

Original Article

# The Role of Husbands' Awareness in Enhancing Postpartum Maternal Health in Rural Islamabad: A Cross-Sectional Analysis

Taqdees Iftikar<sup>1</sup>, Raazia Rauf<sup>2</sup>, Saima Qamar<sup>3</sup>, Nida Khaliq<sup>4</sup>, Shazma Ejaz<sup>5</sup>, Jaweria Faisal<sup>6</sup>

Dept of Obs & Gynae, Akhtar Saeed Medical College Rawalpindi

**Correspondence:** Dr. Taqdees Iftikar

Dept of Obs & Gynae, Akhtar Saeed Medical college Rawalpindi

drtaq65@yahoo.com

## Abstract

**Objective:** The present study aimed to evaluate the awareness of husbands in rural Islamabad regarding postpartum needs and complications and to determine the impact of this awareness on maternal health practices.

**Methodology:** The investigation was conducted at the Department of Obstetrics and Gynecology, Akhtar Saeed Medical College, Islamabad, from January to June 2023. This analytical cross-sectional study included 60 postpartum women. Data were collected using structured questionnaires that gathered information on demographics, socioeconomic factors, and postpartum care awareness. Python was used for statistical evaluation, focusing on correlation analysis between the independent variables (Age, Rural/Urban residence, and education) and dependent variables related to postpartum care.

**Results:** The results of the study indicated a significant correlation between educational attainment and knowledge of diet and nutrition during the postpartum period. This underscores the critical role of education in enhancing postpartum care knowledge among new fathers and demonstrates that well-informed fathers can have a significant and positive impact on maternal and infant health outcomes.

**Conclusion:** In conclusion, this study emphasizes the importance of including fathers in maternal health education programs and advocates comprehensive educational strategies that encourage active participation in postpartum care. Such involvement is crucial for improving healthcare practices, promoting equitable decision-making within families, and reducing maternal and infant mortality rates. Policies and interventions should be adapted to incorporate expectant fathers, ensuring that they are adequately prepared to provide support to their partners throughout the childbirth and postpartum period.

**Keywords:** Postpartum care, maternal health, paternal involvement, educational interventions, and maternal and infant health outcomes

Cite this article as: Iftikar T, Rauf R, Qamar S, Khaliq N, Ejaz S, Faisal J. The Role of Husbands' Awareness in Enhancing Postpartum Maternal Health in Rural Islamabad: A Cross-Sectional Analysis. *J Soc Obstet Gynaecol Pak.* 2024; 14(2):256-261.

## Introduction

The postpartum period refers to the six weeks following childbirth, during which a woman's body experiences significant physiological and hormonal changes as it returns to its pre-pregnancy state. According to the American College of Obstetrics and Gynecology (ACOG), this period is a time of adaptation to physical, social, and psychological changes, and a time of joy and excitement. However, it can also be a challenging time for the mother, as she learns to care for a newborn while dealing with disrupted mealtimes, irregular schedules, fatigue, psychological stress, sleep deprivation, and a lack of sexual desire. Additionally, some women may have to manage pre-existing health issues or new complications, such as postpartum infection, urinary incontinence, hemorrhage, cardiomyopathy, or postpartum depression. Maternal mortality is a significant issue in many developing countries. The majority of these deaths are caused by inadequate preparation for childbirth, largely due to the

poor participation of male partners. As men are the primary decision-makers, increasing their involvement in maternal health services could lead to better maternal health outcomes.<sup>1</sup>

Given these challenges, providing additional support for new mothers is crucial. Cultural practices, such as the 40-day rest and recovery period recognized in Pakistani culture, emphasize the importance of support during this time, including nutritional food, rest, and familial care. Within this context, husbands' awareness and understanding of postpartum needs and complications can play a pivotal role in the health and well-being of both mothers and infants. Research indicates that informed partner involvement leads to better maternal and infant health outcomes, increased utilization of healthcare services, and improved family planning practices.<sup>2, 3</sup> Women with supportive partners had lower smoking and tobacco use rates. Knowledgeable partners contribute more to birth

