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# RELATIONSHIP BETWEEN FAMILY ENVIRONMENT AND COPING RESPONSE AMONG WOMEN WITH LOW BACK PAIN

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## Abstract

**Background**: Low back pain (LBP) is one of the most prevalent **chronic pain conditions** affecting women worldwide and is increasingly recognized as a complex biological psychological and social phenomenon such as stress, coping strategies, and emotional well-being along with social influences, particularly family dynamics, play a critical role in the onset, persistence, and subjective experience of pain. **Aim:** The present study aims to explore the relationship between family environment and coping strategies among women with low back pain, examining how family dynamics influence the adoption of adaptive or maladaptive coping behaviors **Methods**: The study sample consisted of 60 women aged 30 to 55 years, divided into two groups: 30 women diagnosed with chronic low back pain duration ≥ 6 months and 30 women without LBP control group. Participants were selected using purposive sampling from physiotherapy and orthopedic clinics in Lucknow. Ensuring a diverse demographic representation. Inclusion and exclusion criteria were applied to enhance group homogeneity. The following standardized psychological tools were used for data collection: family environment scale (Moos & Moos, 1986) Coping Response Inventory Adult Form (Moos, 1988) Statistical analysis included t-tests for group comparisons and Pearson's correlation to assess the relationship between family environment and coping responses. **Results & Conclusion**: Results indicated that women with low back pain reported a more conflictual and less cohesive family environment compared to the control group. They also demonstrated greater reliance on maladaptive coping strategies such as avoidance, resignation, and emotional discharge, while using fewer problem-solving and positive reappraisal strategies The study advocates the inclusion of family-based counseling and coping-skills training as integral parts of chronic pain management programs for women.

**Keywords:** Low Back Pain, Family Environment, Coping Strategies

## INTRODUCTION

Low back pain (LBP) is a leading cause of disability worldwide, affecting nearly 80% of adults at some point in their lives (Simmonds, 1996). Among women, LBP is particularly prevalent due to biological, hormonal, and psychosocial factors. The International Association for the Study of Pain defines pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage." This definition highlights the intricate relationship between physiological and psychological processes in the perception of pain (IASP, 2020).

The biopsychosocial model of pain (Melzack & Wall, 1965; Waddell, 2002) emphasizes that pain is influenced not only by physical injury but also by emotional, behavioral, and social factors. Two such influential psychosocial factors are family environment and coping responses, both of which play essential roles in how individuals perceive and manage chronic pain.

Families that are cohesive and open in expression can offer emotional support, enhancing individuals' feelings of security and resilience. A cohesive and expressive family can offer emotional support, fostering a sense of security and resilience. Conversely, a conflicted or disorganized family environment can lead to heightened stress, poor emotional regulation, and maladaptive responses to pain (Moos & Moos, 1986). Women suffering from chronic pain often experience changes in family roles and dynamics, which may aggravate their distress and perception of pain (Cripps & Zyromski, 2009).

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Coping responses refer to the cognitive and behavioral strategies individuals employ to manage stressors such as pain (Lazarus & Folkman, 1984). Adaptive coping, including problem solving and positive reappraisal, promotes recovery and emotional stability. In contrast, maladaptive coping such as avoidance, denial, or emotional discharge can perpetuate pain and functional disability (Moos, 1988). Chronic pain sufferers often show decreased use of problem-focused coping and an increased reliance on avoidance and resignation (Jensen et al., 1991). Family support and coping strategies play a crucial role in managing chronic pain conditions. A supportive family system may encourage adaptive coping, whereas a conflicted or unsupportive family may promote maladaptive behaviors. Understanding this relationship provides valuable insight into how psychosocial factors influence pain perception and management.

Thus, the present study aims to explore the relationship between family environment and coping responses among women with chronic low back pain. It is hypothesized that women from negative family environments will exhibit higher levels of maladaptive coping responses compared to those from supportive family settings.

## METHODOLOGY:

**Objectives of the study:**

1. To examine the differences in family environment between women with low back pain and those without.
2. To explore the coping strategies used by women with low back pain in comparison to a control group.
3. To determine the role of psychosocial variables (family environment, coping,) in the experience of low back pain.
4. To examine the relationship between family environment and coping strategies in women with LBP.
5. To identify which aspects of family environment are most strongly associated with adaptive or maladaptive coping.

**Hypotheses of the study:**

1. Women with low back pain will report significantly lower levels of family cohesion, expressiveness, and support, and higher family conflict than women without LBP.
2. Women with LBP will use significantly more maladaptive coping strategies (e.g., avoidance, emotional discharge) than women without LBP.
3. There is a significant relationship between family environment and coping strategies among women with low back pain

## RESEARCH DESIGN

A comparative, cross-sectional study design was employed to assess psychosocial differences between women with and without low back pain.

