recent GI bleeding to chew aspirin (162 to 325 mg) while they wait for EMS providers to arrive.

2.Activating EMS

- Prompt diagnosis and treatment offer the best chance for saving the heart, so healthcare provider must recognize patients with potential ACS and begin evaluation, triage, and management as quickly as possible



3.EMS Components

- Obtain prehospital ECGs
- STEMI alert
- Activate the cardiac catheterization team to shorten reperfusion time
- Continuously review and improve quality

STROKE SYSTEM OF CARE

The goal of stroke care is to minimize brain injury and maximize the patients recovery.the stroke chain of survival link the action that patients, family members,and health care provider should take the maximize strock recovery.

These links are

- Rapid recognition of and reaction to stroke warning signs and symptoms
- Rapid use of EMS dispatch
- Rapid EMS recognition of stroke, triage, transport, and prehospital notification to the receiving hospital
- Rapid diagnosis and treatment in the hospital



Fig.4 The Stroke Chain Of Survival

SYSTEMIC APPROACH

➤ Used to assess and treat arrest and acutely ill or injured patients

- Initial assessment (visualization and scene safety)
- BLS Assessment
- Primary Assessment (ABCDE)



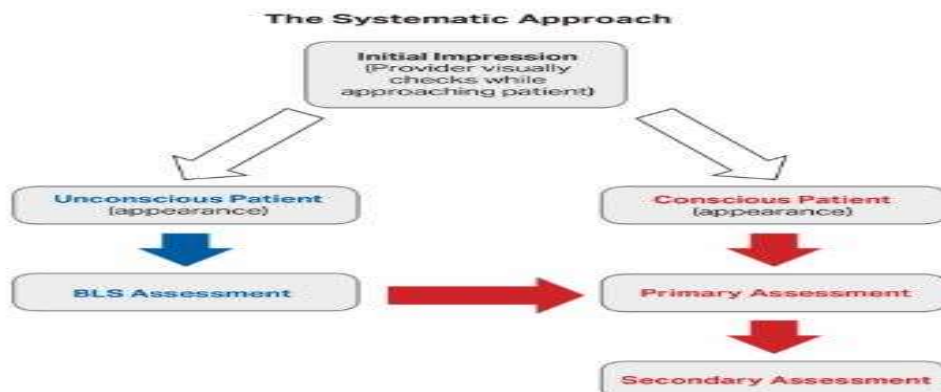
- Secondary Assessment (SAMPLE, H's and T's)

1.BLS Assessment

- Performed as initial assessment if patient is unconscious
- Assess the patient for responsiveness.
- Check for breathing and pulse simultaneously for ≤ 10 seconds.
- If a pulse is present but breathing is inadequate \rightarrow provide rescue breathing.
- If no normal breathing and no pulse \rightarrow begin CPR immediately.
- Compression rate: 100–120/min
- Compression depth: 2–2.4 inches (5–6 cm)
- Allow full chest recoil
- Minimize interruptions to <10 seconds
- Switch compressors every 2 minutes
- Avoid excessive ventilation (1 breath every 6 seconds with advanced airway)

2.ASSESSMENT PRIMARY

- If client is conscious, perform primary assessment
- If client is unconscious, perform BLS Assessment first then go to primary assessment
- Remember to assess first then perform action
- A, B, C, D, E
- A- Airway
- B- Breathing





Cover Page



Fig-5 Systemic Approach

- C- Circulation
- D- Disability (AVPU)
- E- Exposure

3.SECONDARY ASSESSMENT

- SAMPLE
- S- Sign and Symptoms (Breathing difficulty, Tachypnea, Tachycardia, Fever, Headache, Abdominal Pain, Bleeding)
- A- Allergies
- Medication (including the last dose taken)
- H's:
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypo/hyperkalaemia
- Hypothermia
- Hypoglycaemia (optional)
- T's:
- Tension pneumothorax
- Tamponade (cardiac)
- Toxins
- Thrombosis (coronary)
- Thrombosis (pulmonary)
- Trauma

PREVENTING ARREST

ACUTE CORONARY SYNDROMES

- RHYTHM FOR ACS- VT, VF, Bradycardia
- Follow STEMI chain of Survival



Cover Page



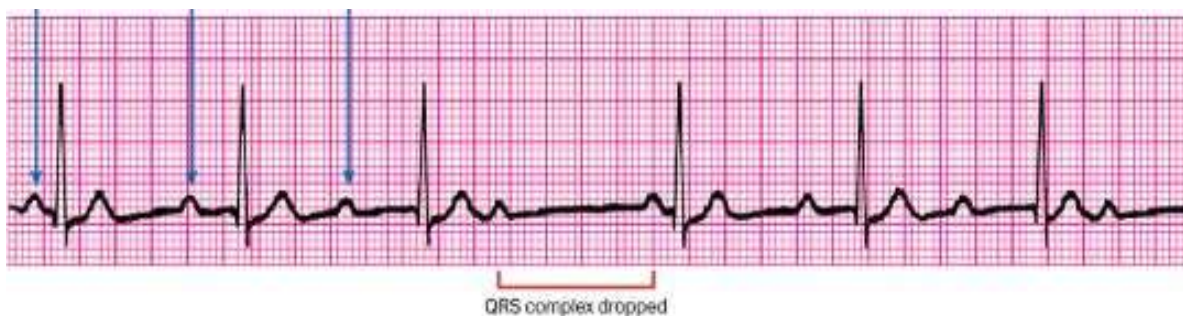
1.RHYTHMS OF BRADYCARDIA

- Sinus bradycardia
- First degree av block
- Second degree av block (mobitz 1 and mobitz ii)
- Third degree av block

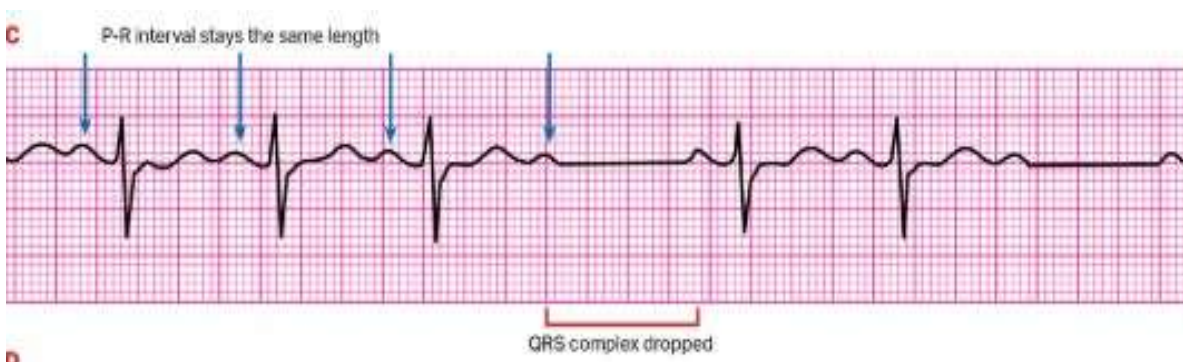
SINUS BRADYCARDIA WITH FIRST DEGREE AV BLOCK



SECOND DEGREE AV BLOCK TYPE I



SECOND DEGREE AV BLOCK TYPE II





Cover Page



COMPLETE AV BLOCK



THIRD DEGREE AV BLOCK



2.TACHYCARDIA- STABLE AND UNSTABLE

- Sinus tachycardia
- Atrial fibrillation
- Atrial flutter
- Supraventricular tachycardia
- Monomorphic vt
- Polymorphic vt
- Wide complex tachycardia of uncertain type

ATRIAL FIBRILLATION





Cover Page



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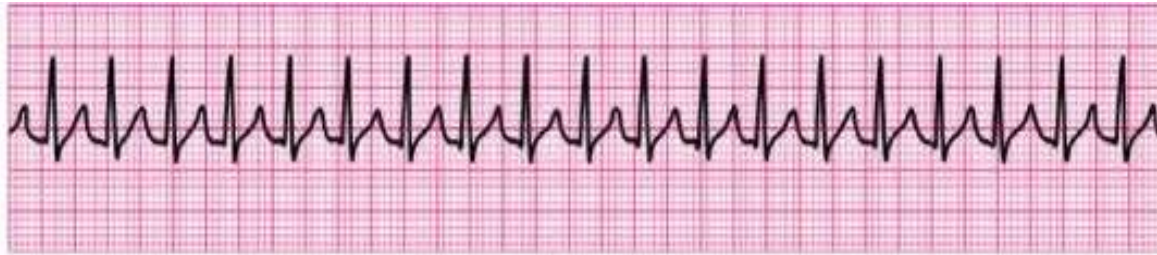
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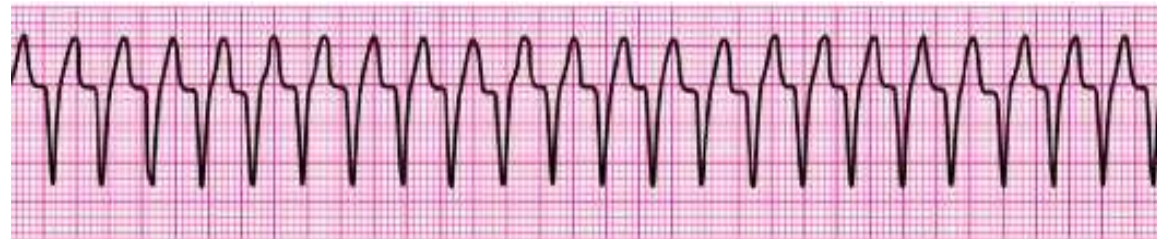
ATRIAL FLUTTER



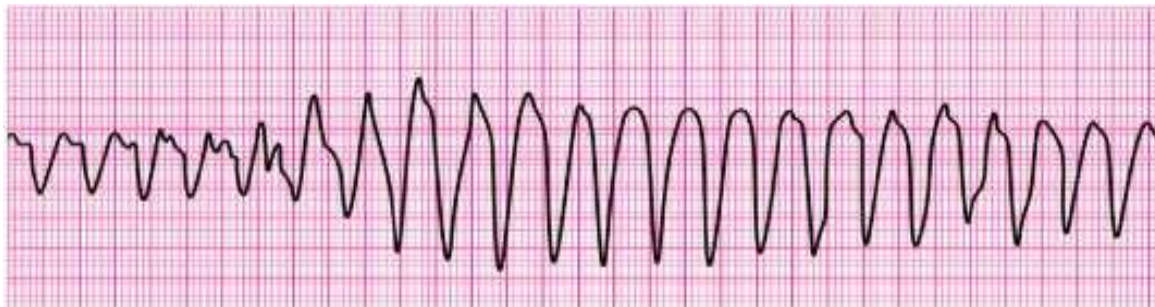
SUPRAVENTRICULAR TACHYCARDIA



MONOMORPHIC VT



POLYMORPHIC VT





Cover Page



HIGH PERFORMANCE TEAM



Figure 32. Key areas of focus for high-performance teams to increase survival rates.

AIRWAY MANAGEMENT





Cover Page



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BASIC AIRWAYS

1.OPA (OROPHARYNGEAL AIRWAY)

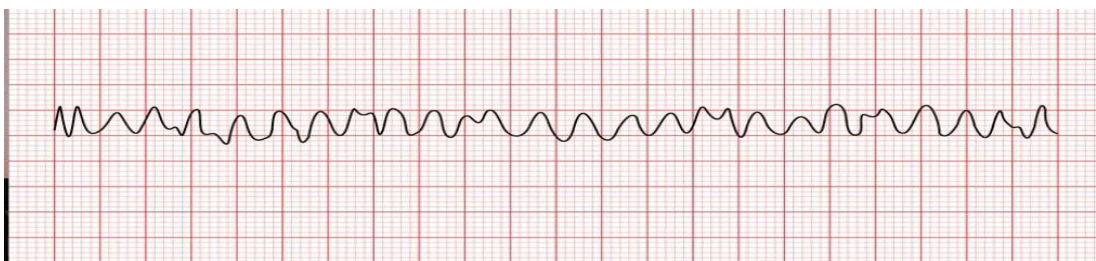


2. NPA (NOSOPHARYNGEAL AIRWAYS)



Figure 39A. Nasopharyngeal airways. A, Nasopharyngeal airway devices.

