Effectiveness of Structured Coping Strategies in Reducing Perceived Postpartum Stress Among Postnatal Mothers in selected settings

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ABSTRACT

Background of the study: The postpartum period brings significant changes, often causing stress and anxiety in mothers, impacting maternal health, infant development, and family dynamics. This study evaluates the effectiveness of structured coping strategies, like problem solving and social support, in reducing postpartum stress, promoting improved mental health and family well-being.

Aim: To assess the effectiveness of structured coping strategies in reducing perceived postpartum stress among postnatal mothers.

Results: The pretest and posttest results show a significant reduction in perceived postpartum stress after the intervention. Initially, only 1.67% of participants reported low stress, rising to 62.67% post-intervention. Moderate stress dropped from 68.33% to 30.66%, and high stress decreased from 30% to 6.67%. Coping strategies improved, with the problem-focused coping mean increasing from 2.0 to 4.1 and emotion-focused coping rising from 1.5 to 3.5, both showing significant improvement (t-value = 2.66, p-value = 0.005, df = 59). These findings highlight the intervention's effectiveness, emphasizing the need for enhanced support for postpartum mothers.

Conclusion: This study demonstrates that structured coping strategies effectively reduce postpartum stress, with most mothers transitioning from moderate or high to low stress post-intervention. Significant associations with demographic factors highlight the importance of personalized support. Enhanced problem- and emotion-focused coping mechanisms emphasize the need for ongoing mental health support for new mothers.

INTRODUCTION

The postpartum period is a crucial phase in a woman's life, characterized by significant physical, emotional, and psychological changes. While motherhood can bring joy, it often also leads to heightened stress, anxiety, and depressive symptoms. The World Health Organization (WHO) estimates that up to 20% of mothers experience considerable psychological distress during this time, negatively affecting both maternal and infant well-being. Contributing factors include physical recovery from childbirth, new caregiving roles, changes in family dynamics, and limited social support. Effective coping strategies are essential for managing postpartum stress, and structured approaches—such as mindfulness, cognitive-behavioural techniques, and peer support—show promise in enhancing psychological resilience. However, there is limited research specifically focused on these strategies for postpartum mothers. This study aims to evaluate their effectiveness in reducing perceived postpartum stress, providing insights for developing targeted support programs to improve maternal mental health and

inform healthcare practices for better outcomes for mothers and their families.

Objectives of the study:

1. To assess the perceived postpartum stress level among postnatal mothers pretest and to the implementation of structured coping strategies.
2. To evaluate the influence of structured coping strategies on reducing perceived postpartum stress levels among postnatal mothers after a defined intervention period.
3. To associate the relationship between demographic factors (such as age, education, and social support) and the effectiveness of structured coping strategies in reducing postpartum stress among mothers

Materials and Methods:

Study participant:

The study was conducted at Panimalar Medical College Hospital & Research Institute in Varadharajapuram, Poonamallee, Chennai, Tamil Nadu, India. A quantitative survey research approach was used to conduct the study at selected settings, Chennai. 60 samples were selected using a Convenience sampling technique. Participants were aged between 18 and 40 years and provided informed consent to be part of the research. Ethical approval for the study was obtained from the Institutional Review Board (IRB) of Panimalar Medical College Hospital & Research Institute.

Data collection tools:

A structured, self-administered questionnaire was used to collect data on perceived stress and coping strategies. The questionnaire was developed based on a review of relevant literature from national and international journals, and its validity and reliability were tested.

Methods of measurement (Scoring):

The questionnaire consisted of three sections

1. **Demographic data section:** This section gathered information on the participants' age, Educational Qualification, Occupation, Monthly Family Income, Type of Family, Place of Residence, Parity (Number of Children), Type of Delivery, Postnatal Duration (how long since delivery), Breastfeeding Status, History of Mental Health Issues, Any

Complications During Delivery, Number of Hours of Sleep (Postpartum), Partner's Involvement in Childcare. No scoring was assigned to this section.

2. **Perceived stress section:** The Perceived Stress Scale (PSS-10) assesses how individuals perceive stress in their lives through 10 items measuring unpredictability, uncontrollability, and overload. In this item 4,5,7,8 (reverse scoring and score was interpreted in terms 0 – 13 (low perceived stress), 14 – 26 (moderate perceived stress), 27 – 40 (high perceived stress). Valued for its simplicity and versatility, the PSS provides insights into psychological stressors, aiding in the development of effective interventions and support systems in clinical and community settings.

