



Cover Page



A COMPARITIVE KAP STUDY ON THE IMPACT OF NUTRITION INTERVENTION AMONG ADOLESCENT GIRLS OF ORPHANAGES ACROSS HYDERABAD

¹Ms. Jenifer E Joanna, ²Mrs. Urooja Birjis Fatima and ³Dr.Meena Kumari Patangay

¹MSc. Student and Researcher in Clinical Nutrition and Dietetics, ²Project Guide and ²Assistant Professor, ³Head of the Department
^{1,2&3} Department of Nutrition, St. Ann's College for women
Hyderabad, Telangana, India

Abstract

Orphaned children are at a higher risk of malnutrition. This study was aimed to explore Knowledge Attitude Practices towards nutrition and lifestyle patterns among adolescent girls of orphanages across Hyderabad. Six orphanages were chosen across Hyderabad and 150 adolescent girls aged 12-18 years participated in this study. Because of the Covid-19 pandemic, the research was conducted partially offline and partially online. Anthropometric measurements (Height, Weight, BMI) were taken and Pretest questionnaires were given offline to assess their present Knowledge, Attitude and Practices regarding nutrition and lifestyle patterns. Later, intervention as Nutrition Education Programme on (balanced diet, food groups, my plate, physical activity and importance of menstrual hygiene) was given for 4 weeks through Zoom video sessions. After the intervention, the posttest questionnaire was shared online via mails, WhatsApp using google forms keeping in mind the covid pandemic. The data obtained from pre and post intervention questionnaires were compared and analysis of data was done using SPSS Package. At a level of 0.005, the results revealed a significant shift in the adolescent's nutritional understanding attitude toward a balanced meal, my plate, and physical activity. Their KAP was significantly enhanced as a result of the nutrition education programme. However, practicing them was not in their hands as they are at the mercy of eating what is provided by the Orphanage. The study was concluded that use of multimedia presentations, posters had a good impact on adolescent learning which showed a change in lifestyle.

Keywords: Adolescent, Attitude, BalancedDiet, Knowledge, Nutrition, Orphans.

Introduction

India has the most adolescents of any country, with 243 million aged 10 to 19 years. [1]

In Asia alone, there are 71.4 million orphans. A youngster loses a parent every 2.2 seconds somewhere on the earth. It is estimated that there will be 400 million orphaned children in the world by 2015. As of 2009, 31 million children in India have become orphaned owing to various circumstances. The term "orphanage" refers to a residential institution dedicated to the care and education of orphans, or children whose parents have died or are otherwise unable to provide for them. Orphans are the most vulnerable and neglected members of society, and they are more likely to suffer from malnutrition. [2]

Nutritional intake and behaviours are known to be influenced by a high level of nutritional knowledge. Furthermore, performing education intervention programmes might improve nutritional understanding and support healthy eating habits.[3]

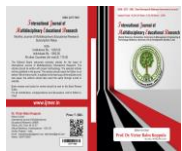
There is a need to mold a positive attitude toward healthy eating in adolescents. There is growing evidence suggesting that young children from developing countries are increasingly making unhealthy food choices especially due to a lack of knowledge and wrong perception towards healthy foods. This is mainly because presently the concept of 'food' has changed from a means of nourishment to a marker of lifestyle and a source of pleasure as portrayed by media.[4]

Following extended television exposure, key indications of disordered eating were found to be much more widespread, suggesting that this media had a deleterious influence. [5]

The prevalence of anemia among adolescent girls about 46.6% and it has been considered a public health nutrition problem. Menstrual abnormalities and inadequate diet are two major causes of anemia among adolescent girls.[6]

Menstrual hygiene refers to the personal hygiene practice during menstruation. n. Equipping adolescent girls with adequate information, and skills on menstrual hygiene and its management are seen as empowering them with the knowledge that enhances their self-esteem and academic performance. [7]

The education of adolescent girls has a long-term favourable influence on personal welfare and health, as well as economic and social growth, particularly in low-income areas. Women with a higher level of education are more likely to be healthier than women with a lower level of education. [8]



Cover Page



Adolescents should engage in at least 60 minutes of moderate- to vigorous-intensity physical activity each day, which can include play, games, sports, but also mobility (such as cycling and walking) or physical education, according to the WHO. Only one out of every five teenagers in the world are projected to reach these standards. Inactivity is common in all WHO areas, and it is more common in female adolescents than in male adolescents. Countries, nations, and communities must offer safe and conducive conditions and opportunities for physical exercise for all adolescents in order to boost activity levels. [9]

Nutrition education is one of the most successful intervention tools for changing an individual's nutritional knowledge, attitude, and behaviour. It's the first step toward better eating habits. The maintenance of appropriate health, particularly of infants, is a vital parental role in the future, and adolescent girls should be an essential target group in any nutrition education programmes. [10]

The research objectives of the study are as follows, to understand the prevailing Knowledge, Attitude, Practices regarding nutrition and lifestyle pattern. To assess the nutritional status using anthropometric measurements of the girls. To assess the impact of nutrition intervention on the nutritional status and lifestyle pattern. To compare the pre and post results after the intervention (Nutrition Education)

Furthermore, the findings of this study will be used as baseline information for further research works.

