

Effects Of Postnatal Educational Intervention For Husbands On Maternal Role Adaptation

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Keywords:	ABSTRACT
Postnatal Education; Husbands; Maternal Role Adaptation; Nurse-Led Intervention; Postpartum Care; Awareness; Maternal Well-Being.	<p>Background: The transition to motherhood is a profound and transformative experience that involves a multitude of physical, emotional, and social changes for women. Central to this transition is the process of maternal role adaptation, whereby women adjust to their new identity as mothers and navigate the challenges of caring for their newborns.</p> <p>Objectives: This study aims to assess the effectiveness of a postnatal educational intervention for husbands in improving maternal role adaptation among postpartum women by comparing adaptation levels between mothers whose husbands received the intervention and those whose husbands did not.</p> <p>Methodology: A quasi-experimental study was conducted at Lady Willingdon Hospital, Lahore, to assess the effectiveness of a 12-week postnatal educational intervention for husbands on maternal role adaptation. Fifty couples (25 in the experimental group, 25 in the control group) were recruited using purposive sampling. Husbands in the experimental group received the intervention, while the control group received routine care. The intervention consisted of four structured sessions delivered twice weekly. Data was analyzed using SPSS Version 25.</p> <p>Results: The study included 50 husbands and their wives to assess the impact of a nurse-led postnatal educational intervention. Most husbands were aged 31–40 years (42%), with 64% having an age gap of 1–5 years with their wives; 43% were laborers, and 28% had primary education. Among wives, 84% were aged 18–35 years, 30% had primary education, and 48% were housewives, with 62% living in joint families. Pre-intervention findings showed low knowledge of postnatal care in both groups, with 88% in the experimental group and 68% in the control group having poor knowledge. Post-intervention, 44% of the experimental group achieved good knowledge, and none remained in the poor category, whereas the control group showed minimal improvement. These findings indicate that the educational intervention effectively enhanced husbands' knowledge and positively influenced maternal role adaptation.</p> <p>Conclusion: The nurse-led educational intervention significantly improved husbands' knowledge of postnatal care and positively influenced maternal role adaptation in their wives. These findings highlight the effectiveness of involving husbands in postpartum education to enhance maternal well-being.</p>

INTRODUCTION

The transition to motherhood is a profound and transformative experience that involves a multitude of physical, emotional, and social changes for women (Bilgin et al., 2020). Recognizing the importance of social support and familial dynamics in the postnatal period, this research focuses on the effects of postnatal educational interventions for husbands on maternal role adaptation (Morita, 2022).

Traditionally, the responsibility for maternal role adaptation has primarily fallen on women, with limited involvement from their partners (Finlayson et al., 2020). However, research suggests that the involvement of husbands in the postnatal period can have significant implications for maternal well-being and parenting

outcomes (Mi, 2021). By actively engaging husbands in educational interventions aimed at promoting maternal role adaptation, this research seeks to explore the potential benefits of a collaborative approach to parenthood (Sohrabi et al., 2021).

The postnatal period represents a critical juncture in the establishment of the parent-child relationship and the development of maternal confidence and competence (Ahmadpour et al., 2022). Educational interventions tailored specifically for husbands offer an opportunity to enhance their understanding of the physical and emotional changes experienced by women during the postnatal period, as well as the challenges and demands of early parenthood (Wood et al., 2022). By equipping husbands with knowledge, skills, and support, these interventions aim to empower them to play a more active and supportive role in their partners' transition to motherhood (He et al., 2022).

Moreover, the inclusion of husbands in postnatal educational interventions reflects a broader shift towards recognizing the importance of partner involvement in maternal and child health initiatives (Byrd, 2022). Research has shown that fathers' involvement in caregiving activities and their emotional support positively influence maternal mental health, infant development, and family functioning (Phillips et al., 2022). By harnessing the potential of husbands as partners in maternal role adaptation, this research contributes to the growing body of literature on the importance of familial support systems in promoting maternal and child well-being (Rajabi et al., 2021).