3. **Coping strategies section:** This assessment consists of two sections that evaluate coping strategies individuals employ when faced with stress. The first section focuses on **Problem-Focused Coping**, which involves active strategies aimed at addressing the source of stress, while the second section emphasizes, contains seven items assessing how often individuals engage in strategies aimed at solving problems directly. Each item in this section is rated from 1 (Never) to 5 (Always). The total score for this section is calculated by summing the responses to all seven items. Total Score Range: 7 to 35, 7-14 (Low Problem-Focused Coping), 15-24 (Moderate Problem-Focused Coping), 25-35 (High Problem-Focused Coping) **Emotion-Focused Coping**, which involves managing emotional responses to stress. It includes eight items that evaluate how individuals manage their emotional reactions to stress. Each item is rated from 1 (Never) to 5 (Always). The total score for this section is calculated by summing the responses to all eight items. Total Score Range: 8 to 40. 8-16 (Low Emotion-Focused Coping), 17-28 (Moderate Emotion-Focused Coping), 29-40 (High Emotion-Focused Coping).

Data analysis:

Descriptive statistics provide a detailed summary of how participants use coping strategies, while **inferential statistics** allow researchers to draw conclusions about the population and test hypotheses about relationships between coping strategies and other factors (age, income, stress levels, etc.)

Results and Discussion:

Table 1: Frequency and percentage distribution of demographic variables

Sl. No	Demographic variables		Frequency	Percentage
1	**Age**			
	Below 20 years		5	8.33%
	21-25 years		15	25.00%
	26-30 years		20	33.33%
	31-35 years		15	25.00%
	Above 35 years		5	8.33%
2	**Educational Qualification**			
	No formal education		5	8.33%
	Primary school (up to 5th grade)		10	16.67%
	Secondary school (up to 10th grade)		15	25.00%
	Higher secondary (12th grade)		10	16.67%
	Undergraduate degree		15	25.00%
	Postgraduate degree		5	8.33%
3	**Occupation**			
	Unemployed		10	16.67%
	Homemaker		20	33.33%
	Government employee		10	16.67%
	Private sector employee		15	25.00%
	Self-employed		5	8.33%
4	**Monthly Family Income**			
	Below ₹10,000		10	16.67%
	₹10,000-₹20,000		15	25.00%
	₹20,001-₹30,000		15	25.00%
	₹30,001-₹50,000		15	25.00%
	Above ₹50,000		5	8.33%
5	**Type of Family**			
	Nuclear family		20	33.33%
	Joint family		25	41.67%
	Extended family		15	25.00%

6	**Place of residence**		
	Rural	20	33.33%
	Urban	25	41.67%
	Semi-urban	15	25.00%
7	**Parity (Number of Children)**		
	Primi mothers	25	41.67%
	Mothers with one child	20	33.33%
	Mothers with two or more	15	25%
8	**Type of Delivery**		
	Vaginal delivery	40	83.33%
	Caesarean delivery	20	33.33%
9	**Postnatal Duration**		
	Less than 1 week	15	25.00%
	1 – 3 weeks	20	33.33%
	3-6 weeks	25	41.67%
10	**Support System**		
	Strong support	25	41.67%
	Weak support	30	50%
	No support	5	8.33%
11	**Breastfeeding Status**		
	Exclusive Breastfeeding	50	83.33%
	Breast feeding and formula milk	10	16.67%
12	**History of Mental Health Issues**		
	No history	60	100%
	History	0	0
13	**Any Complications During Delivery**		
	No complications	46	76.67%
	With complications	14	23.33%
14	**Number of Hours of Sleep (Postpartum)**		
	Less than 6 hours	45	75%
	More than 6 hours	15	25%
15	**Partner's Involvement in Childcare**		
	Active involvement	6	10%
	Minimal involvement	44	73.33%
	No involvement	10	16.67%