VENTRICULAR FIBRILLATION

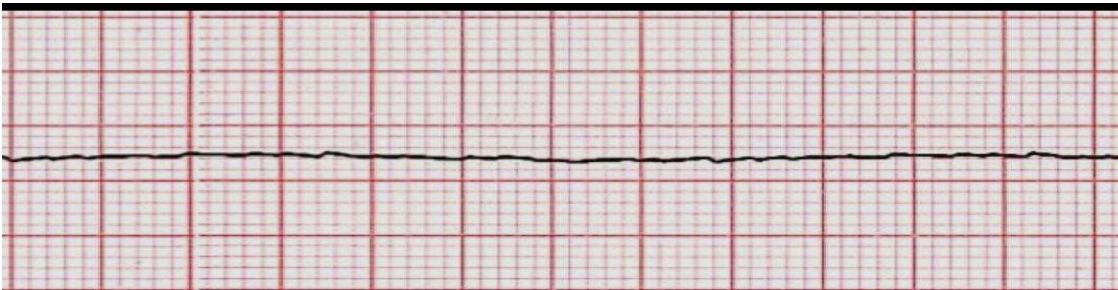




Cover Page



ASYSTOLE



PULSELESS ELECTRICAL ACTIVITY

Pulseless Electrical Activity (PEA)



POST-CARDIAC ARREST CARE (POST-ROSC CARE)

(Return of Spontaneous Circulation – ROSC)

Once a patient regains a pulse after cardiac arrest, immediate, organized post-arrest care is essential to prevent re-arrest and improve survival with good neurological outcome.

1. Optimize Airway, Breathing, and Ventilation

Oxygenation

- Maintain SpO₂: 92–98%
- Avoid hyperoxia (>98%) because it increases oxidative injury.

Ventilation

- Maintain ETCO₂: 35–40 mm Hg
- Consider advanced airway if needed.
- Adjust ventilator settings to avoid hyperventilation.



Cover Page



2. Support Circulation & Blood Pressure

After ROSC, hypotension is common.

Goals:

- SBP \geq 90 mm Hg OR MAP \geq 65 mm Hg

Treatment

- IV fluids (NS or LR)
- Vasopressors if needed:
 - Epinephrine
 - Norepinephrine
 - Dopamine

Continuous cardiac monitoring is required.

3. Identify and Treat the Cause

A 12-lead ECG is mandatory.

Look for:

- STEMI
- ACS (Acute Coronary Syndrome)

If STEMI → Immediate PCI (Cath lab).

4. Targeted Temperature Management (TTM)

Used to protect the brain after ROSC.

Indication:

- Patient is not responsive after ROSC.

Target Temperature:

- 32–36°C

Maintain for \geq 24 hours.

Avoid fever at all times.

5. Control Glucose

- Maintain blood glucose: 140–180 mg/dL
- Avoid hypoglycaemia.



Cover Page



6. Monitor and Treat Seizures

- Continuous or frequent EEG monitoring
- Treat seizures with anticonvulsants:
 - Levetiracetam
 - Valproate
 - Benzodiazepines

7. Advanced Hemodynamic and Organ Support

- Maintain adequate perfusion
- Support kidney function, liver function, and metabolic balance
- Maintain proper acid-base and electrolyte status

8. Prevent Re-Arrest

- Continuous monitoring
- Treat arrhythmias
- Optimize oxygenation & perfusion
- Prepare for immediate re-intervention

9. Good Neurological Care

Assess:

- Pupillary response
- Motor response
- Glasgow Coma Scale (GCS)

Neurological outcome improves when:

- Oxygenation is optimized
- Hypotension is corrected
- Temperature is controlled



Cover Page



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10. Multidisciplinary Care

Involves:

- ICU physicians
- Cardiologists
- Neurologists
- Respiratory therapists
- Critical care nurses



(Read the long description of Adult Cardiac Arrest Algorithm, emphasis on VTP-VT)

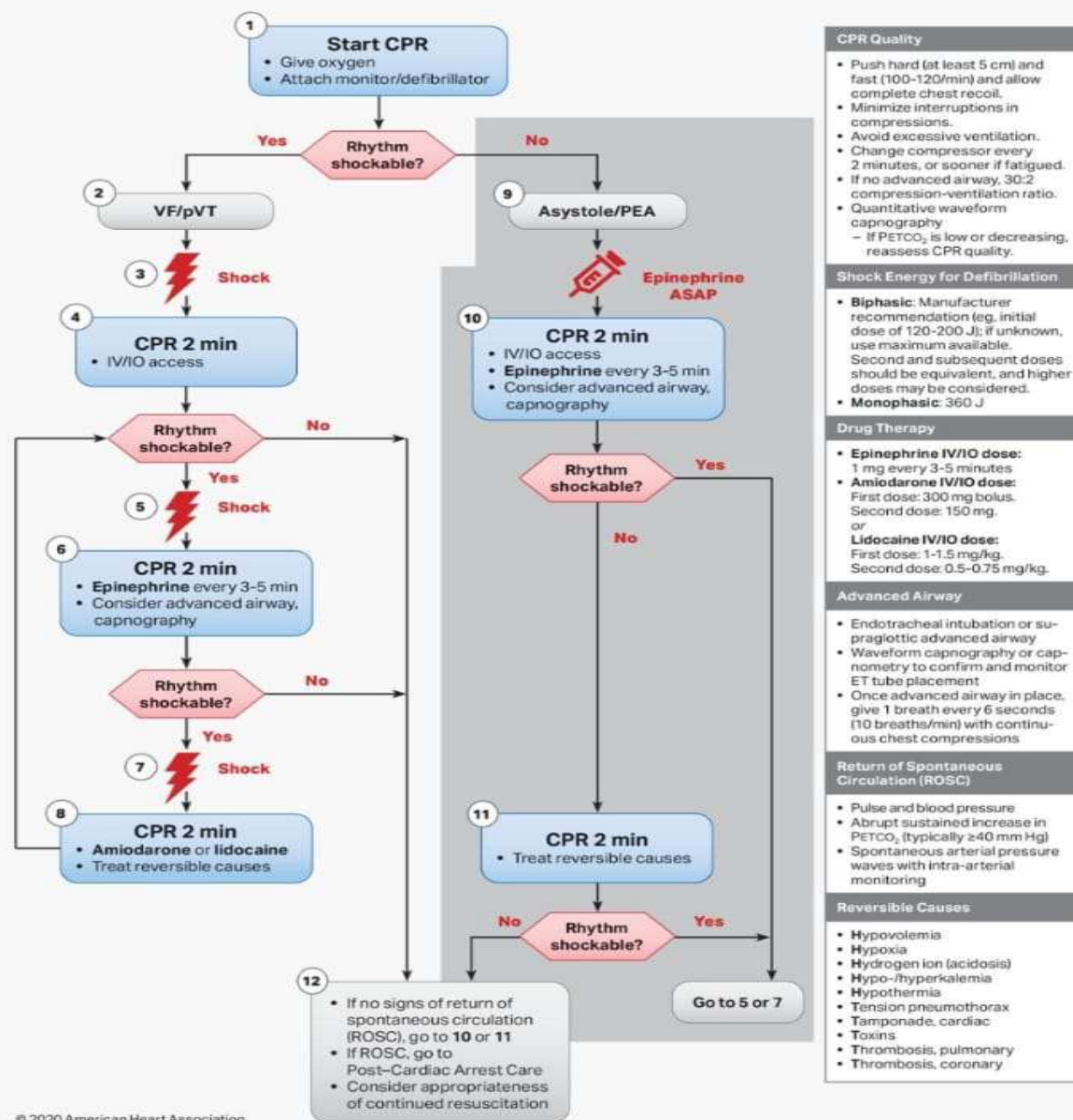
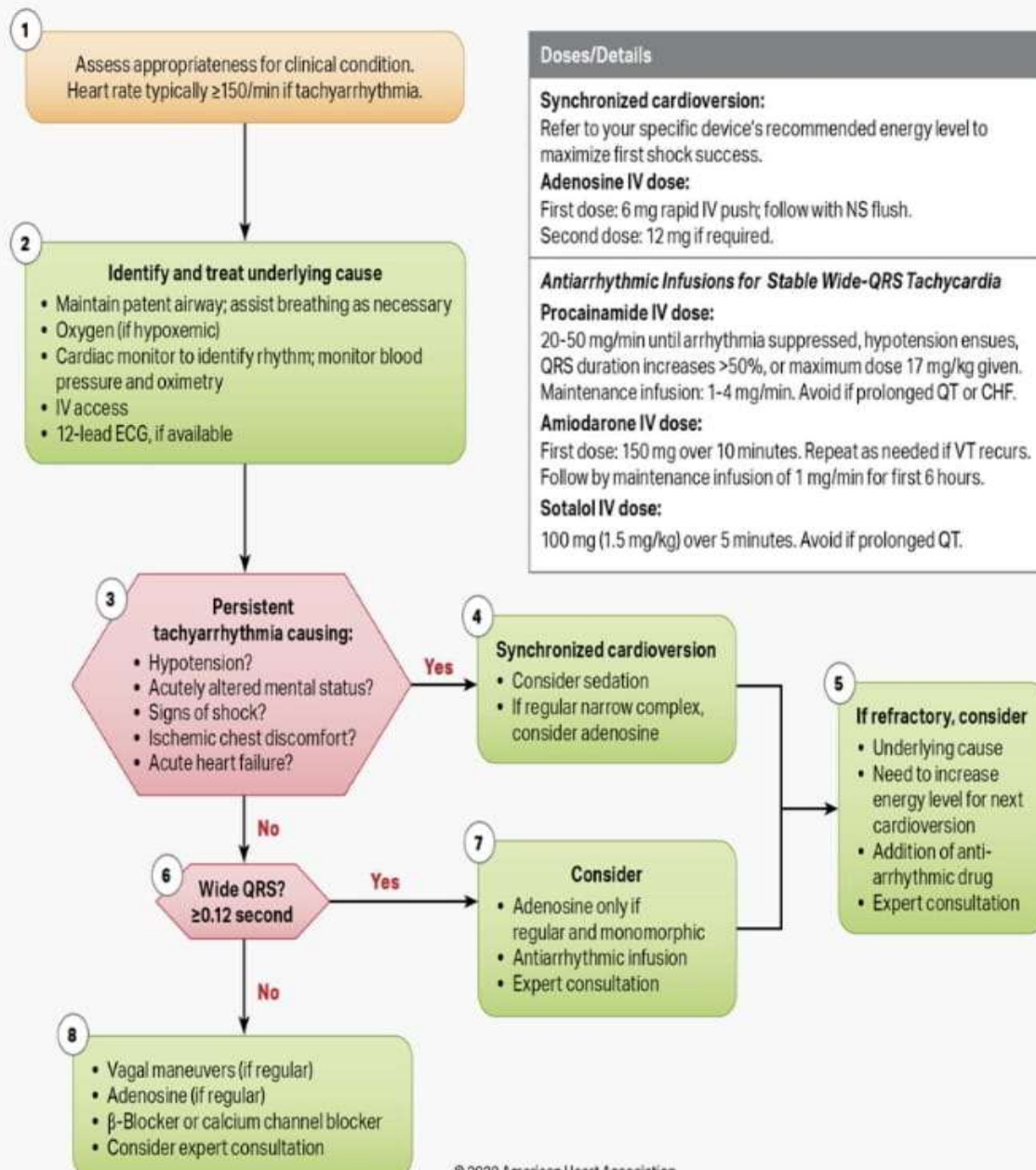


Fig.