Authorship Contribution: <sup>1,2,4</sup>Substantial contributions to the conception or design of the work or the acquisition, <sup>3,5,6</sup>Drafting the work or revising it critically for important intellectual content, <sup>1,2</sup>Final approval of the version to be published. Active participation in methodology

Funding Source: none  
Conflict of Interest: none

Received: Dec 25, 2023  
Accepted: April 11, 2024

preparedness and provide better care for new mothers and babies.<sup>4, 5</sup>

In many South Asian countries, including Pakistan, husbands often make significant healthcare decisions for their families. Thus, a well-informed husband can contribute positively to decisions regarding antenatal, childbirth, and postnatal care.<sup>6, 7</sup> The decision-making process for treatment plans is typically controlled by male family members, with women often following their lead in seeking healthcare. Despite international evidence supporting the benefits of male involvement in maternal health, there is a noticeable gap in studies focusing on Pakistani husbands' attitudes towards pregnancy, childbirth, and postnatal care.

A meta-analysis of 14 studies conducted in developing countries in 2015 showed improved maternal health outcomes associated with male involvement. Despite international evidence supporting the benefits of male involvement in maternal health, there is a noticeable gap in studies focusing on Pakistani husbands' attitudes towards pregnancy, childbirth, and postnatal care.<sup>4, 8</sup>

A study conducted in Nepal found considerable interest in safe childbirth involvement by expectant mothers and fathers.<sup>8</sup> A recent study conducted in 2022 focused on the risk factors for postnatal depression in Pakistani fathers. The authors emphasized the need to include men in perinatal mental health programs, based on a validated questionnaire.<sup>9</sup> Another study conducted in the Ghana stated that in patriarchal societies, cultural traditions can conflict with public health recommendations. To encourage male participation, target young men and engage chiefs and opinion leaders to promote proactive measures for their partners' health<sup>(10)</sup>. According to a study conducted in Bangladesh, when husbands accompany their wives while receiving health services, there is a positive correlation with women's use of skilled maternal, neonatal, and child health (MNH) services. Therefore, it is important to take special initiatives to encourage husbands to accompany their wives while availing MNH services. These initiatives should not only aim to increase men's awareness regarding MNH issues, but also go beyond this.<sup>11, 12</sup> This study aimed to fill this gap by exploring Pakistani husbands' awareness of postpartum needs and complications and examining the impact of this awareness on maternal health practices. By enhancing our understanding of husbands' roles in the postpartum period, we can

improve hospital counseling sessions and lay the groundwork for future initiatives involving men in maternal health outcomes. The period following childbirth is pivotal for both the mother and newborn, necessitating adequate support and knowledge among caregivers, particularly the father, to ensure optimal health outcomes. This study aimed to assess the awareness of postpartum needs and complications among husbands in rural Islamabad, focusing on how this awareness influences maternal health practices.

## Methodology

This analytical cross-sectional study was conducted at the Department of Obstetrics and Gynaecology, Akhtar Saeed Medical College, Rawalpindi, from January 1st to June 30th, 2023. The study sample comprised 60 husbands of postpartum patients from rural areas around Islamabad who met the inclusion criteria of being adult citizens capable of responding to face-to-face questions and whose wives delivered at Farooq Hospital. Exclusion criteria included husbands of women who delivered abnormal or deceased infants and individuals cognitively impaired. Data collection utilized a structured questionnaire to gather demographic, socioeconomic factors, and knowledge/awareness related to postpartum care. Analysis was performed using Python, focusing on descriptive statistics, data coding, and correlation analysis among the specified independent (age, rural/urban residence, education) and dependent variables (aspects of postpartum care awareness and support).

## Results

This study assessed the relationships between various independent variables (Age, Rural/Urban residence, Education) and dependent variables related to postpartum care among 60 husbands of postpartum patients. Data were collected via structured questionnaires, and analysis utilized Python for statistical evaluation, focusing on correlation analysis to understand these relationships better.<sup>13-15</sup>

### Data Coding and Preprocessing:

To facilitate the analysis, we converted categorical variables into numeric codes based on predetermined keys. Education levels were coded from 0 (No education) to 6 (Master or Graduate), allowing for a linear interpretation of educational advancement. Similarly, responses regarding the dependent variables

were coded on a scale from 0 to 1, where 0 represented 'No' or 'Partial' knowledge/awareness, and 1 represented 'Good' knowledge/awareness or a 'Yes' response.