Husbands or partners play a significant role in providing emotional and practical support during the postnatal period. Research has consistently demonstrated that women who receive strong support from their spouses experience reduced stress, improved emotional well-being, and more positive pre-partum adjustments (Eddy & Fife, 2021). Husband support can manifest in various forms, including assistance with household chores, emotional reassurance, and shared childcare responsibilities, allowing women to rest and recover (Ahorsu et al., 2020).

Objectives

1. To assess the effectiveness of a postnatal educational intervention provided to husbands on improving maternal role adaptation among postpartum women.
2. To compare maternal role adaptation levels between mothers whose husbands received postnatal education and those whose husbands did not receive any intervention.

MATERIAL AND METHODS

The study adopted a quasi-experimental design with two groups: an experimental group and a control group. The primary dependent variable was maternal role adaptation, while the independent variable was the postnatal educational intervention. Maternal role adaptation refers to the psychological, emotional, and behavioral adjustment a woman undergoes in transitioning into motherhood. It was assessed using an adapted version of the 32-item Maternal Role Adaptation Scale developed by Heydarpour et al. (2016), which includes six subscales: participation in care, self-efficacy, distant mothering, uncertainty, interaction, and growth and development. Postnatal care knowledge among husbands was measured using an adapted questionnaire by Fitaw and Amsalu Feleke (2005), comprising 30 multiple-choice questions. Each correct response received one point, with a maximum possible score of 30.

The study was conducted at Lady Willingdon Hospital, Lahore, a 235-bed teaching hospital affiliated with King Edward Medical University. The total duration of the study was nine months following ethical approval from the Research Ethical Committee of the University of Lahore. A sample size of 112 participants (56 couples) was initially calculated using a 95% confidence interval and 5% margin of error. A non-probability purposive sampling technique was employed to recruit participants. Inclusion criteria for husbands included being in the postnatal period, willingness to participate, ability to communicate in Urdu or Punjabi, age between 18 and 60, and living in the same household as their wife and newborn. Husbands with severe mental illness or those unable to attend follow-up sessions were excluded. For wives, inclusion criteria included being primigravida, aged 18–45, fluent in Urdu or Punjabi, and cohabitating with their husband and newborn. Wives with chronic medical conditions, cognitive impairment, or concurrent participation in similar programs were excluded. The data collection process followed ethical guidelines and was divided into three phases: pre-intervention, intervention, and post-intervention. During the pre-intervention phase, informed consent was obtained, and baseline data were collected from husbands only. The interventional phase involved administering the educational sessions to the experimental group. The

post-intervention phase involved collecting post-test data from both groups. To assess the impact of the intervention, maternal role adaptation data were collected from the wives indirectly, once the husbands had completed the educational sessions.

RESULTS

4.1 Demographic Characteristics of Husbands

Table 4. 1. Demographic Characteristics of husbands

Demographic characteristics	Frequency (%)
Age	
21-30 Year	18(36%)
31-40 Year	21(42%)
41-50 year	6(12%)
51-60 Year	5(10%)
Husband & Wife Age Difference	
1-5 Year	32(64%)
6-10 Year	10(20%)
11-15 Year	4(8%)
16-20 Year	4(8%)
Occupation	
Government Employee	8(16%)
Private Employee	16(32%)
Self Employed	6(12%)
Laborer	17(43%)
Unemployed	3(6%)
Education	
No Formal Education	5(10%)
Primary Education	14(28%)
Secondary Education	13(26%)
Bachelor's degree	12(24%)
Master's degree or higher	6(12%)
Economic Status	
Weak	19(38%)
Medium	18(36%)
Good	13(26%)

The majority of participants (42%) were aged 31–40 years, followed by 36% aged 21–30. Most had a 1–5 year age gap with their spouses (64%). In terms of occupation, 43% were laborers, 32% private employees, 16% government employees, 12% self-employed, and 6% unemployed. Educationally, 28% had primary education, 26% secondary, 24% a bachelor's degree, 12% a master's or higher, and 10% had no formal education. Economically, 38% identified as weak, 36% as middle-class, and 26% as financially well-off. These demographics provide important context for the study.