Methodology

Nutrition has a significant impact on physical and mental growth and development in early life. The current study is to understand the prevailing Knowledge, attitude and practices regarding nutrition and to assess the influence of nutrition education regarding balanced diet, food groups, my plate, physical activity and the importance of menstrual hygiene on adolescent girls (12-18) years from 6 different Orphanages across Hyderabad.

Sampling: Through purposive sampling, 150 adolescent girls aged 12-18 years were selected from six different orphanages. Adolescent girls were the dependent variable, while nutrition education was the independent variable.

Research Design: It is a community-based cross-sectional study conducted among adolescent girls living in six different orphanages across Hyderabad. These institutions provide shelter to orphans and underprivileged children. To be eligible for this study, adolescents had to be between 12 to 18 years old and be free of physical and mental disabilities. A total of 150 adolescents aged between 12 to 18 years were enrolled in this study. The study was done partially offline and online because of the Covid-19 pandemic.

Instrumentation: Data was collected by using a self-constructed KAP questionnaire. The questionnaire was prepared bilingually in English and Telugu languages. It contained 45 questions in total divided into four parts i.e., Personal profile, Knowledge, Attitude, Practices on nutrition and Menstrual Hygiene. Having 10 questions on knowledge, 10 on Attitude, 12 on Practices and 10 on Menstrual hygiene. The questionnaire included close-ended questions and open-ended questions. Multiple choice and Likert scale were used in the questionnaire. They were used to measure knowledge, attitude and practices regarding balanced diet, food groups, physical activity and menstrual hygiene among adolescent girls (12-18) years

Data collection procedure: The study was done partially offline and online. The pre-intervention phase was done offline. Firstly, the purpose of the study was explained to the adolescent girls by visiting the Orphanage then their anthropometric measurements (Height and weight) were collected and the pretest questionnaire was personally given to them and every question was read and explained in case the girls did not understand. Later, nutrition intervention and the post-intervention phase were done online. Nutrition intervention was provided through online zoom classes for 4 weeks using PowerPoint presentations, animated videos, posters. After 4 weeks of Nutrition education (balanced diet, my plate, food groups, physical activity, and menstrual hygiene) the subjects were sent a post-test questionnaire link having the same questions as the pretest questionnaire as a google form through WhatsApp/email, and the subjects were assessed to know the impact of nutrition intervention on the nutritional status and lifestyle pattern.

Data analysis: Data analysis was done by using SPSS and MS excel. The MS excel was used for the Graphical representation of the research data. SPSS 20 software was used to evaluate the paired value test for results. The data obtained from pre- and post-intervention questionnaires were compared and analysis of data was done using SPSS Package. The level of significance used for the data analysis was set at <0.05. Advance tests like Krushkal-Wallis test were also performed.

Results and Discussion

A total of 150 adolescents aged between 12 to 18 years were enrolled in this study from 6 different orphanages in Hyderabad. The respondents were aged 12-18 years, the mean age of selected sample arrived to 14 years, the mean age of selected arrived to 14 years likewise mean height arrived to 146.34 cm; Mean weight to 41.96 kg.

The KAP questionnaire has three different parts Knowledge Attitude Practices. Following are the variables under Knowledge section.



Knowledge

The variables under knowledge for pre and post intervention include questions on balanced diet, food groups, my plate.

Table 1: The table describes the Knowledge adolescent girls have regarding balanced diet before and after intervention.

			test code		
			Pre- test	Post-test	Total
What is a balanced diet?	1	Don't know	36	0	36
			24.0%	.0%	12.0%
	2	A diet with lots of fruits	41	0	41
			27.3%	.0%	13.7%
	3	A diet with lots of milk	23	0	23
			15.3%	.0%	7.7%
	4	A diet with variety of foods in adequate amounts	50	150	200
			33.3%	100.0%	66.7%
Total	Count	150	150	300	
	%	100.0%	100.0%	100.0%	

Majority of the respondents 66.7% were unaware about the term balanced diet, only 33.3% were aware in the pre assessment but after the education in the post assessment 100% were aware of what balanced diet is. In terms of balanced diet awareness is increased. Difference between pre and posttest is highly significant because errors are zero.

Figure-1 Bar Graph on Pre and post understanding of Adolescent girls on Balanced diet