Uninformative columns, identified through entropy analysis with a threshold of 0.469 corresponding to a binary variable's p-value of 0.1, were removed from further consideration. Variables excluded due to high entropy values, indicating uniform high scores across different levels of age, rural/urban status, or education, included: Importance of Post-Partum Period, Importance of Financial Support, Importance of Breast Feeding, and Knowledge of Hygiene.

A correlation analysis was performed to determine the effect of the independent variables on the dependent variables. To ensure correct interpretation of results, we made sure there were no significant correlations within either the Independent or Dependent Variables. No correlated variables were found in Independent variables. Some correlations were found in Dependent variables. However, the number of correlations found was not significant according to a Chi-square test, hence it should not affect interpretation.

For correlations between Independent and Dependent variables we first, to assess the aggregate effect of Age, Rural/Urban, and Education on the following dependent variables,

1. Awareness of Complications of the Partum Period
2. Importance/Awareness of Family Planning
3. Knowledge Regarding Diet & Nutrition
4. Support in the Post-Partum Period

We combined all dependent variables by summing their coded values to generate a "Combined Knowledge" variable. The table below shows that only "Education" had a significant correlation with "Combined Knowledge" ( $p < 0.05$ ).

Variable	Rho	p-value
Age	-0.085	0.548
Rural/Urban coded	0.035	0.807
Education coded	0.287	0.039

Next, we attempted to more finely parse the relationship between the Independent variables and each of the dependent variables. We found that on an individual variable basis, only "Knowledge Regarding

Diet & Nutrition" was significantly correlated with "Education".

**Table II: Spearman's Rho Correlation Coefficients between Independent Variables and Specific Dependent Variables.**

	Rho Values		
	Age	Rural/Urban coded	Education coded
Awareness of Complications of the Post-Partum Period	-0.033	-0.011	0.160
Importance/Awareness of Family Planning	0.036	-0.007	0.098
Knowledge Regarding Diet & Nutrition	0.048	0.170	0.405
Support in the Post-Partum Period	0.130	-0.039	-0.028

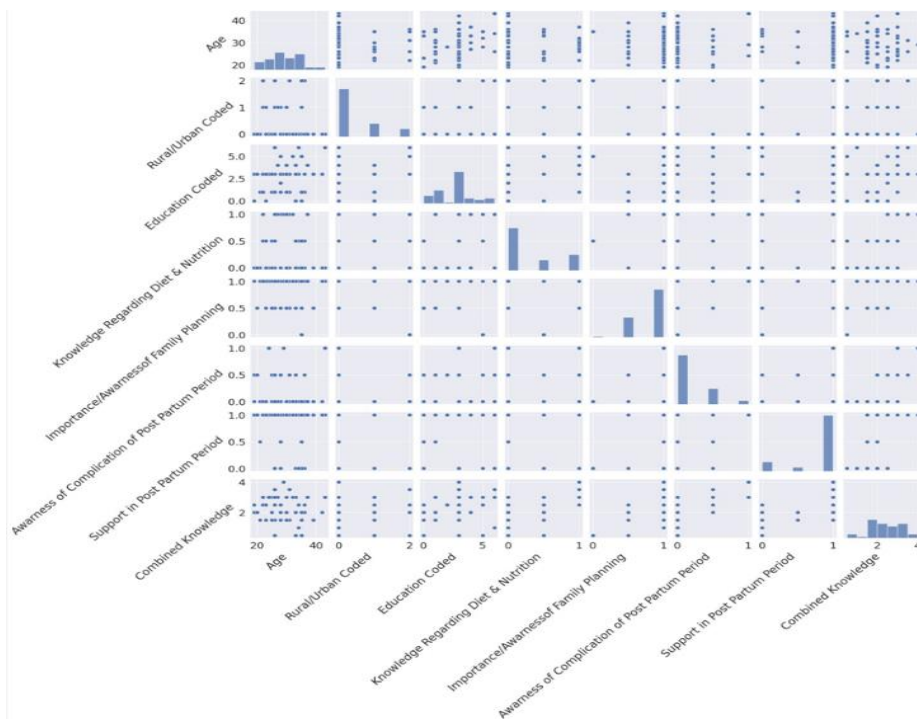
The scatterplot matrix visualizes the relationships between demographic factors and postpartum care knowledge areas, with histograms and scatterplots indicating potential correlations, notably between education level and knowledge about diet, family planning, and overall postpartum support.

