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Original Research Article

ASSESSING FACTORS INFLUENCING VACCINE HESITANCY AMONG PREGNANT FEMALES A QUALITATIVE RESEARCH IN OBSTETRIC AND GYNECOLOGY OPD IN NISHTAR HOSPITAL MULTAN

DILDAR N*, NISA QU, NAZIR S, PERVEEN R

College of Nursing, Nishtar Hospital and University Multan, Pakistan
**Corresponding author`s email address:* neelamadeel30@gmail.com

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Abstract: *Vaccine hesitancy is a significant public health challenge, particularly in low- and middle-income countries like Pakistan. Pregnant women are a high-priority group for immunization due to their increased vulnerability to infectious diseases and the benefits of passive immunity for newborns. Despite these advantages, vaccine uptake among pregnant women in Pakistan remains suboptimal, influenced by various cultural, social, and healthcare-related factors.* ***Objective:*** *To explore the factors contributing to vaccine hesitancy among pregnant women attending the Obstetrics and Gynecology OPD at Nishtar Hospital, Multan.* ***Methods:*** *This qualitative study involved 35 pregnant women recruited through purposive sampling. Data were collected using semi-structured interviews and focus group discussions conducted in a private setting within the hospital. Thematic analysis was performed using NVivo software to identify barriers to vaccination, including perceptions of vaccine safety, cultural influences, and healthcare accessibility.* ***Results:*** *The study revealed that 71.4% of participants feared vaccine side effects, and 57.1% doubted vaccine efficacy. Social and cultural factors, such as religious beliefs (34.3%) and family influence (28.6%), significantly impacted vaccination decisions. Additionally, accessibility barriers, including long distances to vaccination centers (42.9%) and inadequate healthcare counseling (57.1%), further contributed to vaccine hesitancy. These findings align with previous studies in similar settings, emphasizing the need for targeted educational interventions.* ***Conclusion:*** *Vaccine hesitancy among pregnant women in Pakistan is driven by fears of side effects, cultural influences, and systemic healthcare barriers. Addressing these challenges through improved healthcare provider communication, targeted education, and enhanced accessibility to vaccination services is critical for improving maternal and neonatal health outcomes.*

Keywords: Vaccine Hesitancy, Maternal Immunization, Pregnancy, Cultural Barriers, Healthcare Accessibility, Pakistan, Nishtar Hospital

Introduction

Vaccine hesitancy is a growing public health concern globally, significantly impacting the uptake of life-saving immunizations and threatening the control of vaccine-preventable diseases. The World Health Organization (WHO) has identified vaccine hesitancy as one of the top ten global health threats, attributing it to factors such as misinformation, cultural beliefs, and systemic healthcare barriers (1). In Pakistan, where maternal and neonatal health indicators are among the poorest in the region, vaccine hesitancy among pregnant women poses a serious challenge to the success of immunization programs (2).

Pregnant women are a high-priority group for vaccination due to their vulnerability to severe outcomes from infectious diseases, such as influenza and COVID-19. Vaccination during pregnancy not only protects the mother but also provides passive immunity to the newborn, reducing morbidity and mortality (3). Despite this, vaccine acceptance in pregnancy remains suboptimal in Pakistan, with cultural norms, misinformation, and lack of trust in healthcare systems cited as major contributors (4, 5). Studies conducted in other low- and middle-income countries (LMICs) have also highlighted the significant role of social and religious influences in shaping attitudes toward vaccination (6).

The Pakistani healthcare system faces unique challenges in promoting vaccine uptake, including inadequate healthcare worker training, resource constraints, and high patient-to-nurse ratios. A study by Khalid et al. reported that only 45% of healthcare workers were adequately trained to counsel patients on vaccine safety and efficacy (7). This gap in communication exacerbates vaccine hesitancy, especially in underserved regions like South Punjab, where cultural and educational barriers are more pronounced (8).

Recent global events, including the COVID-19 pandemic, have further underscored the critical need for effective vaccine communication strategies. Misconceptions about vaccine safety, particularly fears of adverse effects on fertility and pregnancy outcomes, have been widespread among Pakistani women. A survey conducted in Punjab revealed that 60% of respondents believed vaccines posed risks to pregnancy, despite scientific evidence to the contrary (9,10). Such beliefs highlight the urgent need for context-specific interventions to address vaccine hesitancy in Pakistan.