4.2 Postnatal Care Knowledge of Husbands

Table 4. 2. Status of Knowledge of husbands Regarding Postnatal Care (Pre & Post Intervention)

Level of Knowledge	Pre-Intervention		Post-Intervention	
	Control Group	Experimental Group	Control Group	Experimental Group
	Percentage	Percentage	Percentage	Percentage
Poor	68	88	60	0
Average	28	12	36	56

Good	4	0	4	44
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Poor<50%, Average 50% to 74%, Good =>75%

The postnatal educational intervention significantly improved knowledge in the experimental group. Initially, 88% of the control group and 68% of the experimental group scored below 50. Post-intervention, none in the experimental group remained in the poor category, with 44% scoring 75 or above and 56% scoring 50–74. In contrast, 60% of the control group still had poor knowledge. These results highlight the intervention's effectiveness in enhancing postnatal care knowledge.

Table 4. 3. Pre & Post Intervention knowledge of Control Group and Experimental Group

Level of Knowledge	Control Group		Experimental Group	
	Mean	Std. Deviation	Mean	Std. Deviation
Pre Intervention Level of Knowledge	1.3600	0.56862	1.1600	2.7200
Post Intervention Level of Knowledge	1.4400	0.58310	.47258	.45826

Paired samples statistics

Table 4.3 shows that the control group's mean knowledge score increased slightly from 1.36 (SD = 0.57) to 1.44 (SD = 0.58), indicating minimal change. In contrast, the experimental group's mean score improved significantly, dropping from 1.16 (SD = 2.72) to 0.47 (SD = 0.46), reflecting a shift from poor to higher knowledge levels. This demonstrates the effectiveness of the educational intervention in enhancing postnatal care knowledge.

Table 4. 4. Mean Differences in Status of Knowledge Regarding Postnatal Care (Pre & Post Intervention) for Control Group and Experimental Group

Level of Knowledge	Mean Difference	95% of C.I of the Differences		T	P-value
Pre Intervention Knowledge & Post Intervention Knowledge of Control Group	.18184	-.45530	.29530	-.440	.664
Pre Intervention Knowledge & Post Intervention Knowledge of Experimental Group	.13013	-1.82857	-1.29153	-11.988	.000

Paired sample t-test (2-tailed)

Table 4.4 shows that the control group had no significant change in postnatal care knowledge (mean difference = 0.18, $p = 0.664$). In contrast, the experimental group showed a significant improvement (mean difference = 1.13, $p = 0.000$), indicating that the nurse-led educational intervention effectively enhanced postnatal care knowledge.

4.3 Demographic Characteristics of Wives

Table 4. 5. Demographic Characteristics of Wives

Demographic characteristics	Frequency (%)
Age	
18-25 Year	21(42%)
26-35 Year	21(42%)
36-45 year	4(8%)
Above 45 Year	4(8%)
Education	
No Formal Education	6(12%)
Primary Education	15(30%)
Secondary Education	13(26%)

Bachelor's degree	10(20%)
Master's degree or higher	6(12%)
Occupation	
Government Employee	10(20%)
Private Employee	10(20%)
Self Employed	6(12%)
House Wife	24(48%)
Economic Status	
Nuclear Family	19(38%)
Joint Family	31(62%)

The demographic profile of the wives showed that 84% were aged between 18–35 years, while only 16% were above 35. Educationally, 30% had primary education, 26% secondary, 20% held a bachelor's degree, 12% had a master's or higher, and 12% had no formal education. Nearly half (48%) were housewives, 20% were employed, and 12% were self-employed. Most (62%) lived in joint families, while 38% were in nuclear setups. These characteristics provide important context for understanding the study population.