**Table III: P-Values for the Correlation between Independent Variables and Dependent Variables.**

	P-Values		
	Age	Rural/Urban coded	Education coded
Awareness of Complications of the Partum Period	0.814	0.939	0.258
Importance/Awareness of Family Planning	0.801	0.958	0.490
Knowledge Regarding Diet & Nutrition	0.733	0.229	0.003
Support in the Partum Period	0.358	0.781	0.846

## Discussion

The strong correlation between educational achievement and knowledge about diet and nutrition during the postpartum period is a critical aspect of our findings. This relationship emphasizes the necessity of implementing targeted educational interventions to enhance the knowledge of postpartum care among fathers. As we proceed with our discussion, we will examine the broader implications of these results and consider how improving fathers' awareness and comprehension of postpartum care can have a positive impact on maternal and child health outcomes.



**Figure 1. Scatterplot Matrix of Postpartum Awareness Factors against Demographic Variables.**

The crucial role of education in enhancing the well-being of both mother and child, as well as reducing maternal and infant mortality rates, cannot be overstated. A study conducted in Indonesia, for instance, offers a compelling example in the form of "The Suami SIAGA campaign." This initiative successfully engaged husbands by disseminating educational messages on birth preparedness, which subsequently led to a considerable improvement in their knowledge and actions pertaining to family planning. This synergy between educational interventions and increased partner support and awareness of family planning underscores a broader principle: the informed involvement of partners can play a pivotal role in promoting better health practices and outcomes.<sup>16</sup>

Our study results, highlighting that the significant role of education also enhancing support during the postpartum period, align with broader research advocating for engaging men in maternal and newborn health. Such involvement, driven by educational interventions, has been shown to improve care-seeking behaviors and promote equitable decision-making within couples. This supports the notion that educated involvement in family planning and postpartum care can have positive health outcomes, underlining the importance of carefully designed interventions to foster supportive partner participation while maintaining

healthy relationship dynamics.<sup>17</sup> A study conducted in Iran has supported our findings that men's involvement in perinatal care is vital. The study highlighted the roles that fathers can play in supporting maternal and fetal health, as well as providing emotional support. To enhance paternal participation during pregnancy, childbirth, and postpartum, the study recommends educating fathers and healthcare staff, adapting hospital spaces, and seeking policymakers' support.<sup>18, 19.</sup>

Our study focuses on the impact of education on support during the postpartum period. We acknowledge the nuanced roles that fathers play in this critical time

and recognize the challenges they face. While most men adapt well, some experience ongoing difficulties. This highlights the potential benefits of antenatal educational programs. Such programs could alleviate paternal anxieties, enabling fathers to better support their partners and infants. Education serves not only as a source of information but also as a means to equip fathers with the necessary tools to navigate the complexities of fatherhood and partnership postpartum.<sup>20</sup> Our findings were backed up by another study conducted in Iran. Men suggested that healthcare centers should implement suitable educational programs during prenatal care or in classes for preparation for labor and childbirth. This would help and support men in their role during this important time.<sup>21</sup> After conducting our study, we found that there are many obstacles that prevent husbands from participating in maternal health care, including factors related to the client and the delivery of services. These obstacles not only hinder the possibility of shared responsibility in maternal health but also contribute to high rates of maternal mortality and childbirth complications. Our study aligns with recent research that emphasizes the critical need for awareness programs that are designed specifically to educate men on their role in supporting maternal health within their specific cultural context. These programs are not only beneficial but essential in reducing the risks associated with childbirth and decreasing maternal mortality and risk factors of postpartum depression.<sup>22</sup> Based on our

findings, we strongly recommend the implementation of targeted awareness programs that focus on the importance of husbands' involvement in maternal health care. By doing so, we can overcome the identified barriers and create a more inclusive approach to maternal health that recognizes and utilizes the essential role men can play in ensuring safer childbirth experiences.<sup>23</sup>