**SAMPLE:**

The sample consisted of 60 women aged 30–55 years, divided into two groups: Experimental group: 30 women diagnosed with low back pain. Control group: 30 women without any history of LBP Participants were selected through purposive sampling from various hospitals and clinics in Lucknow to ensure demographic diversity.

**Inclusion Criteria**

- Females aged between 30–55 years
- For the experimental group: diagnosed with low back pain for a minimum duration of 3 months
- Willingness to participate with informed consent

**Exclusion Criteria**

- Women with chronic illnesses or neurological conditions
- History of psychiatric disorders
- Pregnant or postpartum women
- Those undergoing psychological therapy for pain

**PROCEDURE:**

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After obtaining ethical clearance and informed consent, participants were briefed about the study's purpose. The standardized tools were administered individually in a quiet setting. Data collection took approximately 30–40 minutes per participant. Confidentiality and anonymity were maintained throughout the process.

**Tools Used:**

- Family Environment Scale (FES) – *Developed by Rudolf H. Moos and Bernice S. Moos*, this tool measures family climate across several domains such as cohesion, expressiveness, and conflict.
- Coping Response Inventory – Adult Form (CRI-A) – *Developed by Rudolf H. Moos*, it evaluates various coping responses, including approach and avoidance strategies.

**DESCRIPTION OF THE TOOLS:**

**Family Environment Scale (FES)**

The Family Environment Scale (FES) was developed by Rudolf H. Moos and Bernice S. Moos in 1974. It is designed to assess the social and environmental characteristics of families, focusing on how family members interact and function as a unit. The scale consists of 90 true/false items, divided into 10 subscales across three main dimensions: Relationship (Cohesion, Expressiveness, Conflict), Personal Growth (Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, Moral-Religious Emphasis), System Maintenance (Organization, Control) Scoring: Each subscale contains 9 items. Higher scores reflect a greater presence of the specific family characteristic measured by that subscale.

**Coping Response Inventory – Adult Form (CRI-A)**

The CRI-A was developed by Rudolf H. Moos in 1988 to assess the cognitive and behavioral coping strategies individuals use in response to stressful situations. It includes 48 items, rated on a 4-point Likert scale (from "not at all" to "fairly often"), and is divided into two major coping styles: Approach Coping (Logical Analysis, Positive Reappraisal, Seeking Guidance and Support, Problem Solving), Avoidance Coping (Cognitive Avoidance, Acceptance/Resignation, Seeking Alternative Rewards, Emotional Discharge), Scoring: Each subscale has 6 items. Higher scores indicate a greater use of that particular coping strategy.

**Statistical Analysis**

Data were analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, including means, standard deviations, and frequency distributions, were calculated for both the demographic and psychosocial variables of the two groups. To test the research hypotheses and examine group differences, Independent Samples t-tests were used to compare the mean scores of family environment, coping strategies, and personality traits between women with low back pain (LBP) and the control group. Additionally, Pearson's Correlation Coefficient was applied to explore the relationships between psychosocial variables within the LBP group.

**RESULT**

Table 1: Mean and Standard Deviation of Coping Response **in Women with and Without Low Back Pain**

| Coping Response | Pain Intensity | N | Mean | Std. Deviation |
|---|---|---|---|---|
| Logical Analysis | ≥7 | 30 | 5.07 | 1.363 |
| | <7 | 30 | 8.10 | 1.155 |
| Positive Reappraisal | ≥7 | 30 | 4.37 | 1.189 |
| | <7 | 30 | 7.47 | 1.332 |

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|---|---|---|---|---|
| Seeking Guidance and Support | ≥7 | 30 | 9.30 | 1.418 |
| | <7 | 30 | 5.60 | 1.329 |
| Problem Solving | ≥7 | 30 | 5.33 | 1.322 |
| | <7 | 30 | 7.47 | 1.613 |
| Coping Avoidance | ≥7 | 30 | 4.77 | 1.165 |
| | <7 | 30 | 8.08 | 1.245 |
| Acceptance and Resignation | ≥7 | 30 | 4.33 | 1.446 |
| | <7 | 30 | 6.93 | 1.081 |
| Seeking Alternative Reward | ≥7 | 30 | 4.37 | 1.189 |
| | <7 | 30 | 7.03 | 1.377 |
| Emotional Discharge | ≥7 | 30 | 6.33 | 1.583 |
| | <7 | 30 | 6.87 | 1.042 |

Women with **lower pain intensity (<7)** displayed higher scores on **adaptive coping strategies** (Logical Analysis, Positive Reappraisal, Problem Solving). Women with **higher pain intensity (≥7)** scored higher on **Seeking Guidance and Support** and **Coping Avoidance**, indicating more maladaptive coping.