4.4. Maternal Role Adaptation

Table 4.6. Mean Differences in Growth and Development for Control and Experimental Group

Control Group & Experimental Group	Mean Difference	95% of C.I of the Differences		t	P-value
Growth and Development	-.25714	-.57333	.05904	-1.679	.106
Self-Efficacy	-.88800	-1.30426	-.47174	-4.403	.000
Uncertainty Level	-.21333	-.68478	.25811	-.934	.360
Interaction Level	-1.42000	-1.72710	-1.11290	-9.543	.000
Participation in Care	-1.27429	-1.56860	-.97997	-8.936	.000
Distant Mothering	-1.16000	-1.34335	-.97665	-13.058	.000

Two-sample t-test (2-tailed)

The two-sample t-test results across maternal domains revealed mixed outcomes. There was no significant difference in growth and development ($p = 0.106$) or uncertainty ($p = 0.360$) between the control and experimental groups, indicating the intervention had no effect in these areas. However, the intervention significantly improved self-efficacy ($p = 0.000$), interaction ($p = 0.000$), participation in care ($p = 0.000$), and distant mothering ($p = 0.000$) among the experimental group. These results suggest that the educational intervention was effective in enhancing maternal confidence, engagement, emotional connection, and caregiving behaviors, while having limited impact on reducing uncertainty and influencing growth and development perceptions.

Significant Difference of Maternal Adoption Role between Control and Experimental Group

Table 4.7. Total Score of Maternal Adoption Role for Control and Experimental Group

Post-Intervention Maternal Score	Control Group	Experimental Score
	87.2	116.15

1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly Agree

Total score ($32 \times 5 = 160$)

The study showed a significant post-intervention difference in maternal adoption role scores, with the experimental group (mean = 116.15) outperforming the control group (mean = 87.2), indicating the intervention's effectiveness in enhancing maternal role adoption.

Table 4.8. Total Mean Differences in Score of Maternal Adoption Role for Both Groups

Control Group-	Mean Difference	95% of C.I of the Differences	t	P-value
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Experimental Group	-28.96000	-36.08815	-21.83185	-8.385	.000
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Two-sample t-test (2-tailed)

The two-sample t-test revealed a statistically significant difference in maternal adoption role scores between the experimental and control groups (mean difference = -28.96, 95% CI = -36.09 to -21.83, $t = -8.385$, $p = 0.000$). The negative mean difference indicates the experimental group had significantly higher scores, supporting the effectiveness of the intervention in enhancing maternal role adoption.

4.5. Association of Husbands' knowledge with Maternal Role Adaptation

Table 4.9. Association of Husbands' knowledge with Maternal Role Adaptation

Maternal Role Adaptation	Knowledge Level		p-value
	Average Knowledge	Good Knowledge	
Average Maternal Role adaptation	4	13	0.001
Good Maternal Role adaptation	3	5	

Table 4.11 shows a significant association between husbands' knowledge levels and their wives' maternal role adaptation. Wives of husbands with good knowledge were more likely to have better maternal role adaptation. The analysis revealed a highly significant relationship ($p = 0.001$), emphasizing the importance of involving husbands in postnatal education to support maternal role development.

DISCUSSION

The present study examined the effects of a postnatal educational intervention for husbands on their knowledge of postnatal care and its subsequent impact on maternal role adaptation. Prior to the intervention, both the control and experimental groups exhibited low levels of postnatal care knowledge, with the majority of husbands falling into the "poor" knowledge category. This baseline finding is consistent with existing literature indicating that many fathers feel unprepared for the postnatal period and lack sufficient knowledge about infant care, maternal recovery, and their supportive role (Sajadian et al., 2022). Recent studies confirm that fathers often lack knowledge about postnatal care, as found by (Song et al., 2020), showing that paternal education is frequently neglected in healthcare programs. (Schachman et al., 2004) further demonstrated that low paternal involvement leads to poorer maternal psychological well-being and higher stress, highlighting the need for structured educational interventions for fathers.