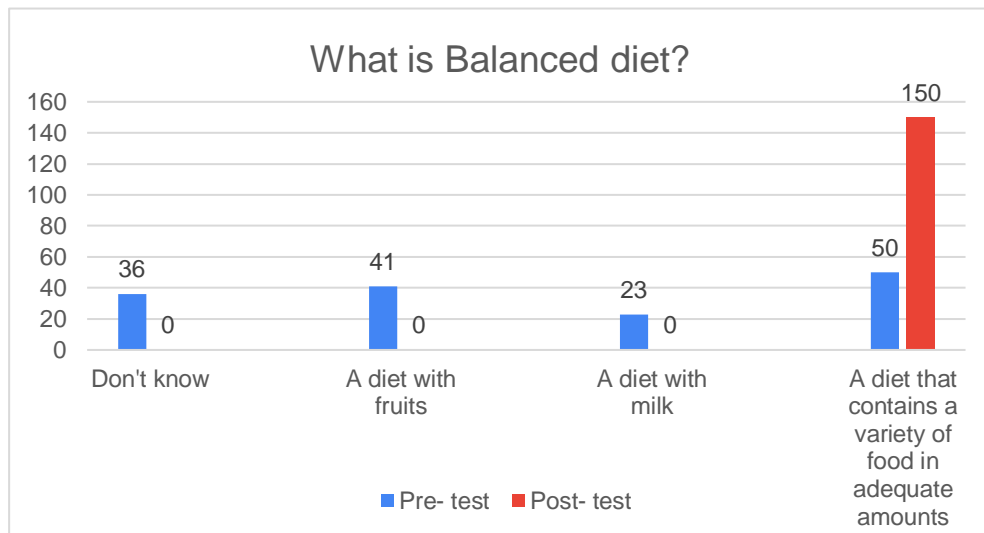




Figure 2-Bar Graph on knowledge gained on Food groups before and after intervention 36% were aware in the pre assessment, after the education in the post assessment 99.3% were aware of it. The above chi-square test shows that the difference between pre and posttest is significantly high.

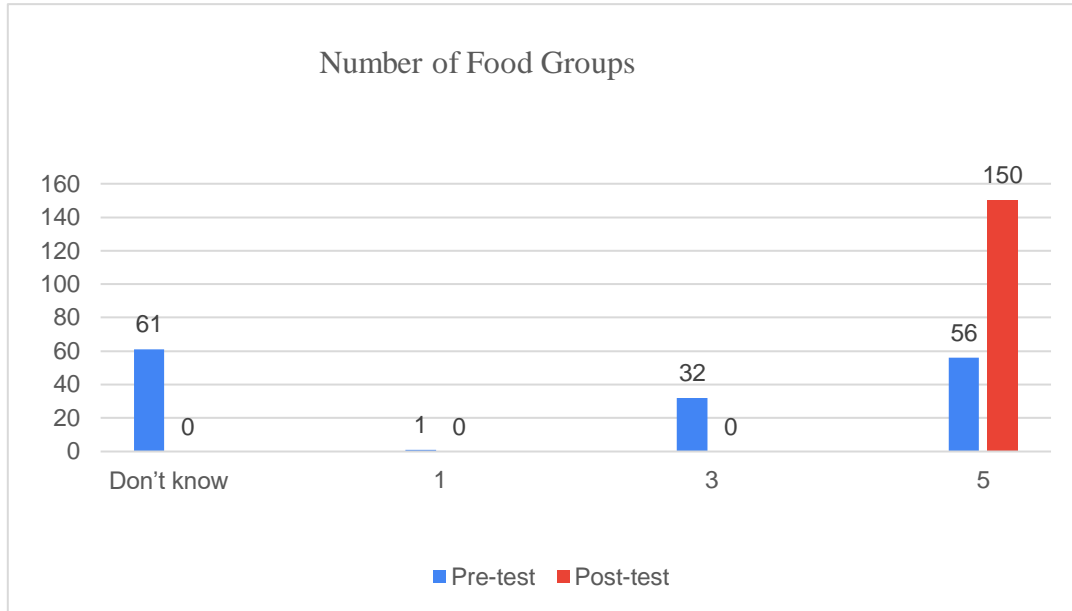
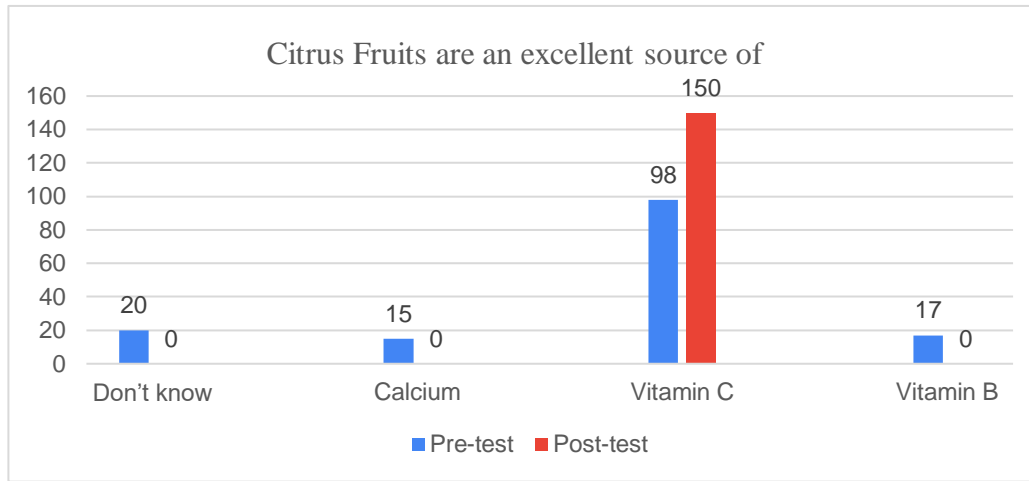


Table 2: The table describes the Knowledge adolescent girls have on how much of a plate must be fruits and vegetables

		test code		
		Pre-test	Post-test	Total
About how much of your plate should be fruits and vegetables?	1 Don't know	29	0	29
	%	19.3%	.0%	9.7%
2 One quarter		50	1	51
	%	33.3%	.7%	17.0%
3 One half		54	149	203
	%	36.0%	99.3%	67.7%
4 All of it		17	0	17
	%	11.3%	.0%	5.7%
Total	Count	150	150	300
	%	100.0%	100.0%	100.0%