The demographic analysis reveals a diverse sample of mothers, primarily aged between 26 and 30 years (33.33%). Most participants have secondary to undergraduate educational qualifications, with a significant portion being homemakers (33.33%). Monthly family incomes are mostly concentrated in the ₹10,000-₹30,000 range, indicating a middle-income status. The family structure is predominantly joint (41.67%), and most mothers reside in urban areas (41.67%). A majority are Primi mothers (41.67%), reflecting first-time experiences with childbirth. Normal vaginal deliveries are notably high at 83.33%, with a majority (41.67%) of participants in the 3-6 weeks postpartum period. Support systems are robust, with 91.67% reporting strong or weak support. Breastfeeding practices favour exclusive breastfeeding (83.33%), highlighting the importance of maternal health. Notably, all mothers reported no history of mental health issues, and 76.67% experienced no delivery complications, suggesting a generally positive delivery outcome. In terms of sleep, 75% reported less than 6 hours, indicating potential postpartum challenges. Partner involvement is mostly minimal (73.33%), which could influence maternal experiences. Overall, these findings underscore the need for targeted support strategies to enhance maternal well-being and address challenges in postpartum recovery.

Table 2: Level of perceived postpartum stress among postnatal mother

Level of perceived postpartum stress	Pretest		Posttest	
	No	%	No	%
Low perceived stress	1	1.67%	38	62.67%
Moderate perceived stress	41	68.33%	18	30.66%
High perceived stress	18	30%	4	6.67%

The pretest and Posttest results on perceived postpartum stress reveal significant improvements following the intervention. Initially, only 1.67% of participants reported low stress levels, which surged to 62.67% post-intervention. Conversely, moderate stress levels decreased from 68.33% to 30.66%, while high stress significantly dropped from 30% to 6.67%. These findings underscore the intervention's effectiveness in alleviating postpartum stress, indicating that many mothers transitioned from higher stress categories to lower ones. This emphasizes the necessity of ongoing mental health support for postpartum mothers, highlighting the positive impact of targeted coping strategies and interventions on their overall well-being.
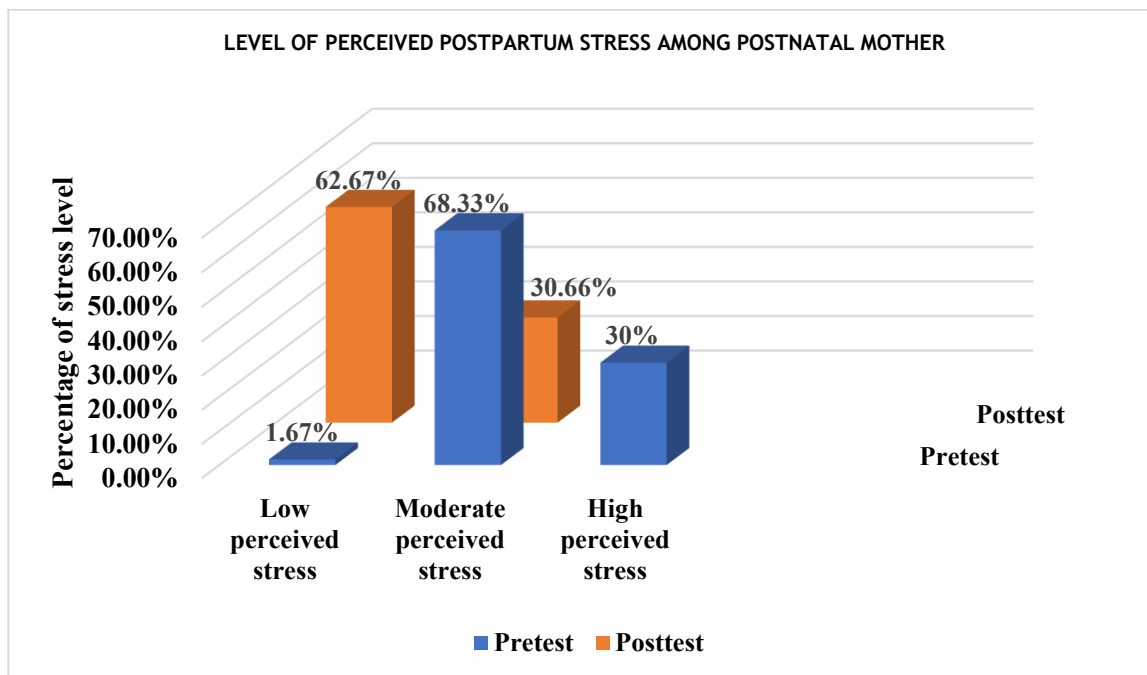
LEVEL OF PERCEIVED POSTPARTUM STRESS AMONG POSTNATAL MOTHER

Table 3: Assessment of Posttest level of Coping Strategies in Reducing Perceived Postpartum Stress Among Postnatal Mothers.