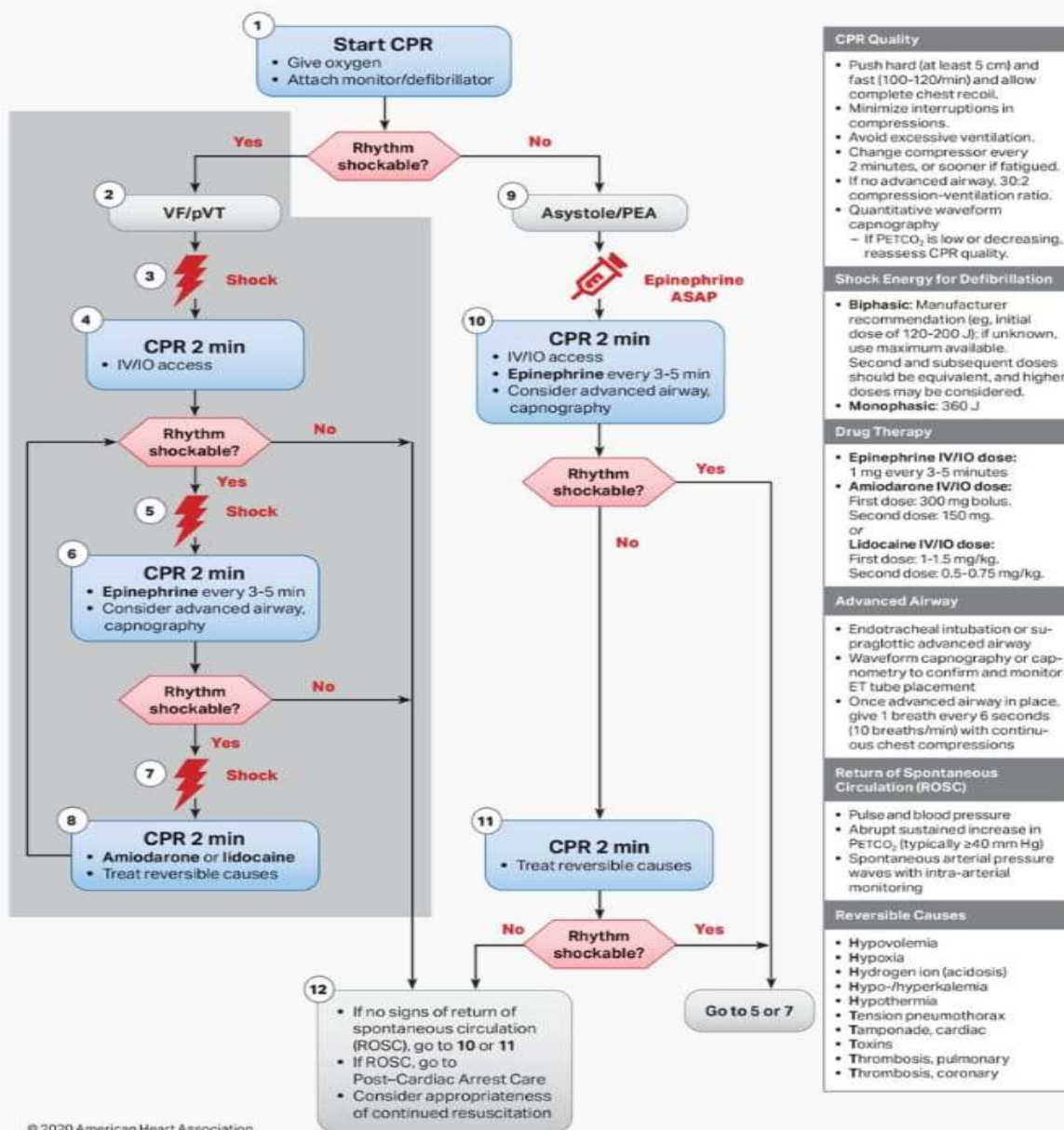


(Read the long description of Adult Tachycardia With a Pulse Algorithm.)



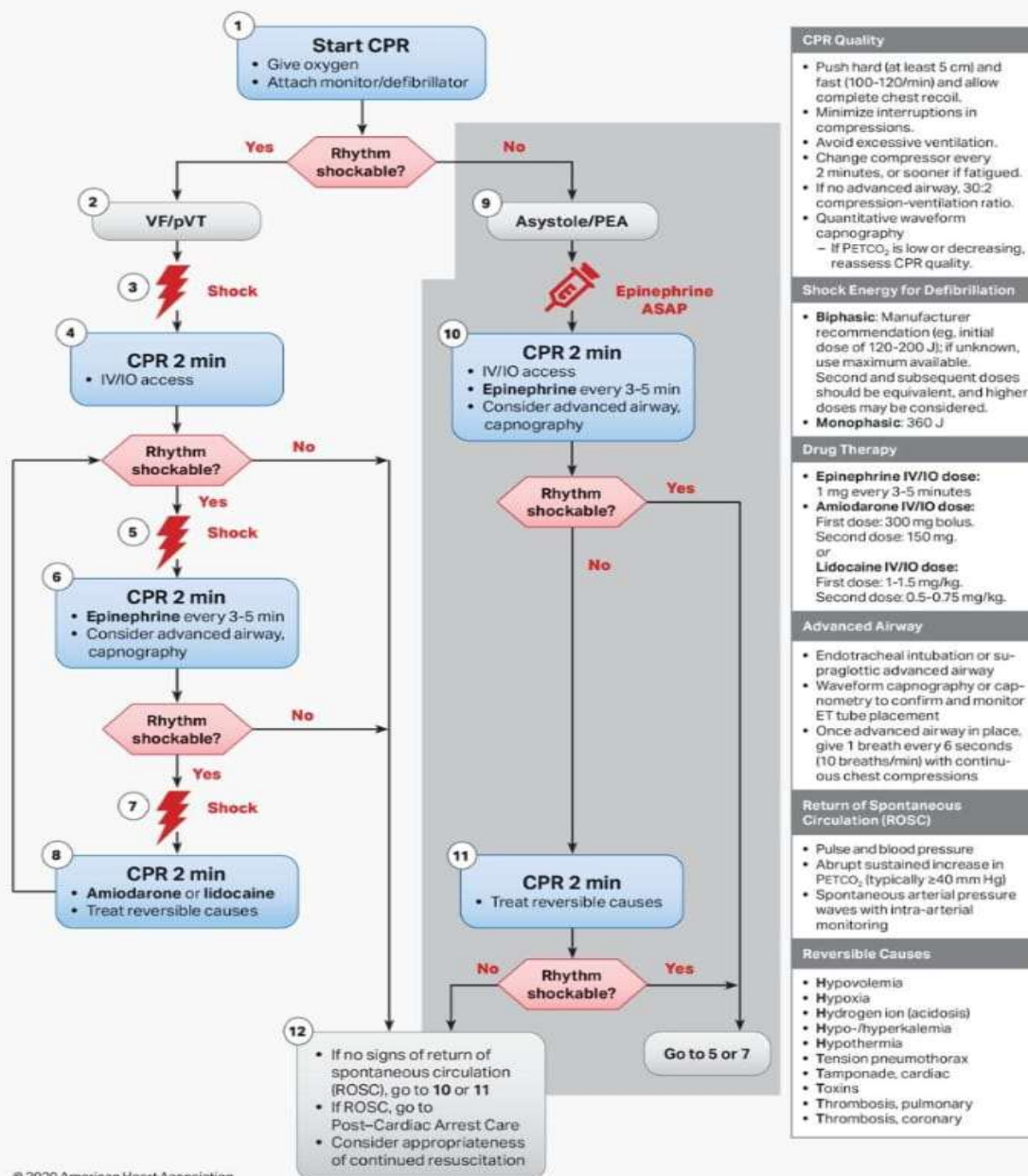


(Read the long description of Adult Cardiac Arrest Algorithm, emphasis on Asystole/PEA)





(Read the long description of Adult Cardiac Arrest Algorithm, emphasis on VTP-VT)





Cover Page



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Cover Page



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Cover Page



A COMPARATIVE STUDY ON THE EFFECT OF WARM FOOT BATH VERSUS DEEP BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS SELECTED COMMUNITY AREA

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ABSTRACT

Background: Hypertension is one of the most common cardiovascular disorders and a major risk factor for heart disease and stroke. Non-pharmacological interventions such as warm foot bath and deep breathing exercises are simple, cost-effective, and feasible methods that may help in reducing blood pressure among hypertensive clients.

Aim: To compare the effect of warm foot bath versus deep breathing exercises on blood pressure among hypertensive clients in a selected community area.

Methods: A quantitative research approach with a quasi-experimental (two-group pre-test and post-test) design was used. Sixty hypertensive clients were selected using a purposive sampling technique and divided into two groups: Group A received a warm foot bath, and Group B performed deep breathing exercises daily for a specific duration. Blood pressure was measured before and after the intervention using a standardized sphygmomanometer. Data were analyzed using descriptive and inferential statistics to compare the effectiveness between the two groups.

Expected outcome: Both interventions are expected to significantly reduce systolic and diastolic blood pressure levels. However, deep breathing is anticipated to show a slightly greater reduction compared to the warm foot bath. The study will help identify simple, cost-effective, and non-pharmacological methods for managing hypertension in community settings.

Keywords: Blood Pressure, Community Health Nursing. Deep Breathing, Hypertension, Warm Foot Bath.

INTRODUCTION

Hypertension, commonly known as high blood pressure, is one of the most prevalent non-communicable diseases worldwide and a major public health concern. It is defined as a persistent elevation of systolic blood pressure of



Cover Page



140 mm Hg or above and/or diastolic blood pressure of 90 mm Hg or above. Hypertension is often called the “silent killer” because it usually has no warning signs or symptoms but can lead to life-threatening complications such as stroke, myocardial infarction, heart failure, and renal disease if left uncontrolled.

NEED FOR THE STUDY

This study is needed to determine which non-pharmacological intervention—warm foot bath or deep-breathing exercise is more effective in lowering the blood pressure of hypertensive clients in a community setting to provide a simple, low-cost, and accessible method for improving blood pressure control. Kaur et al. (2022) examined the impact of warm foot soak therapy on blood pressure in elderly patients with hypertension in a long-term care facility. The findings indicated notable enhancement in BP and relaxation, affirming that localized hydrotherapy enhances peripheral circulation and reduces sympathetic tone. Rohini et.al. (2023) systematic review and meta-analysis showed that structured breathing exercises can lead to a small but statistically significant reduction in blood pressure, with average decreases of around 7.1 mmHg in systolic and 3.4 mmHg in diastolic pressure. Recent reviews and randomized trials (2023–2024) on slow, diaphragmatic, and biofeedback-guided breathing have also reported short-term improvements in blood pressure and heart-rate variability, supporting breathing techniques as an effective non-drug approach for lowering blood pressure.

OBJECTIVES

1. To assess the pre-intervention blood pressure levels (systolic and diastolic) among hypertensive clients before administering warm foot baths and deep breathing exercises.
2. To evaluate the post-intervention blood pressure levels among hypertensive clients after providing a warm foot bath and deep breathing exercises.
3. To compare the effectiveness of warm foot baths and deep breathing exercises on the reduction of blood pressure among hypertensive clients.
4. To determine the association between selected demographic variables and the effect of the interventions on blood pressure.

HYPOTHESIS

H₀₁: There is no significant difference between pre-test and post-test blood pressure of hypertensive clients after a warm foot bath.