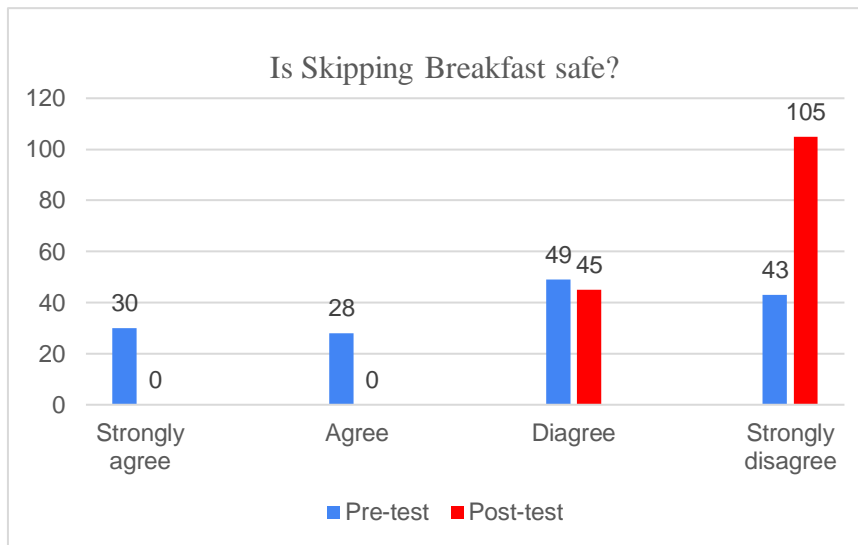
Figure-3 Bar Graph on Pre and post understanding of Citrus Fruits



Attitude

A Likert scale is a unidimensional scale that was used to collect respondents' attitudes and opinions. 1) Strongly disagree; (2) Disagree (3) Agree (4) Strongly agree.

Figure 4-Bar Graph on the attitude of adolescent girls on skipping breakfast

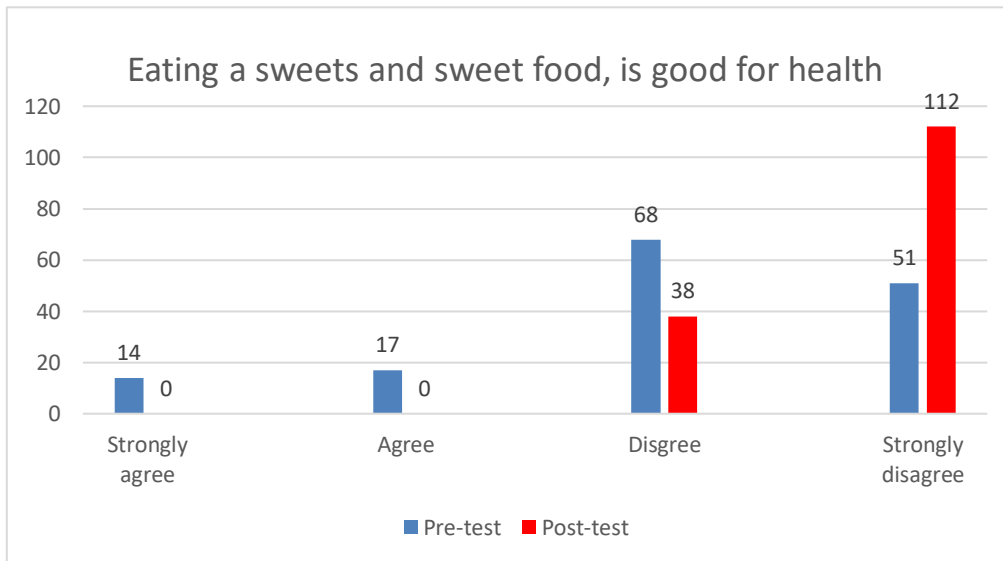
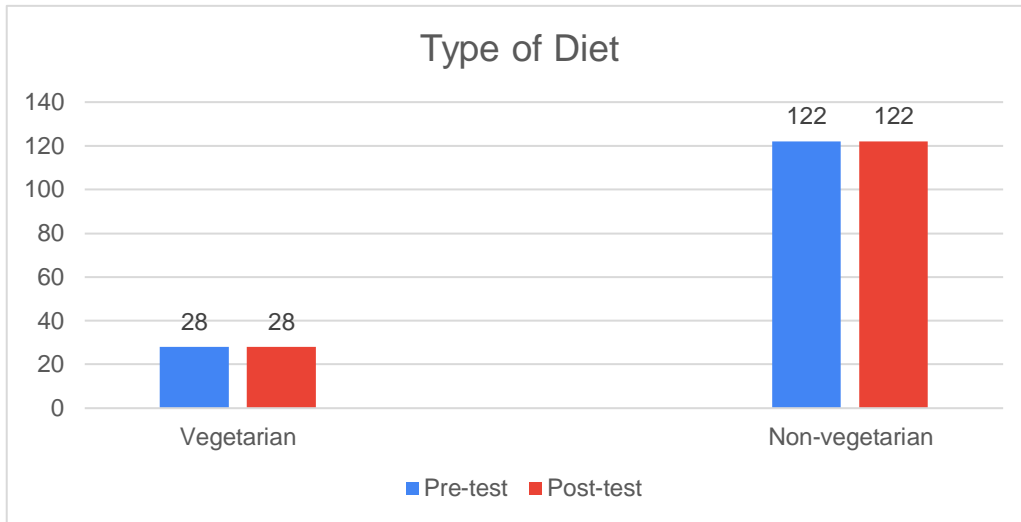


28.7% strongly disagreed that fasting/skipping breakfast is a good, safe way to lose weight, later on after intervention 70% of the subjects Strongly disagreed on the statement. Therefore, impact of strongly disagree is more after intervention.