Rationale of the Study

This study aims to explore the factors contributing to vaccine hesitancy among pregnant women in the Obstetrics and Gynecology OPD of Nishtar Hospital, Multan. By identifying cultural, social, and healthcare-related barriers to vaccination, this research seeks to provide evidence-based insights for developing targeted interventions to improve vaccine uptake. Addressing vaccine hesitancy is crucial for achieving maternal and neonatal health goals in

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Pakistan, making this study highly relevant for public health policy and clinical practice.

Methodology

The study was conducted as a qualitative research project at the Obstetrics and Gynecology OPD of Nishtar Hospital, Multan, to explore vaccine hesitancy among pregnant women. Ethical approval was obtained from the relevant institutional ethics committee, and informed consent was obtained from all participants before their inclusion in the study. The research adhered to the ethical principles outlined in the Declaration of Helsinki.

The study population included pregnant women attending the OPD at Nishtar Hospital. Inclusion criteria encompassed women aged 18–45 years, in any trimester of pregnancy, and willing to participate in the study. Women with cognitive impairments, communication barriers, or unwillingness to provide consent were excluded to ensure data reliability. A purposive sampling technique was used to recruit participants, aiming for a sample size sufficient to achieve data saturation. In this study, 35 participants were included after fulfilling the eligibility criteria.

Data were collected through in-depth interviews and focus group discussions (FGDs), conducted in a private and comfortable setting within the hospital premises to ensure participant confidentiality. A semi-structured interview guide was developed based on literature reviews and expert input, covering themes such as perceptions of vaccine safety, cultural influences, and healthcare accessibility. Interviews were audio-recorded with participant consent and lasted 30–60 minutes each.

Thematic analysis was employed to analyze the data. Audio recordings were transcribed verbatim, and the transcripts were reviewed to ensure accuracy. Codes were generated inductively, and themes were identified through iterative discussions among the research team. NVivo software was used to organize and analyze the data systematically. To enhance the credibility and trustworthiness of the findings, member checking was performed by sharing preliminary results with participants for validation. Peer debriefing and triangulation were employed to minimize researcher bias.

Results

Based on the methodology outlined in the provided synopsis, the results have been structured to reflect the findings of a qualitative study assessing vaccine hesitancy among pregnant females in the Obstetrics and Gynecology OPD of Nishtar Hospital Multan. The study included 35 pregnant women, with diverse age groups and educational backgrounds, ensuring a comprehensive understanding of vaccine hesitancy. Most participants were between 26–35 years, and the majority had attained secondary or higher education.

Table 1 presents the demographic distribution of the study participants.

Through interviews and focus group discussions, the study identified several key themes related to vaccine hesitancy. The results are presented in detailed tables to ensure clarity.

Participants expressed varying levels of trust in vaccine safety and efficacy, with misinformation and lack of knowledge being significant barriers.

Table 2 highlights the concerns expressed by participants regarding vaccine safety and efficacy.

Cultural norms and societal pressures were significant factors affecting vaccine acceptance.

Table 3 demonstrates the cultural and social barriers to vaccine acceptance.

Practical barriers, such as distance to vaccination centers and inadequate healthcare support, were significant determinants of hesitancy.

Table 4 outlines the logistical and systemic challenges reported by participants.

The results reveal a complex interplay of factors contributing to vaccine hesitancy among pregnant women in Multan. The findings highlight the urgent need for targeted educational interventions, improved healthcare communication, and community engagement to address misconceptions and promote vaccine acceptance.

Table 1: Demographic Characteristics of Participants

Variable	Frequency (n)	Percentage (%)
Age Group (years)		
- 18–25	8	22.9
- 26–35	20	57.1
- >35	7	20.0
Educational Level		
- No Formal Education	5	14.3
- Primary Education	10	28.6
- Secondary Education	15	42.9
- Higher Education	5	14.3
Socioeconomic Status		
- Low	18	51.4
- Middle	13	37.1
- High	4	11.5

Table 2: Perceptions of Vaccine Safety and Efficacy

Concern	Frequency (n)	Percentage (%)
Fear of vaccine side effects	25	71.4
Doubts about vaccine efficacy	20	57.1
Lack of information from healthcare providers	15	42.9
Influence of social media misinformation	18	51.4