H₀₂: There is no significant difference between pre-test and post-test blood pressure of hypertensive clients after deep breathing exercises.



Cover Page



H03: There is no significant difference in the effectiveness of warm foot bath and deep breathing exercises in reducing blood pressure among hypertensive clients.

OPERATIONAL DEFINITIONS

- **Blood Pressure** - Blood pressure is the force exerted by circulating blood against the walls of the arteries. It is expressed as two values: systolic (during heartbeats) and diastolic (between heartbeats)
- **Community Health Nursing**- Community Health Nursing is a specialized field of nursing that focuses on promoting and protecting the health of individuals, families, and entire communities through preventive, promotive, and curative care.
- **Deep Breathing**- Deep breathing is a relaxation technique that involves slow, full breaths using the diaphragm rather than shallow chest breathing. It is often called *diaphragmatic breathing* or *belly breathing*
- **Hypertension**- Hypertension, also known as high blood pressure, is defined as a condition where the pressure in your blood vessels is consistently too high — specifically, a resting blood pressure of 140/90 mmHg or higher.
- **Warm Foot Bath**- A warm foot bath is a hydrotherapy treatment where the feet and ankles are immersed in comfortably hot water (typically 100–110°F / 39–43°C) to promote relaxation, improve circulation, and relieve congestion in the body.

CONCEPTUAL FRAMEWORK

The study is guided by Dorothea Orem's Self-Care Deficit Nursing Theory, which emphasizes the role of nursing in supporting individuals who are unable to meet their own self-care needs. In the context of hypertension, clients may have difficulty managing blood pressure through lifestyle and relaxation techniques alone.

Independent Variables: Warm foot bath and deep breathing exercises

Dependent Variable: Blood pressure among hypertensive clients

According to Orem, the nurse assists clients in performing self-care activities that promote health and well-being. In this study, the nurse facilitates relaxation interventions—warm foot baths and deep breathing exercises—to help clients regulate blood pressure. The client participates actively in these interventions, which may reduce stress, promote circulation, and support the maintenance of normal blood pressure levels. This



Cover Page



framework underscores the nursing role in enabling self-care and improving physiological outcomes in hypertensive clients within the community setting.

RESEARCH METHODOLOGY

- **Research approach:** A Quantitative research approach
- **Research design:** A quasi-experimental design with two-group pre-test and post-test was used.
- **Research setting:** Selected community area.
- **Population** – All hypertensive clients residing in the selected community area constituted the target population.
- **Sample:** All hypertensive clients
- **Sample size:** Total 60 hypertensive clients
- **Sample and sampling technique:** A total of 60 hypertensive clients were selected using a purposive sampling technique and randomly divided into two equal groups (30 in each group).

CRITERIA FOR SAMPLE COLLECTION SELECTION

Inclusion criteria:

- Clients diagnosed with mild to moderate hypertension.
- Clients aged between 35–65 years.
- Clients willing to participate and available during the data collection period.
- Clients are able to perform deep breathing or tolerate a warm foot bath.

Exclusion criteria:

- Clients with severe hypertension or on antihypertensive medication adjustments during the study.
- Clients with peripheral vascular disease, diabetic neuropathy, or skin lesions on the feet.
- Clients with respiratory disorders that limit deep breathing practice.

Description of Tools

1. Structured Interview Schedule – to collect demographic and clinical data.
2. Sphygmomanometer and Stethoscope – to measure systolic and diastolic blood pressure (pre-test and post-test).

ANALYSIS OF DATA

- **Descriptive statistics:** - Mean, standard deviation, and percentage to describe demographic data and BP levels.



Cover Page



- **Inferential statistics:** - Paired t-test to compare pre- and post-test BP within each group. Independent t-test to compare post-test BP between the two groups.

ETHICAL CONSIDERATIONS

- Approval was obtained from the institutional ethics committee.
- Written informed consent was obtained from each participant.
- Confidentiality and anonymity were maintained.
- Participants were free to withdraw at any time without penalty.

EXPECTED OUTCOMES

Both warm foot baths and deep-breathing exercises are expected to reduce systolic and diastolic blood pressure in hypertensive clients. Warm foot baths likely produce a mild drop through peripheral vasodilation, while deep breathing should yield a faster, stronger reduction by activating the parasympathetic relaxation response. Both methods can lower heart rate, reduce stress, and promote relaxation. They are safe, simple, low-cost, and suitable for community use. Overall, deep breathing is expected to be more effective than warm foot baths for short-term blood pressure reduction, though both are helpful non-pharmacological supports.

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Cover Page



EVALUATION OF A STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING BREAST ENGORGEMENT AMONG POSTNATAL MOTHERS: A PILOT STUDY

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ABSTRACT

Breast engorgement is a common postpartum condition that affects maternal comfort and breastfeeding success. Many mothers lack adequate knowledge regarding its prevention and management, which can lead to complications and early breastfeeding cessation. This pilot study aimed to evaluate the preliminary effectiveness and feasibility of a structured teaching programme designed to improve knowledge about breast engorgement among postnatal mothers. A pre-experimental one-group pre-test post-test design was used, involving seven purposively selected postnatal mothers. A structured knowledge questionnaire assessed participants' understanding before and after the intervention. Findings demonstrated improvement in knowledge scores following the STP, indicating that the teaching programme was feasible, acceptable, and effective for a small group. The pilot also confirmed the adequacy of the study tools and procedures for full-scale research. The results suggest that structured educational interventions can enhance maternal knowledge and support breastfeeding management.

INTRODUCTION

Breastfeeding is universally acknowledged to be the best method of baby nourishment and is only advised for the first six months of life (World Health Organization, 2020). Breast engorgement is one of the most prevalent problems that many mothers have in the early postpartum phase. Breast engorgement usually happens when the breasts get too full as a result of insufficient milk evacuation, increased vascularity, or milk stasis. If the



illness is not treated right away, it may cause pain, swelling, difficulties latching, and eventually consequences, including mastitis (Mohrbacher, 2016).

Appropriate maternal education and prompt medical advice are essential for the prevention and treatment of breast engorgement. Regretfully, research shows that many moms lack sufficient knowledge regarding early breastfeeding problems, including engorgement (Brockway et al., 2017). It has been demonstrated that postnatal education, particularly when provided through structured instructional approaches, improves breastfeeding results, boosts maternal confidence, and encourages early detection of problems (Kamel et al., 2019).

Planned educational interventions called Structured Teaching Programs (STPs) are intended to provide accurate and systematic information. STPs have been successful in raising new mothers' awareness and promoting healthy lifestyle choices in clinical settings. Given the significance of mother education, assessing the efficacy of such educational initiatives becomes crucial, especially in environments with limited resources where breastfeeding difficulties are common.

This pilot study was conducted to assess the feasibility, acceptability, and preliminary effectiveness of an STP on breast engorgement among postnatal mothers. Pilot studies play a critical role in identifying potential challenges in design, sampling, tools, or implementation before conducting full-scale research (Polit & Beck, 2021). The findings from this pilot will guide refinements in methodology and tools for the main study.

BACKGROUND

Breast engorgement typically occurs within the initial days after childbirth and can greatly affect breastfeeding. When breast tissue becomes engorged, it becomes more challenging for infants to latch on properly, resulting in reduced milk removal and increased congestion—a cycle that worsens the situation (Kent et al., 2015). If not addressed, engorgement can lead to plugged ducts or mastitis, which pose risks for both the mother and the infant.

Despite its common occurrence, many mothers are unaware of the early signs of engorgement, including firmness, swelling, warmth in the breasts, or discomfort. Effective management strategies involve frequent breastfeeding, ensuring proper positioning, performing breast massage, applying warm compresses, and expressing milk when needed (Wambach & Riordan, 2016). By equipping mothers with organized and accurate information during the postnatal phase, we can potentially decrease the frequency and severity of engorgement and support ongoing breastfeeding.



Cover Page



Educational interventions, particularly STPs, are effective tools for enhancing maternal knowledge. They provide consistent, clear, and evidence-based information, empowering mothers to recognize symptoms early and manage them effectively (Ogbonna et al., 2020). Implementing such programs within hospital settings ensures that mothers receive timely education before discharge.

NEED FOR THE STUDY

Breastfeeding is widely recognized as the best source of nutrition and immunity for infants, yet many mothers experience breastfeeding-related problems, particularly in rural and low-resource settings. Among these challenges, breast engorgement remains one of the most frequent and preventable issues. If not identified early, it can cause pain, difficulty in breastfeeding, reduced milk transfer, and complications such as mastitis and breast abscess.

Studies show that breastfeeding difficulties continue to be common across India. Sushan (2024) reported that nearly one-fourth of rural mothers in Jammu and Kashmir faced lactational problems, with 8.6% experiencing breast engorgement. Similarly, Rachana (2020) found that breastfeeding problems occurred in 31.7% of infants within the first month of life in rural Karnataka, often leading to early introduction of top feeds and reduced exclusive breastfeeding.

Despite the importance of proper breastfeeding practices, many postnatal mothers lack adequate knowledge on preventing and managing breast engorgement. Simple measures—such as timely breastfeeding, proper latch, and milk expression—can significantly reduce discomfort and prevent complications, but awareness remains low.

Therefore, a STP is essential to enhance mothers' understanding and confidence in managing breast engorgement. Evaluating the effectiveness of such a programme will help ensure that postnatal mothers receive timely, practical, and evidence-based guidance, supporting successful breastfeeding and better maternal-infant health outcomes.

OBJECTIVES

1. To assess the knowledge level regarding breast engorgement among postnatal mothers in selected hospitals.
2. To evaluate the effectiveness of a structured teaching program on knowledge regarding breast engorgement among postnatal mothers in selected hospitals.
3. To determine the association between postnatal mothers' knowledge regarding breast engorgement and selected socio-demographic variables.



Cover Page



Null Hypotheses

H₀₁: There will be no significant difference between pre-test and post-test knowledge scores regarding breast engorgement among postnatal mothers after the Structured Teaching Programme.

H₀₂: There will be no significant association between selected socio-demographic variables and post-test knowledge regarding breast engorgement among postnatal mothers.

RESEARCH METHODOLOGY

Research Approach: A quantitative research approach was used to assess and compare knowledge levels among postnatal mothers.

Research Design: A pre-experimental one-group pretest–posttest design was adopted to evaluate the effectiveness of the STP.

Research Setting: The study was conducted in Sanjay Gandhi Hospital, Munshiganj, Amethi, Uttar Pradesh, a 300-bed multispecialty hospital providing comprehensive maternal care.

Target Population: Postnatal mothers formed the target population in the selected hospital.

Accessible Population: Postnatal mothers available in the postnatal ward during the data collection period at Sanjay Gandhi Hospital.

Sample: Mothers who fulfilled the inclusion criteria and consented to participate.

Sampling Technique: Purposive sampling

Sample Size: 7 postnatal mothers

Criteria for Sample Selection

Inclusion Criteria

- Postnatal mothers who are willing to participate in the pilot study.
- Mothers who are available during the data collection period.
- Postnatal mothers who delivered either at home or in a healthcare institution.

Exclusion Criteria

- Mothers who do not consent to participate.
- Mothers who are unable to read or understand Hindi/English.
- Mothers who are absent during the data collection period.



Cover Page



Research Variables

Independent Variable: Structured Teaching Programme (STP) on breast engorgement.

Dependent Variable: Knowledge score of postnatal mothers regarding breast engorgement.

Data Collection Tool

Development and Description of Tools: The tool used in the pilot study consisted of two sections:

Section I: Socio-demographic Data

Included variables such as age, religion, education, occupation, monthly family income, parity, initiation of breastfeeding, breastfeeding frequency, breastfeeding duration, and source of information.