Figure-5 Bar Graph on Pre and post understanding on eating sweets



Cover Page



34% i.e.,20 strongly disagreed that eating a lot of sugar, sweet food is good for health, later on after intervention 112 i.e., 74.7% subjects strongly disagreed in the posttest results.

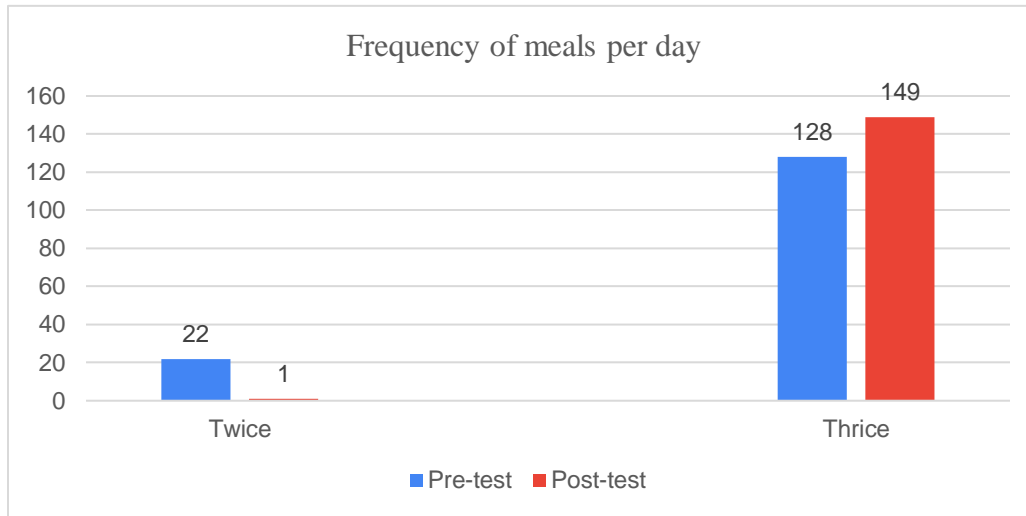
Practices

The practices regarding food and physical activity of the adolescent girls living in orphanages are mentioned below.

Figure 6- Bar Graph showing the Type of diet



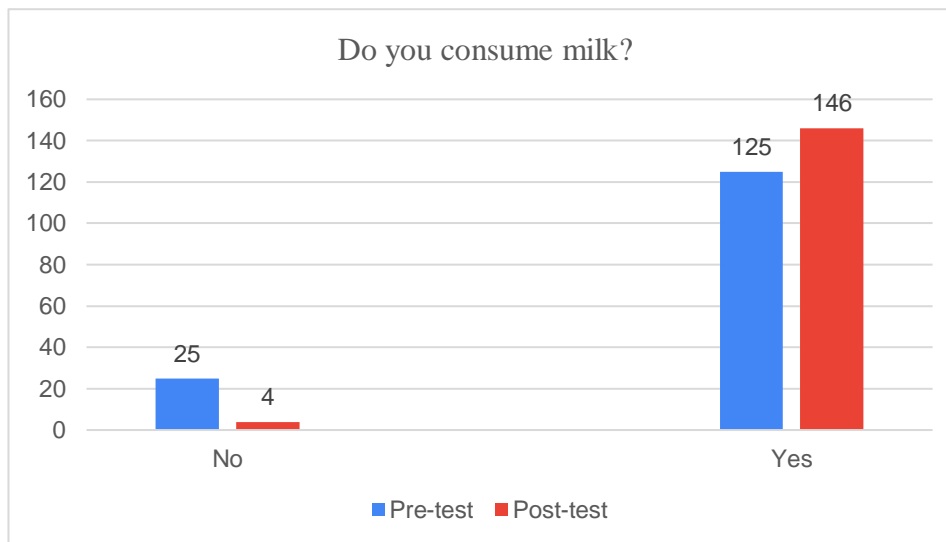
Figure 7- Bar graph shows the number of meals the girls take daily