Domains	No of Questions	Min – Max Score	Coping Strategies score		
			Mean	SD	Mean Score (%)
Problem focussed coping	7	0 – 35	4.1	0.4	35%
Emotional focussed coping	8	0 – 40	3.5	0.5	22%
Total	15	0 – 40	7.6	0.9	57%

The assessment reveals a moderate engagement in coping strategies among postpartum mothers, with a mean score of 4.1 (35%) for problem-focused coping, indicating some effective problem-solving efforts. However, emotion-focused coping is notably low, with a mean score of 3.5 (22%), suggesting a lack of emotional expression and support. Overall, the total mean score of 7.6 (57%) reflects a moderate utilization of coping strategies. These findings highlight the need for targeted interventions to enhance both problem-focused and emotion-focused coping mechanisms, fostering better emotional well-being and stress management for postpartum mothers.

Table 4: Comparison of mean score between Pretest and Posttest coping strategies

Coping strategies domains	Pretest		Posttest		Mean difference	Student's paired t – test
	Mean	SD	Mean	SD		
Problem focussed coping	2.0	0.4	4.1	0.4	2.1	t = 2.66, p = 0.005 Df = 59 Significant
Emotional focussed coping	1.5	0.2	3.5	0.5	2.0	t = 2.66, p = 0.005 Df = 59 Significant

The study evaluated the effectiveness of coping strategies among participants. For **Problem-Focused Coping**, the pretest mean (2.0) significantly increased to the Posttest mean (4.1), resulting in a mean difference of 2.1, with a t-value of 2.66 and a p-value of 0.005 (df = 59), indicating statistical significance. Similarly, for **Emotional-Focused Coping**, the pretest mean (1.5) rose to the Posttest mean (3.5), yielding a mean difference of 2.0, also with a t-value of 2.66 and a p-value of 0.005 (df = 59). Both results confirm that the interventions significantly improved participants' coping strategies.

Table 5: Association with demographic variables and the effectiveness of structured coping strategies in reducing postpartum stress among mothers

Sl. No	Demographic variables	Noneffective		Effective		Chi square
		N	%	N	%	
1	**Age**					X2 = 3.25 Df = 4 P= 0.005 Significant
	Below 20 years	1	20	4	80	
	21-25 years	3	20	12		
	26-30 years	5	25	15	75	
	31-35 years	4	26.67	11	73.33	