The post-intervention assessment demonstrated a significant shift in the experimental group, with the proportion of husbands exhibiting "poor" knowledge dropping to zero, while a substantial percentage demonstrated "good" knowledge. This striking improvement underscores the intervention's effectiveness in delivering essential postnatal care information. Previous studies examining general paternal health education programs have shown modest knowledge gains (Kuipers et al., 2021). However, a recent meta-analysis by Mohammadpour et al. (2022) found that targeted, structured interventions incorporating interactive sessions and direct engagement with healthcare professionals yield significantly higher knowledge retention among fathers. The control group, in contrast, showed minimal improvement, with most participants remaining in the "poor" knowledge category. This finding aligns with research indicating that passive exposure to general health information—such as pamphlets or self-directed learning—often fails to produce meaningful improvements in health knowledge (Zdolska-Wawrzkiec et al., 2020). A randomized controlled trial in Iran demonstrated similar results, where educating husbands led to increased perceived social support and reduced stress in their primiparous wives (Ahmadpour et al., 2022).

The magnitude of knowledge improvement in the experimental group is particularly noteworthy. While some studies have reported positive effects of paternal education on postnatal knowledge (Sisi et al., 2024), the near-total elimination of "poor" knowledge in the intervention group suggests a highly effective educational design. This finding contrasts with a study by (Muliyani & Suryaningsih, 2023), in which knowledge improvements among fathers were statistically significant but less pronounced. Possible explanations for the superior effectiveness of the present study's intervention include its interactive nature,

direct engagement with healthcare professionals, and the incorporation of real-life scenarios to enhance learning.

Overall, the results of this study indicate that a well-structured, targeted educational intervention for husbands significantly enhances their postnatal care knowledge, thereby facilitating maternal role adaptation. The study found no statistically significant difference in growth and development between the control and experimental groups ($p = 0.106$). A study by (Pebryatie et al., 2022) further suggests that external factors such as socioeconomic status, healthcare access, and individual parental differences significantly influence growth and development outcomes, potentially overshadowing the effects of educational interventions.

A statistically significant difference in self-efficacy was observed ($p = 0.000$), indicating that the intervention improved mothers' confidence in parenting. These findings are consistent with prior research showing that maternal self-efficacy is enhanced through structured educational support (McCann et al., 2024). Increased self-efficacy is associated with improved maternal well-being and better infant developmental outcomes. A systematic review by (Istianah & Faulina, 2024) supports these results, highlighting that educational interventions positively impact maternal confidence and coping strategies.

The study did not find a significant reduction in uncertainty among mothers in the experimental group compared to the control group ($p = 0.360$). These results contrast with studies that have reported decreased maternal uncertainty following educational interventions (Garcia et al., 2019). A study by Chang et al. (2021) suggests that interventions incorporating peer support and counseling in addition to education are more effective in reducing maternal uncertainty, which may explain the lack of significant reduction in this study.

The total score of maternal role adaptation was significantly higher in the experimental group ($p = 0.000$), reinforcing the effectiveness of the intervention. Prior studies have reported similar outcomes, emphasizing the importance of educational interventions in improving maternal adaptation post-childbirth (Beraki et al., 2020). Future research should explore long-term effects and integrate additional support mechanisms to address aspects such as uncertainty and growth and development.

The study found a statistically significant association between husbands' knowledge levels and the maternal role adaptation of their wives. The results align with those of (Windayati et al., 2024), who reported that husband-targeted postnatal educational programs significantly improved social support perceived by primiparous mothers, thereby enhancing their adjustment to the maternal role.

CONCLUSION

Overall, the results of this study indicate that a well-structured, targeted educational intervention for husbands significantly enhances their postnatal care knowledge, thereby facilitating maternal role adaptation. These findings contribute to the growing recognition of the father's role in postnatal care and underscore the need for integrating paternal education into standard maternal and child health programs. Future research should explore long-term knowledge retention and its impact on maternal and neonatal outcomes to further establish the significance of paternal involvement in postnatal care. Additionally, incorporating multimodal approaches, such as peer support and counseling, may address areas like maternal uncertainty and growth and development, which were not significantly impacted in this study.

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