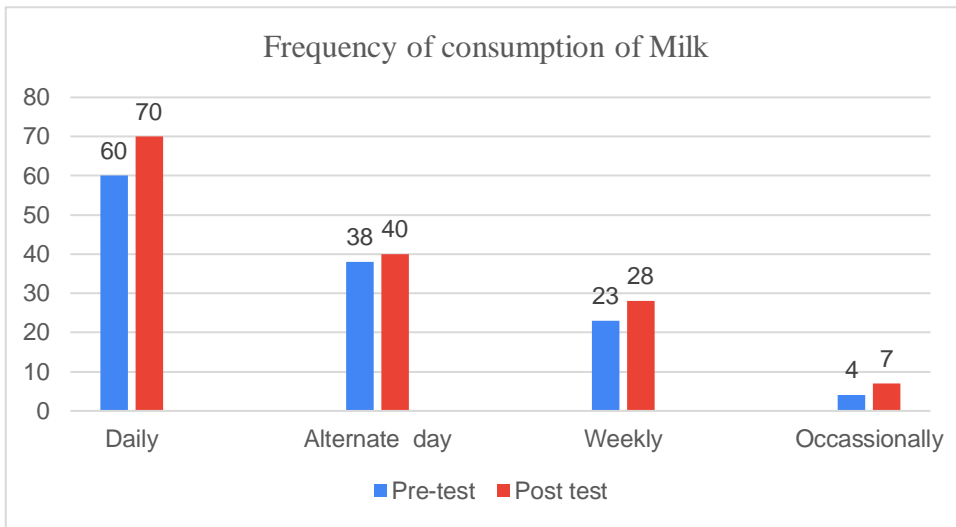


In pretest 85.3% had 3 meals per day, whereas 14.7% skipped one meal (had only 2 meals per day). After intervention 99.3% had 3 meals per day meaning, number of subjects who skipped a meal reduced to 0.7%.

Green leafy vegetable consumption showed that 19.3% did not consume, 80.7% consumed. After intervention, the subjects increased to 91.3%

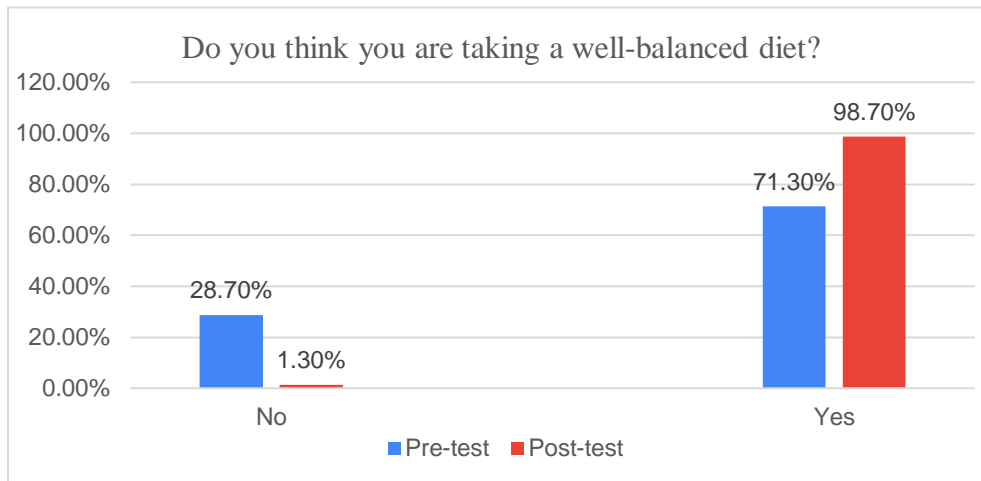
Figure-8 Bar Graph on Pre and post understanding on Consumption of Milk

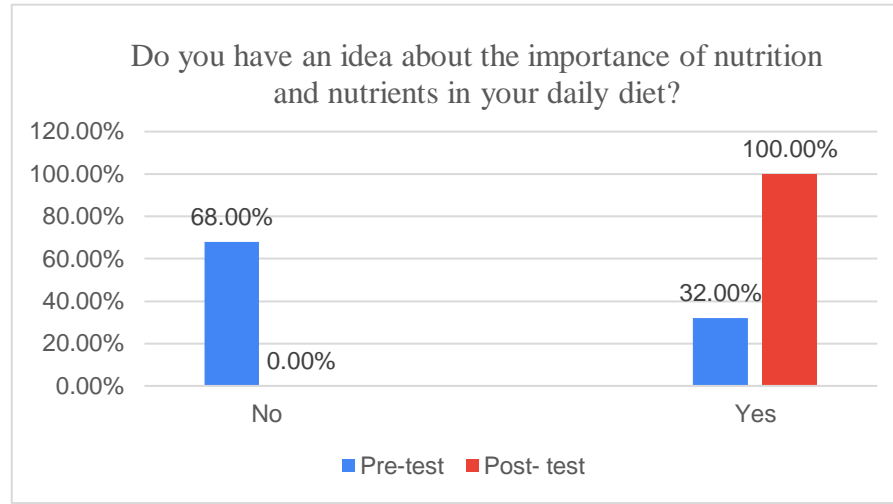




In pre-test, 48% consumed milk daily, 30.4% consumed every alternate day, 18.4% consumed weekly, whereas, 3.2% consumed occasionally. In posttest, 48.3% consumed daily, 27.6% consumed every alternate day, 19.3% consumed weekly and 4.8% consumed occasionally.