	Above 35 years	1	20	4	80	
2	**Educational Qualification**					X2 = 5.34
	No formal education	2	40	3	60	Df = 5
	Primary school (up to 5th grade)	3	30	7	70	P= 0.019
	Secondary school (up to 10th grade)	5	33.33	10	66.67	Not Significant
	Higher secondary (12th grade)	10	66.67	0	0	
	Undergraduate degree	5	33.33	10	66.67	
	Postgraduate degree	2	66.67	3	33.33	
3	**Occupation**					X2 = 4.10
	Unemployed	5	100	0	0	Df = 4
	Homemaker	5	25	25	75	P= 0.004
	Government employee	5	100	0	50	Significant
	Private sector employee	5	50	5	50	
	Self-employed	5	50	5	50	
4	**Monthly Family Income**					X2 = 6.25
	Below ₹10,000	2	20	8	80	Df = 4
	₹10,000–₹20,000	2	13.33	13	86.67	P= 0.018
	₹20,001–₹30,000	5	25	10	75	Not Significant
	₹30,001–₹50,000	1	6.67	14	93.33	
	Above ₹50,000	5	100	0	0	
5	**Type of Family**					X2 = 8.40
	Nuclear family	5	25	15	75	Df = 2
	Joint family	3	10.71	25	89.29	P= 0.004
	Extended family	0	0	12	100	Significant
6	**Place of residence**					X2 = 7.00
	Rural	5	25	15	75	Df = 2
	Urban	3	12	22	88	P= 0.005
	Semi-urban	5	33.33	10	66.67	Significant
7	**Parity (Number of Children)**					X2 = 4.50
	Primi mothers	5	20	20	80	Df = 2
	Mothers with one child	10	40	15	60	P= 0.003
	Mothers with two or more	10	100	0	0	Significant
8	**Type of Delivery**					X2 = 5.20
	Vaginal delivery	5	20	20	80	Df = 1
	Caesarean delivery	10	40	25	60	P= 0.023 Not Significant
9	**Postnatal Duration**					X2 = 3.25
	Less than 1 week	5	33.33	10	66.67	Df = 1
	1 – 3 weeks	5	25	15	75	P= 0.007
	3-6 weeks	3	13.64	22	86.36	Not Significant
10	**Support System**					X2 = 6.50
	Strong support	5	20	25	80	Df = 2
	Weak support	15	60	10	40	P= 0.003
	No support	0	0	5	100	Significant
11	**Breastfeeding Status**					X2 = 5.60
	Exclusive Breastfeeding	4	10	36	90	Df = 1
	Breast feeding and formula milk	8	40	12	60	P= 0.003 Significant
12	**History of Mental Health Issues**					X2 = 7.80
	No history	15	25	45	75	Df = 1
	History	0	0	0	0	P= 0.005 Significant
13	**Any Complications During Delivery**					X2 = 5.50
	No complications	5	20	25	80	Df = 1
	With complications	13	43.33	17	56.67	P= 0.019 Not Significant
14	**Number of Hours of Sleep (Postpartum)**					X2 = 5.20
	Less than 6 hours	4	13.33	26	86.67	Df = 1
	More than 6 hours	8	26.67	22	73.33	P= 0.022 Not Significant
15	**Partner's Involvement in Childcare**					X2 = 7.30
	Active involvement	5	16.67	10	83.33	Df = 2
	Minimal involvement	3	25	25	75	P= 0.007
	No involvement	2	40	15	60	Not Significant

The Chi-square analysis reveals significant associations between demographic variables such as age (p=0.005), occupation (p=0.004), type of family (p=0.004), place of residence (p=0.005), parity (p=0.003), support system (p=0.003), breastfeeding status (p=0.003), and history of mental health issues (p=0.005) with the effectiveness of coping strategies among postpartum mothers. However, educational qualification, monthly income, type of delivery, postnatal duration, complications, hours of sleep, and

partner involvement showed non-significant associations. Significant factors highlight the importance of personalized support for mothers based on their background.

DISCUSSION

The demographic analysis of the postpartum mothers shows a diverse group, primarily aged between 26 and 30 years (33.33%), with the majority having secondary to undergraduate education. Many are homemakers (33.33%), with a significant portion of the families falling within the ₹10,000-₹30,000 monthly income bracket. Joint family structures are prevalent (41.67%), with most mothers living in urban areas (41.67%). First-time mothers (41.67%) and those who underwent normal vaginal deliveries (83.33%) form the majority. Participants were mostly in the 3–6 weeks postpartum period (41.67%), with strong support systems reported by 91.67%. A notable portion (83.33%) practiced exclusive breastfeeding. The study also revealed significant improvements in postpartum stress levels after the intervention, with low stress levels rising dramatically from 1.67% to 62.67%, while high stress dropped from 30% to 6.67%, demonstrating the effectiveness of structured coping strategies. Coping strategies were moderately employed, with notable improvements in problem-focused coping (mean score increased from 2.0 to 4.1). Chi-square analysis identified significant associations between factors such as age, occupation, family type, place of residence, parity, support system, breastfeeding status, and mental health history with the effectiveness of coping strategies. Non-significant factors included educational qualification, monthly income, delivery type, postnatal duration, complications, sleep, and partner involvement.

CONCLUSION

This study highlights the effectiveness of structured coping strategies in significantly reducing perceived postpartum stress among mothers. The findings demonstrate that targeted interventions led to substantial improvements in stress levels, with most participants transitioning from moderate or high stress to low stress after the intervention. Significant associations between demographic factors, such as age, occupation, family type, place of residence, parity, support system, breastfeeding status, and mental health history, emphasize the importance of personalized support tailored to mothers' backgrounds. Despite moderate utilization of coping strategies, the intervention notably enhanced problem-focused and emotion-focused coping mechanisms. Overall, these results underscore the need for continued mental health support and targeted interventions to promote postpartum well-being and effective stress management among new mothers.

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