Section II: Structured Knowledge Questionnaire

A self-administered, structured questionnaire developed to assess knowledge regarding:

- Meaning and definition of breast engorgement
- Causes and risk factors
- Signs and symptoms
- Prevention strategies
- Management techniques

The questionnaire was used for: Pre-test, administration of STP, and post-test

Reliability

For the pilot study, reliability was established using the test-retest method. The same questionnaire was administered twice (pre-test and post-test) among the pilot sample ($n = 7$). The tool was found to be reliable for further use in the main study.

Validity

The content validity of the tool was ensured by obtaining expert opinions from: Obstetrics and Gynecology specialists, medical-surgical nursing expert, and nursing faculty members. Suggestions from experts were incorporated, and the tool was judged to be appropriate for assessing knowledge on breast engorgement.

Ethical Considerations

- Ethical permission was obtained prior to conducting the pilot study.
- Written informed consent was taken from all seven participants.
- Confidentiality of the information was strictly maintained.
- Participation was voluntary, and mothers were allowed to withdraw at any stage without penalty.



Cover Page



- The study involved no physical or psychological risk to participants.

RESULT

Table 1: Frequency and Percentage Distribution of Socio-Demographic Variables (n = 7)

Variable	Category	Frequency	%
1. Age (years)	19–23	2	28.6
	23–28	3	42.9
	28–33	1	14.3
	33–38	1	14.3
2. Religion	Hindu	5	71.4
	Muslim	1	14.3
	Christian	1	14.3
	Others	0	0
3. Educational Status	Non-literate	1	14.3
	Primary Education	2	28.6
	Secondary Education	3	42.9
	Higher Secondary	1	14.3
	Graduation & Above	0	0
4. Occupational Status	Government employee	1	14.3
	Private employee	2	28.6
	Homemaker	3	42.9
	Business	1	14.3
	Daily wage worker	0	0
5. Monthly Family Income (₹)	3000 – 5000	1	14.3
	5001 – 8000	2	28.6
	8001 – 10000	2	28.6
	Above 10000	2	28.6
6. Parity	Primipara	4	57.1
	Multipara	3	42.9
7. Initiation of Breastfeeding (hours)	Below 1 hour	3	42.9
	1.1 – 2 hours	2	28.6
	2.1 – 4 hours	1	14.3
	Above 4 hours	1	14.3
8. Frequency of Breastfeeding	Every 1 hour	2	28.6
	Every 2 hours	4	57.1
	Every 3 hours	1	14.3
	Every 4 hours	0	0
9. Duration of Breastfeeding	< 5 minutes	1	14.3
	5.1 – 10 minutes	3	42.9
	> 10 minutes	3	42.9
10. Source of Information	Mass media	2	28.6
	Health-care personnel	4	57.1



Cover Page



	Family/neighbours	1	14.3
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The pilot study included seven postnatal mothers. Table 1 shows that the most participants (42.9%) were aged 23–28 years, and the majority were Hindu (71.4%). Regarding educational status, 42.9% had completed secondary education, while 42.9% were homemakers. Family income was fairly distributed, with 28.6% each in the ranges of ₹5001–8000, ₹8001–10000, and above ₹10,000. More than half of the mothers were primiparous (57.1%), and 42.9% initiated breastfeeding within 1 hour of delivery. 57.1% breastfed every 2 hours, and most mothers (42.9%) breastfed for 5–10 minutes or more than 10 minutes per session. The majority of participants (57.1%) reported health-care personnel as their primary source of information regarding breast engorgement. Overall, the sample represents a diverse group in terms of age, education, occupation, parity, and breastfeeding practices, which is important for evaluating the effectiveness of the structured teaching programme.

Table 2: Pre-Test and Post-Test Knowledge Scores on Breast Engorgement (n = 7)

Knowledge Scores	Mean	Standard Deviation (SD)	Minimum	Maximum
Pre-Test	11.57	2.01	9	14
Post-Test	23.71	2.56	20	27

Table 2 presents the pre-test and post-test knowledge scores of the seven postnatal mothers regarding breast engorgement. The pre-test mean score was 11.57 (SD = 2.01), indicating that the participants had low to moderate knowledge about the causes, signs, prevention, and management of breast engorgement before the intervention. After implementing the Structured Teaching Programme, the post-test mean score increased substantially to 23.71 (SD = 2.56), reflecting a marked improvement in knowledge. The minimum and maximum scores also rose from 9–14 in the pre-test to 20–27 in the post-test, demonstrating that all participants benefited from the teaching intervention. This increase in scores indicates that the structured teaching programme was effective in enhancing the participants' understanding of breast engorgement, supporting better self-care practices during the postpartum period.

Table 3: Paired t-Test Analysis of Pre-Test and Post-Test Scores (n = 7)

Variable	Mean Difference	SD of Difference	t-value	df	p-value
Pre-test vs Post-test	12.14	1.79	17.98	6	<0.001

The paired t-test showed a statistically significant increase in knowledge scores after the structured teaching programme ($t = 17.98$, $p < 0.001$). This indicates that the intervention was highly effective in enhancing the knowledge of postnatal mothers regarding breast engorgement.



Cover Page



DISCUSSION

The pilot study aimed to evaluate the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding breast engorgement among postnatal mothers ($n = 7$). The socio-demographic data indicated a diverse sample in terms of age, education, parity, and breastfeeding practices, with the majority being 23–28 years old, Hindu, and homemakers. Most mothers had initiated breastfeeding within the first hour and reported health-care personnel as the primary source of information about breastfeeding, highlighting the role of professional guidance in maternal education.

The pre-test results revealed that participants had limited knowledge regarding breast engorgement, with a mean score of 11.57. This aligns with previous studies indicating that many postnatal mothers lack adequate awareness of breast care, which can contribute to complications such as pain, delayed lactation, and mastitis (Sushan, 2024; Rachana, 2020).

After the implementation of the STP, the post-test mean knowledge score increased to 23.71, reflecting a significant improvement in understanding. The paired t-test confirmed the statistical significance of this improvement ($t = 17.98$, $p < 0.001$). This finding demonstrates that structured, focused educational interventions can effectively enhance maternal knowledge regarding breast engorgement and its management.

The results support the premise of Orem's Self-Care Deficit Nursing Theory, which emphasizes that nurses play a critical role in enabling clients to perform self-care when they are unable to meet their own needs. By providing structured guidance, the study facilitated mothers' ability to manage breast engorgement independently, potentially improving breastfeeding outcomes and maternal confidence.

CONCLUSION

The pilot study concluded that the Structured Teaching Programme was highly effective in improving the knowledge of postnatal mothers regarding breast engorgement. Participants demonstrated a significant increase in post-test scores compared to pre-test scores, indicating that educational interventions can play a pivotal role in promoting maternal self-care and preventing breastfeeding complications. This pilot study underscores the importance of incorporating structured educational programmes in postnatal care to enhance maternal knowledge, empower mothers, and support successful breastfeeding practices. Future studies with larger sample sizes are recommended to generalize these findings and assess long-term impacts on maternal and neonatal health outcomes.



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Cover Page



A REVIEW ON THE IMPACT OF VIDEO-ASSISTED TEACHING ON KNOWLEDGE REGARDING THE PREVENTION AND MANAGEMENT OF GESTATIONAL DIABETES MELLITUS AMONG ANTENATAL MOTHERS

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ABSTRACT

Gestational diabetes mellitus (GDM) has emerged as a major public health problem due to its growing prevalence and its association with significant maternal, fetal, and long-term metabolic complications. Evidence consistently shows that limited awareness and inadequate knowledge among antenatal mothers contribute to delayed diagnosis and poor glycaemic management. With the increasing emphasis on health education, video-assisted teaching (VAT) has gained prominence as an effective, interactive, and accessible educational approach. This review synthesizes current literature on the burden of GDM, knowledge gaps among antenatal mothers, and the effectiveness of VAT in improving awareness and promoting preventive practices. Existing studies indicate that VAT significantly enhances knowledge scores and supports positive behavioral changes, making it a valuable tool in maternal health promotion.

Background

GDM is becoming an increasing public health concern worldwide, particularly in Southeast Asia and India. Its rising prevalence is linked to lifestyle changes, urbanization, genetic predisposition, and inadequate awareness among antenatal mothers. Poor knowledge often leads to delayed screening, ineffective management, and increased risks of complications such as preeclampsia, macrosomia, neonatal hypoglycemia, and long-term metabolic disorders. effective health education is essential to improving maternal understanding and encouraging



Cover Page



timely preventive practices. Video-assisted teaching (VAT) has emerged as a powerful educational tool, offering visual and auditory learning that enhances comprehension, retention, and motivation. Evidence shows VAT significantly improves knowledge among antenatal mothers, making it a valuable intervention for GDM prevention and management.

Aim: to assess the effectiveness of video-assisted teaching on the knowledge regarding prevention and management of gestational diabetes mellitus among antenatal mothers.

Method: A quantitative, pre-experimental one-group pre-test post-test research design will be used. Antenatal mothers will be selected through purposive sampling from an antenatal clinic. A structured knowledge questionnaire will be administered as a pre-test, followed by a video-assisted teaching session on gestational diabetes mellitus. After the intervention, a post-test will be conducted to measure changes in knowledge. Data will be analyzed using descriptive and inferential statistics, including means, standard deviation, paired t-tests, and chi-square tests.

Expected outcome

The study is expected to demonstrate a significant improvement in the knowledge scores of antenatal mothers after receiving video-assisted teaching. Enhanced awareness is likely to promote better screening practices, timely detection, lifestyle modification, and overall improved maternal and fetal outcomes.

KEYWORD: Antenatal mothers, gestational diabetes mellitus, knowledge, management, prevention, video-assisted teaching

INTRODUCTION

Gestational diabetes mellitus (GDM) is defined as glucose intolerance first recognized during pregnancy. It arises from insulin resistance triggered by placental hormones and exacerbated by insufficient β -cell compensation. Globally, gdm affects 5–25.5% of pregnancies, with the highest burden observed in south-east asian countries. India, with its rapidly increasing diabetes prevalence, urban lifestyle transitions, and genetic predisposition, is experiencing a worrying rise in gdm incidence.

Uncontrolled gdm increases the risk of preeclampsia, caesarean delivery, macrosomia, birth trauma, neonatal hypoglycemia, and long-term metabolic disorders in both mother and child. Despite its severity, research shows consistently low awareness of gdm among antenatal mothers, emphasizing the need for effective health education strategies.



Cover Page



VAT is an innovative educational approach that combines visual and auditory elements to simplify complex health concepts. VAT has been shown to significantly improve comprehension, retention, and motivation among learners, making it especially useful in maternal healthcare education.

Need for the study

Gestational diabetes mellitus (gdm) is a growing public health concern globally and in india. A pan-india prospective study by fogs and dipsi (2021) reported that nearly one-third of pregnant women are diagnosed with gdm in the first trimester, and over one-quarter have a history of previous fetal loss, highlighting the seriousness of the condition. Gdm is associated with significant maternal and neonatal complications and increases the long-term risk of type 2 diabetes mellitus for both mother and child.

Despite routine antenatal services, many mothers have inadequate knowledge regarding GDM risk factors, symptoms, screening, and preventive practices. Limited awareness contributes to delayed diagnosis, poor lifestyle adherence, and preventable complications. Traditional health education methods may not be sufficient, especially for mothers with low literacy.

Video-assisted teaching (VAT) offers an engaging, standardized, and easy-to-understand educational approach that enhances comprehension and retention. With growing access to digital media, VAT is a practical tool for strengthening maternal knowledge.

Therefore, the present study is justified as it aims to evaluate the effectiveness of VAT in improving antenatal mothers' knowledge regarding the prevention and management of GDM. The results may help integrate digital education strategies into routine antenatal care and contribute to better maternal and fetal outcomes.