Our research highlights the significant role that education plays in the postpartum period. This aligns with previous studies that emphasize the importance of expectant fathers in maternal health. By implementing enhanced educational strategies that promote awareness of postpartum complications and offer support to fathers, we can improve health outcomes for both mothers and newborns. This underscores the need to shift health policy and maternal health interventions towards inclusive engagement of fathers, ensuring they are adequately prepared to support their partners through childbirth and the postpartum journey. Such policy adaptations are crucial in creating a health system that values and benefits from the supportive potential of educated expectant fathers.<sup>8</sup> A study conducted in Tanzania evident that it is crucial to educate men about the significance of actively participating in reproductive and child health services. Conducting exploratory research is necessary to comprehend how education and urbanization impact men's involvement in maternal and child health, particularly in low-income countries.<sup>24</sup>

The insights from the Malawi study complement our research findings by highlighting the significant impact of husbands' educational status on their knowledge and involvement in postpartum care. Despite the differences in location and culture, the lack of awareness among husbands about postpartum practices, as observed in Malawi, underlines the importance of education in providing support during this period, as identified by our study. This comparison indicates a universal requirement for educational initiatives that target expectant fathers, emphasizing their potential to enhance maternal and newborn health outcomes in various settings.<sup>25</sup> Another study conducted in India supported our results that The risk of maternal and neonatal deaths can be reduced by educating and empowering men about pregnancy complications.<sup>11</sup> A study conducted in Denmark supports our findings that education not only reduces postnatal mortality but also decreases the occurrence of depression in new fathers. The study shows that

paternal postpartum depression (PPD) significantly affects fathers, who are often hindered by stigmas and masculine norms. Some of the stressors contributing to PPD include maternal PPD and breastfeeding issues. Encouraging help-seeking behaviors involves increasing awareness and healthcare engagement. It is crucial for healthcare professionals to offer support and screening to both fathers and mothers experiencing PPD.<sup>26</sup>

Our study did not demonstrate significant correlations with postpartum maternal health practices for variables such as age, rural/urban residence, and specific aspects of postpartum care awareness. Where as in multiple studies some have find a slight association between these variable's.<sup>3, 12, 25, 26</sup> Despite this unexpected result, it contributes to a nuanced understanding of partner involvement in postpartum care. The lack of significant correlations suggests that partner involvement extends beyond simple demographic characteristics or basic awareness. This absence of correlation highlights the intricate nature of human behavior and health practices, emphasizing the need for comprehensive and culturally sensitive interventions aimed at improving maternal health outcomes through increased partner involvement. Instead of solely focusing on enhancing knowledge or awareness, interventions should also address broader social norms, communication within couples, and community support systems. Future studies could benefit from using qualitative methods like in-depth interviews or focus groups to gain a more comprehensive understanding of how fathers contribute to postpartum care in culturally meaningful ways.

## Conclusion

Our study conclusively highlights the critical role of educational attainment in enhancing fathers' knowledge about diet and nutrition during the postpartum period, underlining the importance of targeted educational interventions. The results demonstrate that informed and involved fathers significantly contribute to better maternal and infant health outcomes. This study advocates for the inclusion of fathers in maternal health education programs to bridge the knowledge gap and encourage active participation in postpartum care. Implementing such educational strategies can lead to improved healthcare practices, equitable family decision-making, and ultimately, reduced maternal and infant mortality rates. Therefore, it's imperative for healthcare policies and interventions to actively engage and educate expectant fathers, ensuring they are

equipped to support their partners and contribute positively to the health and well-being of their families.

**STRENGTH AND LIMITATIONS:** The research provides valuable insights but has certain limitations that constrain its applicability across diverse cultural settings. For instance, there is a lack of clarity regarding the design and implementation of interventions, which presents opportunities for further exploration. Nevertheless, the research significantly contributes to our understanding of the positive impact of educating fathers on postpartum care. It also advocates for the development of more inclusive health policies. This expanded perspective enriches the scope of maternal and newborn health interventions and highlights the intricate responsibilities that fathers undertake in nurturing their partners and newborns.

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