Figure 9 - The bar graph shows how many of them are taking a balanced diet





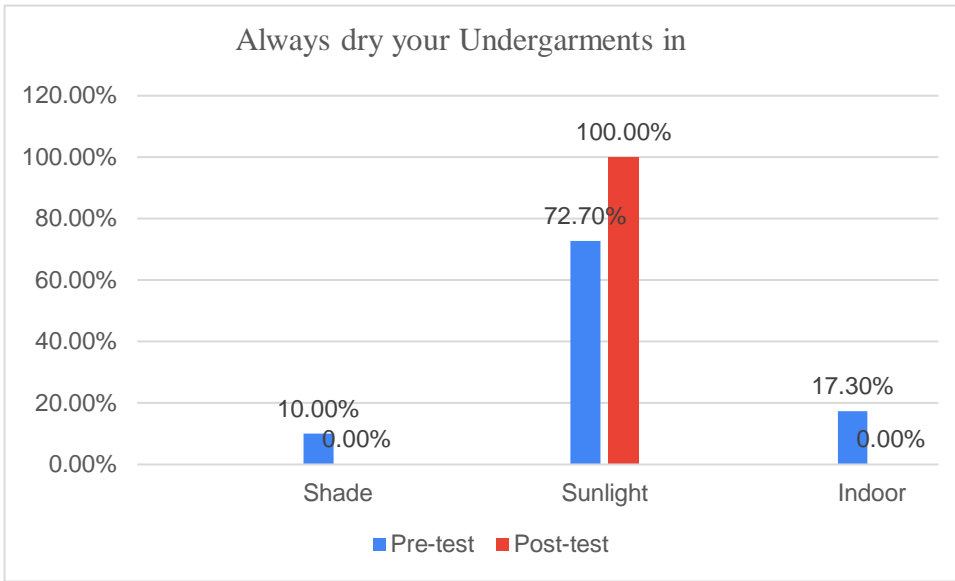
Menstrual Hygiene

		test code		
		1(Pre-test)	2 (Post-test)	Total
1. What is meant by menstruation?	No idea	46	0	46
	%	30.7%	.0%	15.3%
	2 Normal biological process	80	150	230
	%	53.3%	100.0%	76.7%
3	Female illness	16	0	16
%	10.7%	.0%	5.3%	
4	Hereditary	8	0	8
%	5.3%	.0%	2.7%	
Total Count		150	150	300
%		100.0%	100.0%	100.0%

Table 3- Table shows the percentage of adolescent girls who know what menstruation is Only 53.3% were aware in the pre assessment, after the education in the post assessment 100% were aware of what menstruation is. In terms of menstruation awareness is increased.



Figure 10- Bar graph on the menstruation practices before and after intervention



For this question, in the pretest results only 72.7% said they dried in bright sunlight, whereas after education the percentage increased to 100%.

Figure 11- Bar graph shows the disposal of pads before and after intervention

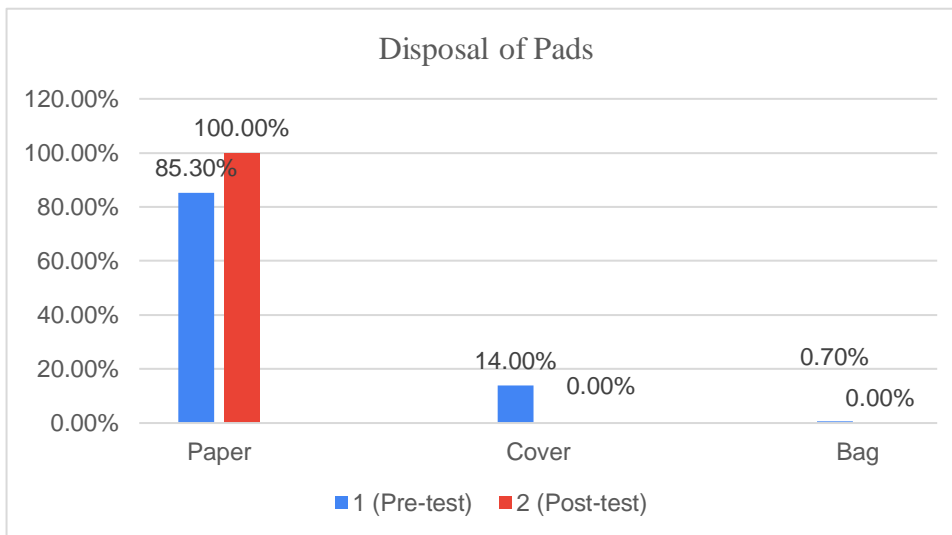
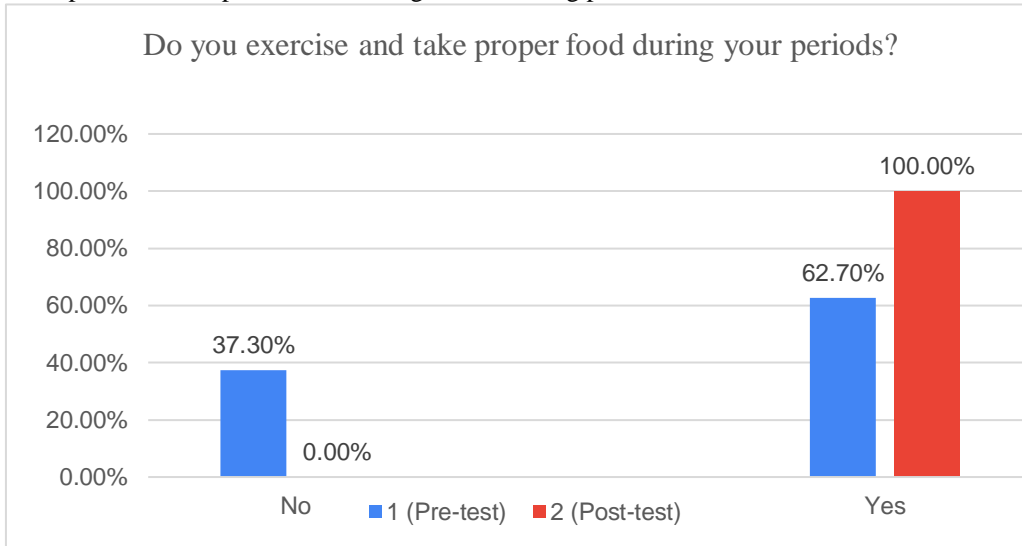