Conceptual framework

Based on Wiedenbach's helping art of clinical nursing theory

Central purpose: the purpose of this framework is to show how VAT acts as an educational input that transforms antenatal mothers' baseline knowledge into improved understanding of GDM using a system-based input–process–output approach.

Prescriptive components: provide a structured VAT program on GDM, use clear, culturally appropriate visuals, ensure uniform delivery of information, conduct pre-test and post-test assessments, and use feedback to refine future teaching sessions.

Realities:

Agent: researcher



Cover Page



Recipient: antenatal mothers

Goal: to systematically explain how inputs (baseline characteristics), processed through VAT (throughput), lead to improved knowledge (output) and help evaluate the effectiveness of the teaching intervention.

Means: Video-Assisted Teaching (VAT)

Expected outcomes: Enhanced readiness to adopt healthy practices.

OBJECTIVES

General objective

To compare the effectiveness of video-assisted teaching among antenatal mothers in selected hospitals.

Specific objectives

- To assess the knowledge of antenatal mothers through a pre-test regarding the prevention and management of gestational diabetes mellitus.
- To assess the effectiveness of video-assisted teaching regarding the prevention and management of gestational diabetes mellitus.
- To assess the knowledge of antenatal mothers through a post-test regarding the prevention and management of gestational diabetes mellitus.
- To find the association between pre-test and post-test knowledge scores with selected demographic variables of antenatal mothers on prevention and management of gestational diabetes mellitus.

HYPOTHESES

H₁: Antenatal mothers have inadequate knowledge regarding the prevention and management of gestational diabetes mellitus before the video-assisted teaching intervention.

H₂: There is a significant increase in the knowledge scores of antenatal mothers regarding the prevention and management of gestational diabetes mellitus after the video-assisted teaching intervention.

H₃: There is a significant difference between pre-test and post-test knowledge scores of antenatal mothers regarding the prevention and management of gestational diabetes mellitus.

OPERATIONAL DEFINITIONS

- **Gestational diabetes mellitus (GDM):** a glucose intolerance first detected during pregnancy, identified through standard antenatal screening and verified from mothers' antenatal records.
- **Impact:** the measurable change in knowledge scores of antenatal mothers before and after the video-assisted teaching intervention.



Cover Page



- **Intervention:** a VAT program containing audiovisual information on GDM prevention and management, delivered once during data collection.
- **Knowledge:** The level of understanding antenatal mothers have about GDM, assessed through a structured questionnaire and categorized as inadequate, moderate, or adequate.
- **Management:** The recommended lifestyle and clinical practices for controlling GDM, assessed through related items in the knowledge questionnaire.
- **Prevention:** Strategies that help reduce gdm risk-such as a healthy diet, exercise, and early screening, measured through specific questionnaire items.
- **Video-Assisted Teaching (VAT):** A digital educational video used as the teaching tool to improve mothers' knowledge on GDM prevention and management.

MATERIALS AND METHODS

Research design: Pre-experimental design with one group pre-test and post-test design

Setting: The study will be conducted at selected community health centres in Amethi District.

Population: Antenatal mothers between the 2nd and 3rd trimester who are not taking treatment for gestational diabetes mellitus.

Sample size: 100 antenatal mothers between 2nd and 3rd trimester in rural areas in amethi (n= 100) (effect size d=0.7, α =0.05, power=0.80). Adjusted for 10% dropout: 36 per group → total of 72 participants.

The sample size was calculated a priori using G*power (t-tests—means: difference between two independent means). For a two-tailed test with α = 0.05, power = 80% and an expected standardized effect size (Cohen's d) of 0.7, the required sample is 32 participants per group (total 64). Allowing for an anticipated 10% attrition, the final sample size increased to 36 participants per group, making a total of 72 participants.

Sampling technique: Purposive sampling followed by random allocation to the antenatal mothers group.

Sample selection criteria

Inclusion criteria:

1. Antenatal others of selected community health centres at Amethi.
2. Antenatal mothers who are willing to participate in the study.

Exclusion criteria:

1. Antenatal mothers who are not willing to participate in the study.
2. Antenatal mothers who are terminally ill.



Cover Page



Development and Description of the Tools

The tool to collect data from the selected samples consists of three sections such as-

Section I: Demographic Data

Demographic variables include such as age, education, religion, occupation, socioeconomic status, type of family, and family history of gestational diabetes mellitus.

Section II: Self-Structured Questionnaire to Assess the Knowledge Regarding Gestational Diabetes Mellitus and Its Prevention

A structured questionnaire on gestational diabetes mellitus and its prevention **consists** of an introduction to gestational diabetes mellitus, the incidence of gestational diabetes mellitus, causes, effects, and prevention of gestational diabetes mellitus.

Section III: Video-Assisted Teaching Program On Gestational Diabetes Mellitus and Its Prevention

The teaching program includes a definition of gestational diabetes mellitus, prevalence of gestational diabetes mellitus, signs and symptoms of gestational diabetes mellitus, risk factors of gestational diabetes mellitus, diagnostic evaluation of gestational diabetes mellitus, management of gestational diabetes mellitus, and prevention of gestational diabetes mellitus.

Data collection procedure

- Self-administered questionnaire
- Pre-test
- Video-assisted teaching program
- Post-test

Data analysis

Descriptive statistics: percentage, mean, and standard deviation

Inferential statistics:

- Paired t-test (within groups)
- Chi-square (demographic associations)
- Significance level: $p < 0.05$

Ethical considerations

- Approval from institutional ethics committee



- Informed consent
- Voluntary participation and confidentiality
- Option to withdraw at any time
- Minimal risk intervention

EXPECTED OUTCOMES

- Antenatal mothers will show improved knowledge about GDM after video- assisted teaching.
- Post-test score will be significantly higher compared to pre-test scores.
- VAT will be proven an effective method for educating antenatal mothers about gestational diabetes mellitus.

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Cover Page



A PILOT STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING ON JUNK FOOD AWARENESS AMONG ADOLESCENTS

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ABSTRACT

Background: Adolescence is a sensitive growth phase where increasing junk food consumption heightens the risk of obesity and other lifestyle disorders. Limited awareness among adolescents reinforces the need for targeted health education. This study evaluated the effectiveness of a Structured Teaching Programme (STP) on knowledge regarding the health hazards of junk foods among adolescents in a selected school at Sultanpur, Uttar Pradesh.

Aim: To assess the effectiveness of a Structured Teaching Programme in improving adolescents' knowledge about the health hazards of junk foods.

Methods: A pre-experimental one-group pre-test-post-test design was adopted with 60 adolescents selected through convenience sampling. A structured questionnaire assessed knowledge before and after the STP, which was delivered using audiovisual aids. The post-test was conducted seven days later. Analysis was done using descriptive statistics and a paired t-test.

Results: Students had inadequate baseline knowledge (mean = 10.2), which improved substantially in the post-test (mean = 18.6). The paired t-value of 12.45 ($p < 0.05$) confirmed a significant effect of the STP.

Conclusion: The Structured Teaching Programme effectively enhanced adolescents' knowledge of junk food-related health hazards. School-based educational interventions play an important role in promoting healthy dietary habits.

KEYWORDS

Adolescents, Health Hazards, Junk Food, Nutrition Education, Pre-experimental Study.



Cover Page



INTRODUCTION

Adolescence is a crucial stage of growth marked by significant physical, mental, and social changes. During this period, food habits often shift toward easily available and highly palatable junk foods such as chips, burgers, sugary beverages, and packaged snacks. Frequent consumption of these foods increases the risk of obesity, diabetes, hypertension, and future cardiovascular problems. However, awareness regarding these health effects is still limited among adolescents. Educational interventions, such as a Structured Teaching Programme (STP), can play an important role in improving knowledge and promoting healthier dietary habits.

OBJECTIVES

1. To administer a structured teaching programme on the health hazards of junk foods.
2. To assess the post-test knowledge level after implementation of the teaching programme.
3. To determine the effectiveness of the structured teaching programme by comparing pre- and post-test knowledge scores.
4. To find the association between post-test knowledge scores and selected demographic variables (age, gender, class, parental education, etc).

RESEARCH METHODOLOGY

Research Design: A pre-experimental, one-group, pre-test-post-test design was adopted. This design was appropriate because the pilot study's purpose was to test feasibility rather than compare intervention and control groups (Polit & Beck, 2021).

Study Setting: The pilot study was conducted in a school in Sultanpur, Uttar Pradesh.

Sample and sampling technique: The study included a sample of six students, selected through convenience sampling. This method was chosen based on the accessibility and availability of participants during the study period. Although the sample size is small, it allowed for an initial assessment of the effectiveness of the Structured Teaching Programme (STP) and helped generate preliminary insights that can guide future research with larger and more diverse populations.

Sampling Criteria

Inclusion criteria:

1. Those who are willing to participate in the study.
2. Those are available at the time of data collection.
3. Adolescents who can read and write English or Hindi



Cover Page



Exclusion criteria:

1. Those who are not willing to participate in the study.
2. Those who have prior knowledge regarding the study.
3. Those who are absent at the time of study.

Description of Tool: A structured knowledge questionnaire consisting of multiple-choice questions related to junk food, its ingredients, and associated health hazards.

Part I: Consisted of 9 items related to socio-demographic variables as age in years, gender, religion, permanent residence, presently residing at, monthly family income, previous exposure to information, source of information on the effect of junk food, and do you consume junk food.

Part II: The Structured knowledge questionnaire consisted of 30 multiple-choice questions on knowledge regarding the effect of junk food.

Ethical Considerations

- Informed consent was obtained from participants and their guardians.
- Confidentiality and anonymity were maintained.
- The participants were free to withdraw at any stage.

Intervention: The STP included: introduction to junk food, definition of junk food, Disadvantages of junk food, Impact of junk food on the health of adolescents, teaching methods included interactive discussions, charts, and real-life examples, with a duration of 45 minutes.

Data Collection Procedure:

- Administration of the pretest questionnaire.
- Conduct of the Structured Teaching Program.
- Administration of a post-test after seven days to measure knowledge retention.

Data Analysis: Frequency and percentage for analysis of demographic data; mean percentage and standard deviation will be used for assessing the level of knowledge.

RESULT

The findings revealed that in the pre-test, most students had inadequate knowledge regarding the health hazards of junk foods. After the teaching intervention, the post-test scores showed a marked improvement.

- Mean pre-test score: 10.2



Cover Page



- Mean post-test score: 18.6
- Paired t-value: 12.45 ($p < 0.05$), indicating a statistically significant improvement.

Thus, the structured teaching programme was found to be effective in improving the adolescents' knowledge.

DISCUSSION

The results are consistent with previous studies indicating that educational interventions significantly improve adolescents' awareness of nutrition and healthy dietary practices. The study reinforces the role of school-based health education as a powerful medium for behavior modification. Regular health education sessions can help reduce junk food consumption and promote healthy eating habits among young students.

NURSING IMPLICATIONS

Nursing Education: Integrate health education on nutrition and junk food hazards into the school health curriculum.

Nursing Practice: School health nurses can organize regular health awareness sessions.

Nursing Research: Further studies can be conducted using larger samples and experimental designs.

Nursing Administration: Support policies for implementing regular nutrition education programmes in schools.

RECOMMENDATIONS

- Conduct similar studies with larger sample sizes and control groups.
- Extend the programme to other schools and rural areas.
- Use multimedia and peer education to strengthen awareness.
- Encourage collaboration between health and education departments for sustainable school health programmes.

CONCLUSION

The study concluded that the structured teaching programme was highly effective in improving the knowledge of adolescents regarding the health hazards of junk foods. Continuous education and reinforcement through school-based interventions are recommended to sustain healthy eating practices.