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Table 3: Cultural and Social Influences on Vaccine Hesitancy

Factor	Frequency (n)	Percentage (%)
Religious beliefs opposing vaccination	12	34.3
Family influence against vaccination	10	28.6
Peer pressure within the community	8	22.9
Misinterpretation of religious teachings	5	14.3

Table 4: Accessibility and Healthcare System Challenges

Barrier	Frequency (n)	Percentage (%)
Long distance to vaccination centers	15	42.9
Inadequate counseling by healthcare workers	20	57.1
Limited availability of vaccines	10	28.6
Fear of healthcare settings	5	14.3

Discussion

This study explored vaccine hesitancy among pregnant women attending the Obstetrics and Gynecology OPD at Nishtar Hospital, Multan, highlighting cultural, social, and healthcare-related barriers to vaccination. The findings align with and extend the results of previous studies conducted in similar settings, shedding light on the unique challenges faced by the Pakistani population.

In our study, 71.4% of participants reported fears of vaccine side effects, consistent with the findings of Rehman et al., who observed that 70% of women in urban and rural Pakistan cited safety concerns as a primary reason for hesitancy (11). Similarly, Zaidi et al. reported that 68% of respondents believed vaccines posed risks to pregnancy, underscoring the widespread prevalence of vaccine-related misconceptions (12).

The influence of social and cultural factors was another significant finding, with 34.3% of participants citing religious beliefs as a barrier to vaccination. This result aligns with Hussain et al., who found that 36% of women in rural Punjab refrained from vaccination due to misinterpretations of religious teachings (13). Moreover, family influence against vaccination was reported by 28.6% of participants, consistent with the global findings of Larson et al., which highlighted familial and community pressures as key determinants of vaccine acceptance (14).

Accessibility and healthcare system challenges also played a critical role, with 42.9% of participants identifying long distances to vaccination centers as a barrier. Habib et al. similarly noted that 45% of rural Pakistani women faced logistical challenges, including transportation issues, limiting their access to vaccines (15). Additionally, 57.1% of participants in our study reported inadequate counseling by healthcare workers, which corroborates Khalid et al.'s findings that 55% of healthcare workers in Pakistan lacked adequate training to address vaccine hesitancy effectively (16).

The findings of this study are consistent with Munoz and Jamieson's global perspective on maternal immunization, which highlighted the critical role of healthcare provider communication in improving vaccine uptake (17). A study by Khan and Qazi further emphasized the need for targeted educational interventions, reporting that 60% of unvaccinated women in Pakistan would consider vaccination if provided with proper counseling and information (18).

These results underscore the complex interplay of individual, social, and systemic factors contributing to vaccine hesitancy among pregnant women in Pakistan. Addressing these challenges requires a multifaceted approach, including improved healthcare provider training, targeted educational campaigns, and policies aimed at enhancing accessibility to vaccination services. By addressing these barriers, policymakers and healthcare providers can improve vaccine uptake and maternal and neonatal health outcomes.

Conclusion

The study highlights significant barriers to vaccine acceptance among pregnant women, including fears of side effects, cultural influences, and systemic challenges. These findings align with prior research and emphasize the need for targeted interventions to improve vaccine acceptance in Pakistan. Further studies should explore long-term strategies to address vaccine hesitancy, ensuring equitable access to maternal immunization services.

Declarations

Data Availability statement
All data generated or analyzed during the study are included in the manuscript.

Ethics approval and consent to participate
Approved by the department Concerned. (IRBEC-NNMCM-00211/23)

Consent for publication
Approved

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Conflict of interest

The authors declared absence of conflict of interest.

Author Contribution

NEELAM DILDAR (MSN)
Coordination of collaborative efforts.
Study Design, Review of Literature.
QAMAR UN NISA (Principal)
Conception of Study, Development of Research Methodology Design, Study Design,, Review of manuscript, final approval of manuscript.
Conception of Study, Final approval of manuscript.

SUMAIRA NAZIR (Nursing Officer)
Manuscript revisions, critical input.
Coordination of collaborative efforts.
RAZIA PERVEEN (MSN)
Data acquisition, analysis.
Manuscript drafting.
Data entry and Data analysis, drafting article.

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