TABLE 2: MEAN AND STANDARD DEVIATION OF FAMILY ENVIRONMENT OF WOMEN WITH AND WITHOUT LOW BACK PAIN

| Variable | Pain Intensity | N | Mean | Std. Deviation |
|---|---|---|---|---|
| Family Environment | ≥7 | 30 | 54.80 | 10.294 |
| | <7 | 30 | 26.20 | 9.234 |

Women with **higher pain intensity (≥7)** reported more **distorted or conflictual family environments**, while those with **lower pain intensity (<7)** reported **more supportive and cohesive families**.

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TABLE 3: INDEPENDENT SAMPLES T-TEST FOR FAMILY ENVIRONMENT AND COPING RESPONSE

| Variable | t-value | Sig. (2-tailed) |
|---|---|---|
| Logical Analysis | -9.299 | 0.225 |
| Positive Reappraisal | -9.511 | 0.774 |
| Seeking Guidance and Support | 10.429 | 0.225 |
| Problem Solving | -5.603 | 0.774 |
| Coping Avoidance | -10.492 | 0.491 |
| Acceptance and Resignation | -7.888 | 0.116 |
| Seeking Alternative Reward | -8.031 | 0.992 |
| Emotional Discharge | -1.542 | 0.014* |
| Family Environment | 11.328 | 0.984 |

The t-test indicates statistical differences in coping responses and family environment based on pain intensity. Emotional Discharge showed a significant difference ($p < 0.05$), suggesting women with higher pain intensity use more emotional venting.

TABLE 4: PEARSON CORRELATION BETWEEN FAMILY ENVIRONMENT AND COPING RESPONSES

| Variables | Logical Analysis | Positive Reappraisal | Seeking Guidance | Problem Solving | Coping Avoidance | Acceptance & Resignation | Seeking Alternative Reward | Emotional Discharge |
|---|---|---|---|---|---|---|---|---|
| Family Environment | -0.739** | -0.681** | 0.827** | -0.526** | -0.807** | -0.540** | -0.707** | 0.797** |

**Negative correlations** between Family Environment and adaptive coping strategies (Logical Analysis, Positive Reappraisal, Problem Solving) indicate that **dysfunctional family environments reduce effective coping**. **Positive correlations** with Seeking Guidance and Emotional Discharge suggest that women from **conflictual families rely more on external support and emotional venting**. These correlations are **statistically significant ($p < 0.01$)**, highlighting a strong relationship between family environment and coping patterns in women with low back pain.

## DISCUSSION

The present study aimed to explore the psychosocial correlates of low back pain (LBP) in women, focusing specifically on **Family Environment** and **Coping Responses**. The findings highlight the significant role of these two variables in the experience and perception of chronic pain.

Results indicated that women with high-intensity LBP reported significantly more dysfunctional family environments compared to those with low pain intensity. Dysfunctional family settings may increase stress, hinder emotional regulation, and limit social support, which in turn can exacerbate pain perception and persistence. Previous studies support this association. For instance, Nilsen et al. (2021) found that individuals with unsupportive or conflict-laden family relationships were more likely to report persistent musculoskeletal pain and functional impairment. Similarly, Bujanover et al. (2022) emphasized that family stress and poor communication significantly increased pain catastrophizing and reduced treatment efficacy in women with chronic conditions.

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Coping responses also differentiated the groups. Women with lower pain intensity relied more on adaptive coping strategies, including Logical Analysis, Positive Reappraisal, and Problem Solving, suggesting better cognitive flexibility and resilience in managing pain. In contrast, women with higher pain intensity tended to seek more guidance and support, indicating potential dependence on external assistance and lower self-efficacy in coping with chronic pain (Carpenter et al., 2023). Regarding maladaptive and emotion-focused coping, moderate use of strategies like Avoidance or Acceptance & Resignation may serve adaptive functions in certain pain populations (Eifert et al., 2022).

Pearson correlation analysis revealed significant associations between Family Environment and Coping Responses. Negative correlations were observed between dysfunctional family environments and adaptive coping strategies, while positive correlations were found with maladaptive or emotion-focused strategies such as Seeking Guidance/Support and Emotional Discharge.

## Conclusion

The study underscores the crucial role of **Family Environment** and **Coping Responses** in shaping the experience of low back pain in women. Supportive family environments and adaptive coping are associated with lower pain intensity, whereas dysfunctional family settings and reliance on less effective coping correspond with higher pain levels. Interventions should focus on enhancing family support and promoting adaptive coping strategies to improve pain management outcomes.

## Limitations

This study has several limitations. The cross-sectional design prevents causal conclusions, and the small sample size (n=60) may limit generalizability. Self-report measures could introduce response bias, though Lie Scale scores suggest minimal distortion. Future research should utilize larger, more diverse samples, longitudinal designs, and objective measures to confirm these findings.

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