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Cover Page



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Cover Page



A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAM ON KNOWLEDGE REGARDING NOSOCOMIAL INFECTION AMONG CLIENTS IN DISTRICT HOSPITAL, SULTANPUR, UTTAR PRADESH

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ABSTRACT

Background of study: 'Nosocomial' or 'Healthcare-associated infections' (HCAI) appear in a patient under medical care in the hospital or other health care facility, which were absent at the time of admission. These infections can occur during health care delivery for other diseases and even after the discharge of the patients. Frequently prevalent infections include central line-associated bloodstream infections, catheter-associated urinary tract infections, surgical site infections, and ventilator-associated pneumonia.

Aim: The aim of the study was the subjective assessment of the knowledge level of 60 clients on Nosocomial infection.

Methods: A Quantitative research approach was adopted for the present study. Pre-experimental one-group pretest-posttest design samples were selected by using a non-probability purposive sampling technique. The study was conducted at the Autonomous State Medical College and Hospital, Sultanpur, Uttar Pradesh, among nosocomial infections, and the data were analyzed and interpreted based on descriptive and inferential statistics.

Results: The result reveals that in context majority of clients age group above 20 years (83.3%), regarding gender majority of clients 100% females, regarding religion majority of clients 85% Hindu, regarding education status majority of clients 33.3% had secondary education, majority of occupational status of clients 86.6% housewife, majority of clients 86.6% belongs to joint family, majority of clients 90% had no previous knowledge and majority



Cover Page



of clients 78.3% are vegetarian. The level of knowledge among the client's majority of them 66.6% belongs to adequate and 33.3% belongs to moderate knowledge. The study reveals that there is no association with other variables like age, gender, religion, education, occupation, previous knowledge, dietary pattern frequency, with both pre-test and post-test knowledge scores of clients.

KEY WORDS: Client, Knowledge, Nosocomial Infection, Structured Teaching Programme

INTRODUCTION

Nosocomial infections are also referred to as healthcare-associated infections (HAI), are infections acquired during the process of receiving health care that were not present during the time of admission. They may occur in different areas of health care delivery. Such as in hospitals, long-term care facilities, and ambulatory settings, and may also appear after discharge. HAIs also include occupational infections that may affect staff. Infection occurs when pathogens spread to a susceptible host. In modern health care, invasive procedures and surgery, indwelling medical devices, and prosthetic devices are associated with these infections ^[1]. This is an infection that first appears between 48 hours and 4 days after a patient is admitted to a hospital or other health care facility ^[2].

Nosocomial infections occur worldwide and affect both developed and resource-limited countries, posing a significant burden both for patients and for public health. In industrialized countries, nosocomial infections occur in 2-18% of hospitalized patients, with the rates being up to 54% in intensive care units (ICUs) and are highest in surgical and burns ICUs and lowest in coronary care units ^[3]. Frequently prevalent infections include central line-associated bloodstream infections, catheter-associated urinary tract infections, surgical site infections, and ventilator-associated pneumonia. Nosocomial pathogens include bacteria, viruses, and fungal parasites.

PROBLEM STATEMENT

Nosocomial infections continue to be a major public health concern, contributing to increased morbidity, prolonged hospital stays, and greater healthcare costs. Despite ongoing efforts to improve infection control practices, many hospital clients remain unaware of the causes, modes of transmission, and preventive measures related to hospital-acquired infections. Limited knowledge among clients can hinder adherence to infection-prevention practices and increase the risk of cross-infection within healthcare settings.

In the District Hospital, Sultanpur, Uttar Pradesh, observations and preliminary interactions with clients indicated gaps in awareness and understanding of nosocomial infections. Structured teaching programs have been



Cover Page



shown to improve patient knowledge and promote safer health behaviors. However, systematic evaluation of such educational interventions among hospital clients in this setting is lacking. Therefore, the present study seeks to evaluate the effectiveness of a structured teaching program in enhancing knowledge regarding nosocomial infections among clients in the District Hospital, Sultanpur, Uttar Pradesh.

OBJECTIVES OF THE STUDY

- To assess the knowledge regarding nosocomial infection among clients in The Autonomous State Medical College and Hospital, Sultanpur.
- To assess the difference between pre- and post-test knowledge regarding nosocomial infection among clients in The Autonomous State Medical College and Hospital, Sultanpur.
- To find out the association between knowledge scores regarding nosocomial infection among clients with the selected demographic variable

HYPOTHESIS

- H1 - There is a significant difference in the pre-test and post-test level of knowledge regarding nosocomial infection among the clients admitted in the Autonomous State Medical College and Hospital, Sultanpur, U.P.
- H2 -There is a significant association of post-level of knowledge regarding nosocomial infection among clients with selected demographic variables.

METHODOLOGY

Research approach and Design: A quantitative research approach was used for this current study.

The design adopted for this study is a pre-experimental design with one group pre-test and post-test.

Research setting: The setting for this study is the post-surgical ward of The Autonomous State Medical College and Hospital, Sultanpur, U.P.

Population: This study population comprises all patients admitted to the hospital at Sultanpur, U.P.

Target population: Clients who are between the age group of 20-60 years admitted to the Autonomous State Medical College and Hospital, Sultanpur, U.P.

Accessible population: Clients who are admitted to the post-surgical ward in The Autonomous State Medical College and Hospital, Sultanpur, U.P.



Cover Page



Sample: In this study clients between the age group of 20-60 years admitted to the post-surgical ward of the Autonomous State Medical College and Hospital, Sultanpur, who fulfilled the sample selection criteria had been chosen as a sample for the study.

Sample technique: In this study, the purposive non-random sampling technique will be used for the clients who are admitted to the Autonomous State Medical College and Hospital, Sultanpur, U.P.

Sample size: In this study, the sample size is 60.

Sample size calculation [G*Power]

Effect size(d) = 0.5

$\alpha = 0.05$

(Power) $1 - \beta = 0.95$

(n) = 54

Drop out rate = 10%

$54 \times 10/100 = 5.4$

$54 + 6 = 60$

CRITERIA FOR SAMPLE SELECTION:

Inclusion criteria:

- Clients who expressed willingness to participate in the study.
- Female clients are included.
- Clients admitted to the post-surgical ward in The Autonomous State Medical College and Hospital at Sultanpur, U.P.
- Clients in the age group between 20 and 60 years.

Exclusion criteria:

- Clients who are not available at the time of study.
- Clients who are critically ill or unconscious.

Development and description of the tool:

After an extensive review of literature and discussion with the experts, a self-structured questionnaire related to nosocomial infection was prepared.

The tool consists of 2 sections covering the following areas:



Cover Page



Section A: the demographic variables as the best instrument to assess and collect the data from the respondents of the study. in this study, demographic variables are age, gender, religion, education status, occupation status, family types, previous knowledge, and dietary pattern.

Section B: The instrument used for this was a self-structured questionnaire prepared for assessing the knowledge of clients regarding nosocomial infection.

Plan data collection and a brief about the intervention

- Permission will be obtained from the concerned hospital.
- The nature and purpose of the study will be to explain the knowledge regarding nosocomial infection.
- Informed consent will be obtained from participants.
- Data collection will be done in the time period.
- Assess the effectiveness of the structured teaching program on knowledge regarding nosocomial infection.

Data Analysis

Descriptive analysis: Percentage distribution, mean, median, range, standard deviation was used to analysis demographic variables.

Inferential analysis: Chi square test was used to assess the association between the pre- test knowledge regarding improvement of nosocomial infections at selected demographic variables. Paired "t"-test was used to assess the effectiveness of pre-test and post-test level of knowledge regarding nosocomial infection among clients.

Ethical considerations

1. The study was accepted by research committee.
2. Formal permission was obtained from the Principal of Autonomus state medical college and hospital sultanpur.
3. After explaining the purpose of the study and about the confidentiality, informed consent was obtained from the subjects.
4. There were no ethical issues aroused during the study period.

RESULTS

A pre experimental one group pre-test –post-test design with quantitative approach was used in the present study. The data collected were edited, tabulated, analyzed, interpreted, and findings were presented in the form of tables and diagrams represented under the following headings.



Cover Page



Section A: Description of demographic variables.

Section B: Self-structured questionnaires.

Table: Frequency and percentage distribution of demographic variables (n=60)		
Demographic variables	Frequency	%
Age in years		
a) 20-30	50	83.3%
b) 31-40	10	16.6%
c) 41-50	0	0%
d) 51-60	0	0%
Gender		
a) Male	00	0%
b) Female	60	100%
Religion		
a) Hindu	51	85%
b) Muslim	9	15%
c) Others	0	
Education status		
a) Primary	16	26.6%
b) Secondary	20	33.3%
c) Graduate	13	21.6%
d) Diploma	8	13.3%
e) Illiterate	3	5%
Occupation status		
a) Employed	4	6.6%
b) Unemployed	2	3.3%
c) Housewife	52	86.6%
d) Daily Wagers	2	3.3%
Family type		
a) Joint Family	52	86.6%
b) Nuclear Family	8	13.3%
Previous knowledge of STP		
a) Yes	6	10%
b) No	54	90%
Dietary pattern		
a) Vegetarian	47	78.3%
b) Non Vegetarian	13	21.6%



Cover Page



Table 2: Frequency and Percentage of Pretest & Posttest Knowledge Score (n=60)					
Level of Knowledge	Score	Pre-test		Post-test	
		F	%	F	%
Inadequate	<33	37	61.6	0	0
Moderate	33-66	20	33.3	20	33.3
Adequate	>66	3	5	40	66.6
Total		60	100	60	100

Table 2 presents the distribution of participants according to their pre-test and post-test knowledge scores regarding nosocomial infection. During the pre-test, the majority of participants, 37 (61.6%), demonstrated inadequate knowledge (<33). A considerable proportion, 20 (33.3%), had moderate knowledge, while only 3 (5%) showed adequate knowledge (>66). Following the structured teaching program, there was a significant improvement in knowledge levels. In the post-test, none of the participants remained in the inadequate category. The percentage of mothers with moderate knowledge remained the same (33.3%), while those with adequate knowledge increased substantially to 40 (66.6%). Overall, the results indicate a marked enhancement in the knowledge levels of participants after the intervention, reflecting the effectiveness of the structured teaching program.

Table 3: Effectiveness of planned teaching programme on nosocomial infection (n=60)			
Level of Knowledge	Mean	SD	t-value
Pre-test	8.38	4.95	14.31
Post-test	15.00	3.80	

Table 3 presents the comparison of pre-test and post-test knowledge scores on nosocomial infection among the 60 participants. The mean pre-test knowledge score was 8.38 ± 4.95 , indicating low baseline awareness. Following the structured teaching programme, the mean post-test score increased to 15.00 ± 3.80 , demonstrating a marked improvement in knowledge. A paired t-test was performed to assess the effectiveness of the intervention. The calculated t-value of 14.31 indicates a statistically significant difference between pre-test and post-test scores. This confirms that the structured teaching programme was highly effective in improving the participants' knowledge regarding nosocomial infections.



Cover Page



DISCUSSION

The present study aimed to evaluate the effectiveness of a structured teaching programme (STP) on knowledge regarding nosocomial infections among clients at The Autonomous State Medical College and Hospital, Sultanpur, Uttar Pradesh. A sample of 60 clients was assessed using a pretest–posttest design to determine changes in knowledge following the intervention.

The pre-test findings revealed that a majority of the clients had inadequate knowledge (61.6%), while only 5% demonstrated adequate knowledge before the intervention. This indicates a substantial knowledge gap about hospital-acquired infections, their causes, modes of transmission, and preventive measures. These findings align with earlier studies: Carolan et al. (2012) reported that inadequate knowledge among patients significantly increases the risk of infection-related complications. Shrivastava et al. (2013) emphasized that lack of awareness among clients contributes to higher rates of preventable infections. Thus, the baseline knowledge in this study supports the need for structured educational interventions.