Figure-12 Bar Graph on Pre and post understanding on diet during periods



Conclusion

The results showed remarkable change in the adolescent’s nutritional knowledge attitude regarding balanced diet, my plate and physical activity at a level of 0.05. Their KAP was significantly enhanced as a result of the nutrition education programme. But practicing them is not in their hands as they are at the mercy of eating what is provided by the Orphanage. This suggests that the nutritional status of the orphans, who are considered to be nutritionally at a disadvantage, can be improved by educating them. The total respondents obtained a “good” score for their nutritional knowledge and attitude after nutrition intervention; despite that majority had poor nutritional practices. Therefore, an improvement in the learning environment related to nutrition, needs to be emphasized in orphan homes and schools. The study was concluded that use of multimedia presentations, posters had a good impact on adolescent learning which showed a change in lifestyle. Nutrition activities should be made to encourage adolescents towards healthy diet and healthy lifestyles.

Suggestions

- The study can also be further advanced by introducing any supplement (like Iron rich for anaemia) and observe the change.
- Because of the Covid-19 pandemic the research was conducted partially offline and online so the intervention could be done better offline.
- The present study can be carried out by constructing the same research in a new context, location and/or culture.

References

1. Guttapalam, Sireesha& Rajani, N & Bindu, V. (2017). Teenage girls' knowledge attitude and practices on nutrition. 491. 491-494.
2. Reddy, Surendra &Jyothula, Naresh & Kandula, Indhraj&Chintada, Ganapathi Swamy. (2018). Nutritional status and personal hygiene of children living in the orphanages of Bhubaneswar: capital city of Odisha. International Journal Of Community Medicine And Public Health. 6. 379. 10.18203/2394-6040.ijcmph20185276.
3. Syimir bin Shaziman, MohdDzulkhairiMohd Rani, Khairun Nain bin Nor Aripin, Nazefah Abdul Hamid, Wan Noraini Wan Sulaiman, Zairina A. Rahman and MohdYunus Abdullah, 2017. Assessing nutritional knowledge, attitudes and practices and BMI of adolescent residents of orphanage institutions in Selangor and Malacca. Pak. J. Nutr., 16: 406-411.
4. Kigaru, D.M.D., Loechl, C., Moleah, T. et al. Nutrition knowledge, attitude and practices among urban primary school children in Nairobi City, Kenya: a KAP study. BMC Nutr 1, 44 (2015). https://doi.org/10.1186/s40795-015-0040-8
5. Morris, A. M., & Katzman, D. K. (2003). The impact of the media on eating disorders in children and adolescents. Paediatrics& child health, 8(5), 287–289. https://doi.org/10.1093/pch/8.5.287
6. Patimah, Sitti&Royani, Ida &Mursaha, Ansar &Thaha, Abdul. (2016). Knowledge, attitude and practice of balanced diet and correlation with hypochromic microcytic anemia among adolescent school girls in maros district, South Sulawesi, Indonesia. Biomedical Research. 27. 165-171.



Cover Page



DOI: <http://ijmer.in.doi./2021/10.06.128>

7. C., Anusree& Sara, Aswathy& VCM, Faseela& Babu, Gincy&Tamrakar, Anupama. (2014). Knowledge Regarding Menstrual Hygiene among Adolescent Girls in selected school, Mangalore with a View to Develop an Information Booklet. IOSR Journal of Nursing and Health Science. 3. 55-60. 10.9790/1959-03145560.
8. Alam, Mahbub-Ul & Luby, Stephen & Halder, Amal & Islam, Khairul & Opel, Aftab &Shoab, Akm&Probir, Ghosh & Rahman, Md. Mahbubur & Mahon, Therese &Unicomb, Leanne. (2017). Menstrual hygiene management among Bangladeshi adolescent schoolgirls and risk factors affecting school absence: Results from a cross-sectional survey. BMJ Open. 7. e015508. 10.1136/bmjopen-2016-015508.
9. World Health Organisation. (2021, January 18). Adolescent and young adult health. Retrieved from the World Health Organisation website: <https://www.who.int/news-room/fact-sheets/detail/adolescents-health-risks-and-solutions>
10. Ayodele, Kolawole &Ezeokoli, Rita &Okondu, Ogechukwu. (2019). Differential Effectiveness of Lifestyle Modification and Nutrition Education in Enhancing Nutritional Knowledge and Healthy Eating Practices Among Pupils, Nigeria. Global Journal of Health Science. 11. 84. 10.5539/gjhs.v11n1p84.