After administration of the STP, the post-test findings showed a marked improvement in knowledge levels. Adequate knowledge increased from 5% (pre-test) to 66.6% (post-test). The mean knowledge score increased from 8.38 to 15.00, and the calculated t-value of 14.31 indicated that the improvement was highly significant. These results demonstrate that the educational intervention was effective in enhancing clients' understanding of nosocomial infections. The findings are consistent with Kavitha & Joseph (2021), who reported a significant improvement in post-intervention knowledge among pregnant women after a structured teaching program. Tuffnell et al. (2008) noted that patient education significantly reduces infection risk by improving awareness and adherence to hygiene practices. Therefore, the STP proved to be a powerful tool for improving client knowledge.

NURSING IMPLICATIONS

Nursing Practice

- Nurses should have adequate knowledge of nosocomial infections and educate clients on prevention.
- Clinical nurses must follow and promote infection control practices.
- Regular health education sessions should be conducted for clients.

Nursing Education

- Nurse educators should emphasize infection prevention in teaching.



Cover Page



- Workshops and seminars should be arranged for students and clients to strengthen awareness.

Nursing Administration

- Administrators should support programs that enhance client and staff knowledge of nosocomial infections.
- In-service education should be provided, ensuring adequate manpower and resources for infection control.

Nursing Research

- Findings encourage further research to develop effective educational tools and protocols.
- Nursing students should be motivated to participate in infection-related research activities.

RECOMMENDATIONS

1. Conduct regular health education sessions on nosocomial infection for clients.
2. Provide periodic infection-control training for nursing staff.
3. Develop and display simple IEC materials in clinical areas.
4. Strengthen and enforce hospital infection-control policies.
5. Conduct further studies with larger samples and varied settings.

CONCLUSION

The study concludes that the structured teaching program on nosocomial infection was effective in enhancing the knowledge of clients at The Autonomous State Medical College and Hospital, Sultanpur. The findings demonstrated a significant improvement in post-test knowledge scores compared to pre-test scores, indicating the positive impact of the educational intervention. Analysis of the association between pre-test knowledge and selected demographic variables revealed that only one variable—type of family—showed a significant association with knowledge levels. Other demographic characteristics such as age ($\chi^2 = 2.93$; table value = 12.59), gender ($\chi^2 = 0$; table value = 5.99), religion ($\chi^2 = 0.4$; table value = 9.49), educational status ($\chi^2 = 5.01$; table value = 15.5), occupation ($\chi^2 = 5.9$; table value = 12.59), previous knowledge ($\chi^2 = 0.97$; table value = 5.99), and dietary pattern ($\chi^2 = 0.22$; table value = 5.99) did not show a statistically significant association with pre-test knowledge. Overall, the structured teaching program proved to be an effective strategy to improve client awareness regarding nosocomial infections. Strengthening educational interventions within hospital settings can play a key role in promoting infection prevention practices and reducing hospital-acquired infections.

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Cover Page



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Cover Page



EFFECTIVENESS OF PLANNED TEACHING ON MOTHERS' KNOWLEDGE IN DIARRHEA MANAGEMENT: STUDY PROTOCOL

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ABSTRACT

Background: Diarrhea continues to be a major cause of morbidity and mortality among under-five children, particularly in developing countries. Many diarrheal episodes are preventable through simple measures such as proper hygiene, safe drinking water, exclusive breastfeeding, and timely administration of ORS and zinc. However, inadequate maternal knowledge, poor hygiene practices, misconceptions, and delayed treatment often contribute to complications and increased disease burden. A planned teaching program—being a structured educational intervention—can enhance mothers' understanding and promote correct preventive and management practices. Assessing its effectiveness is crucial to improving child health outcomes and reducing the impact of diarrheal diseases.

Aim: To evaluate the effectiveness of a planned teaching program in improving mothers' knowledge and practices regarding the prevention and management of diarrhea among under-five children.

Methods: A pre-experimental one-group pre-test post-test design was used. Mothers of under-five children were selected through purposive sampling. A structured questionnaire was employed to assess their knowledge and practices. A planned teaching program on diarrhea prevention and management was delivered, followed by a post-test. Data were analyzed using descriptive statistics and paired statistical tests.

Expected Outcome: The planned teaching program is expected to significantly improve mothers' knowledge and practices, thereby enhancing their ability to prevent and manage diarrhea effectively and reducing illness among under-five children.

Keywords: Child Health Promotion, Diarrhea Prevention, Diarrhea Management, Hygiene Practices.



Cover Page



INTRODUCTION

Diarrhea is a critical public health crisis and one of the leading causes of morbidity and mortality among children, particularly in developing countries. Despite its preventability, diarrhea remains a formidable challenge due to inadequate hygiene, unsafe drinking water, poor sanitation, and a lack of awareness among caregivers.

Implementing planned teaching is a powerful educational strategy that provides mothers with essential information to effectively enhance their knowledge and promote appropriate prevention and management practices. It is imperative to evaluate the effectiveness of these interventions to fortify community health measures and decisively improve child health outcomes related to diarrhea.

In India, the situation is dire. A 2018 report reveals that approximately 28,000 children under the age of five die from diarrhea every year in Uttar Pradesh alone. On a global scale, the World Health Organization (WHO) estimates that around 1.7 billion cases of pediatric diarrhea occur annually, which significantly contributes to child mortality, with the most severe consequences experienced in low- and middle-income countries.

NEED FOR THE STUDY

Diarrhea remains one of the leading causes of morbidity and mortality among under-five children, particularly in developing countries where poor sanitation, unsafe drinking water, and limited health awareness are prevalent. Mothers, as primary caregivers, play a vital role in preventing and managing childhood diarrhea; however, many lack adequate knowledge and practical skills to address the condition effectively. Improper practices, such as delayed initiation of Oral Rehydration Solution (ORS), discontinuation of breastfeeding, and neglect of hygiene measures, often exacerbate the condition, resulting in preventable complications and deaths.

Several studies highlight the critical need for educational interventions. For instance, Pravin Gupta (2021) conducted a quantitative descriptive study among 200 mothers in two urban communities of New Delhi (Taimoor Nagar and Srinivas Puri). Using a 15-item structured knowledge questionnaire (reliability $r = 0.76$) and a 12-item Likert attitude scale (reliability $r = 0.82$), the study assessed mothers' knowledge, attitudes, and practices regarding diarrhea prevention and management, revealing significant gaps in awareness and practice.

Similarly, Rahul Panwar (2023) adopted a quasi-experimental, non-randomized control group design among 60 mothers in selected pediatric hospitals in Jaipur, Rajasthan. Using purposive (non-probability) sampling, the study demonstrated that structured educational interventions could effectively enhance maternal knowledge and practices related to diarrhea prevention and management.

These findings underscore the urgent need to implement structured teaching programs targeting mothers of



Cover Page



under-five children to improve knowledge, correct misconceptions, and promote evidence-based practices, ultimately reducing the burden of diarrheal diseases and associated childhood mortality.

OBJECTIVES

1. To assess the knowledge and practices of mothers regarding the prevention and management of diarrhea among under-five children at a selected hospital.
2. To evaluate the effectiveness of a planned teaching program in improving mothers' knowledge and practices regarding diarrhea prevention and management.
3. To determine the association between mothers' pre- and post-test knowledge and practices and selected socio-demographic variables.

HYPOTHESIS

H₀: There will be no significant improvement in knowledge and practices regarding diarrhea prevention and management among mothers of under-five children after the intervention.

H₁: There will be a significant improvement in mothers' knowledge and practices regarding diarrhea prevention and management among mothers of under-five children after the intervention.

OPERATIONAL DEFINITIONS

Effectiveness: Refers to the degree to which the planned teaching program improves mothers' knowledge regarding the prevention and management of diarrhea in under-five children, measured by the difference between pre-test and post-test scores.

Planned Teaching Program (PTP): A structured educational intervention designed to provide mothers with information on diarrhea, including its causes, signs and symptoms, preventive measures, proper use of Oral Rehydration Solution (ORS), continued breastfeeding, hygiene practices, and home-based management strategies. The program is delivered using interactive lectures, visual aids, demonstrations, and discussions.

Mothers: Women who have children aged below five years and are primary caregivers responsible for the child's health and hygiene.

Knowledge: The awareness, understanding, and information that mothers have regarding diarrhea, including its causes, preventive measures, symptoms, and home management strategies. It is measured using a structured questionnaire.

Diarrhea Management: Refers to the set of practices undertaken by mothers to prevent dehydration, provide nutrition, and manage diarrhea at home, including administration of ORS, maintaining hygiene, and seeking



Cover Page



timely medical care when necessary.

Under-Five Children: Children aged from birth to 59 months, who are at risk of developing diarrhea and its complications.

RESEARCH METHODOLOGY

Research Approach: A quantitative research approach.

Research Design: One-group pretest and posttest design.

Research Setting: The study will be conducted in the selected hospital area, specifically targeting mothers visiting the hospital with children under five years of age.

Population: Mothers of under-five children.

Sample: Mothers of under-five children attending the selected hospital area who meet the inclusion criteria.

Sample size determination: For this study, the sample size was determined using G*Power software to ensure adequate statistical power. A paired t-test was planned to compare pre-test and post-test knowledge scores among mothers regarding diarrhea prevention and management. The effect size was set at 0.4, representing a small-to-medium expected effect of the planned teaching intervention. With a significance level (α) of 0.05 and a desired power of 80% ($1-\beta = 0.80$), the calculation indicated that a minimum of 52 participants would be required. To account for potential attrition of 10%, the sample size was adjusted, resulting in a total of 58–60 participants. This sample size is considered sufficient to detect meaningful changes in mothers' knowledge and practices following the educational intervention.

Sampling Technique: Purposive sampling (non-probability) technique will be used to select participants who fulfill the inclusion criteria.

Criteria for Sample Selection

Inclusion Criteria:

- Mothers with at least one child aged 0–5 years.
- Residents of District Hospital, Amethi.
- Available and willing to participate in the planned teaching session and post-test follow-up.

Exclusion Criteria:

- Mothers whose child is critically ill or hospitalized.
- Mothers with communication barriers that prevent them from providing valid responses.



Cover Page



Description of Tools: The data collection tool consists of two sections:

Section A: Demographic variables including age, gender, family type, religion, and family income.

Section B: A structured knowledge questionnaire and practice checklist designed to assess mothers' knowledge and practices regarding diarrhea prevention and management.

Data Analysis:

Descriptive Statistics: Frequency, percentage, mean, and standard deviation were used to summarize demographic data and knowledge/practice scores.

Inferential Statistics: A paired t-test was applied to compare pre-test and post-test scores to evaluate the effectiveness of the planned teaching program.

ETHICAL CONSIDERATIONS

Ethical approval and community permission were obtained before the study. Written informed consent was secured from all participating mothers. Confidentiality and anonymity were maintained throughout the study. Participation was voluntary, and participants were allowed to withdraw at any stage without any consequences.

EXPECTED OUTCOMES

The expected outcome of this study is that the planned teaching program will significantly improve mothers' knowledge and practical skills regarding the prevention and management of diarrhea among under-five children in the district hospital. Through structured education, mothers are anticipated to develop a clear understanding of the causes, risk factors, and preventive measures, including proper hygiene, safe feeding practices, and early recognition of symptoms. This enhanced knowledge is expected to lead to improved caregiving practices, such as timely administration of oral rehydration solutions, appropriate dietary management, and prompt seeking of healthcare. Ultimately, the intervention aims to reduce the incidence, severity, and complications of diarrhea in young children, thereby promoting child health and decreasing preventable morbidity and mortality.

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Cover Page



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