Original Article

Sociodemographic Predictors of Knowledge and Attitude of Married Males About Antenatal and Post-Natal Needs of Women in the General Population of Rawalpindi; A Cross-Sectional Study

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Abstract

Background: Socioeconomic, cultural, religious, and ethnic disparities hinder women's health decisions. Male involvement in antenatal and post-natal health programs can improve outcomes.

Objectives: The objective is to assess the knowledge and attitudes among married males regarding the antenatal and postnatal needs of women in Rawalpindi.

Materials and Methods: A cross-sectional study involving 323 married males for 6 months was conducted using a self-structured validated questionnaire. Data were analyzed using IBM SPSS version 26.0.

Results: 49.2% of male participants had adequate knowledge, 26.9% had poor knowledge, and 23.5% had excellent knowledge. Attitude assessment showed that 35.6% had poor attitudes, 37.5% had adequate attitudes, and 26.9% had excellent attitudes. A significant association of knowledge was found with education, residence, monthly income, and number of children.

Conclusion: Good education, better income, and number of children positively influenced knowledge of antenatal and postnatal care, but similar trends were not observed for attitudes. Increased awareness and community education are needed.

Keywords: Antenatal care, Postnatal care, Maternal health, Health knowledge, Health attitudes

Introduction

Guidelines from the International Conference on Population and Development suggest that male participation in maternal care includes one or several activities such as accompanying their spouse to maternity appointments and participating in household issues with proximity during the pregnancy period which presents an opportunity for them to provide health advice to pregnant women.[1] Societal factors and healthcare system norms, combined with societal stigmatization towards male participation in maternal care continue to contribute to low levels of male involvement along the continuum. In Nigeria, a study showed that although men have an average knowledge of maternal health they were not doing enough in terms of providing care and support with only about fifty percent displaying a good attitude toward maternal care.[2] This shows a lacuna in the role of men as change agents for maternal health improvement.[3] Mersha et al. in his study from northwestern Ethiopia had also reported low institutional delivery and postnatal care practices on the part of women, which partly explains men's poor understanding of danger signs.[4] The researchers suggested that policies and programs should be developed to improve awareness among men about their roles in the care of mothers.[5] There is increasing policy attention on engaging men in maternal healthcare systems following the International Conference on Population and Development in Beijing 4th World Conference for Women.[6] Studies have tested the positive impact of male participation in maternal fitness in growing nations, particularly in improving antenatal and postnatal care.[7] The 2015 global fitness advice on maternal and new child fitness emphasized the energetic engagement of men throughout pregnancy, childbirth, and postpartum length as effective measures to decorate maternal and newborn fitness consequences.[8] A systematic review published in 2018 encompassed thirteen types of research evaluating the impact of male companion involvement in low and middle-earnings nations, affirmed that male engagement as an intervention considerably complements the usage of antenatal and postpartum care facilities and has a better overall impact on the physical, mental and psychological health.[9] Social norms, beliefs, and values strongly affect the kind and volume of assistance pregnant ladies receive from their husbands or other family participants. As an example, research in Bangladesh indicated low utilization of facility-based total transport offerings amongst ladies whose husbands perceived childbirth as a natural method no longer requiring scientific intervention, or who faced stress from different family members concerning their needs.[10] Similar literature can be found in middle-east countries like India, Pakistan and Afghanistan.[6, 11,12, 15, 16, 17]

In Patriarchal society's social standards, demeanor towards engaging ladies influences a woman's level of maternal well-being benefit utilization. Subsequently, a cautious engagement of male accomplices in maternal well-being benefits in such communities may be a successful technique to make strides in maternal well-being benefit utilization and decrease maternal morbidity and mortality. It is essential to survey men's current level of mindfulness and association in the maternal well-being care framework to arrange a viable mediation methodology to move forward with their involvement. Therefore, our objective is to assess the knowledge and attitudes among married males regarding the antenatal and postnatal needs of women in Rawalpindi.

Materials and Methods

A descriptive cross-sectional approach is used in this study to assess married men's attitudes and knowledge about the prenatal and postnatal needs of women in Rawalpindi. The study was carried out over six months, using non-probability consecutive sampling. The sample size was calculated using the WHO calculator. The study aims for a confidence level of 95% and a margin of error of 5%. With an estimated prevalence of 70% among the target population, it was determined that a minimum sample size of n= 323 would be necessary to achieve statistically significant results.[17] Participants included 323 individuals above age 18, selected from multiple strata based on age, gender, and socioeconomic status. Inclusion criteria characterized individuals above 18 years with at least one child who consented to participate in the study. The exclusion criteria involved those participants with any diagnosed neurological or psychiatric impairments and medical professionals.

A self-structured questionnaire was distributed to the participants to collect the data. The questionnaire consisted of 35 items, including closed-ended and Likert-scale questions, to measure variables such as demographic information, attitudes, and behaviors. It comprised of four parts; informed consent, socio- demographic details, knowledge and attitude.

Knowledge was scored into three categories poor (<19), adequate (20-28), and excellent (29 or more) similarly attitude was categorized into poor (<5), adequate (6-7), and excellent (8 or more). Data was analyzed using IBM SPSS version 26.0.

Categorical data was computed as frequencies and percentages. Mean and Standard deviation were used for quantitative variables. The chi- square test was applied to categorical variables, Correlation analysis was also done. A p-value of less than 0.05 is considered significant. Ethical approval for this study was obtained from the Institutional Review Board (IRB) of the affiliated institution. All participants provided written informed consent before participating in the study. Data were stored securely, and only the research team had access to the information.

Results

We classified all 323 participants into three levels each of knowledge and attitude i.e., poor (<19 score), moderate (20-28 score), and excellent (29 or more score) for knowledge. For attitude, into poor (<5 score), moderate (6-7 score) and excellent (8 or more score). The results are shown in Table II.

Table-I Demographic profile

Demographics	Frequency (n)	Percentage (%)
Age		
18-25	44	13.6
26-30	71	22.0
31-35	65	20.1
36-40	47	14.6
>41	96	29.7
Education		
Illiterate	9	2.8
Primary	25	7.7
Middle	42	13.0
high school	95	29.4
higher studies	152	47.1
Residence		
rural	135	41.8
urban	188	58.2
Monthly Income (PKR)		
20,000 - 30,000	46	14.2
31,000 - 40,000	38	11.8
41,000 - 50,000	59	18.3
51,000 - 60,000	47	14.6
>60,000	133	41.2
Duration of marriage		
<1 yr.	34	10.5
1-4yr	94	29.1
5-8yr	76	23.5
>8yr	113	35.0
No. of children		
1	104	32.2
2	94	29.1
3	65	20.1
4 or more	60	18.6

Table-II Assessment of Knowledge and Attitude score

Knowledge	Frequency (n)	Percentage (%)	Attitude	Frequency (n)	Percentage (%)
Poor	87	27	**Poor**	115	35.6
Adequate	159	49.9	**Adequate**	121	37.5
Excellent	76	23.6	**Excellent**	87	26.9

Analysis showed that the knowledge of men regarding antenatal and post-natal needs of women was better in males who were highly educated (p= .04), living in urban areas (p= .02), had good monthly income (p= .04) and more children (p= .031**).**

Table-III Significance of association between demographic profile and knowledge level.

Demographics	**Level of knowledge (Frequency)**			**Significance (p- value)**
	Poor (n)	Adequate (n)	Excellent (n)	
Age				0.298
18-25	12	23	9	
26-30	25	33	12	
31-35	18	33	14	
36-40	8	28	11	
>41	24	42	30	
Education				0.006*
Illiterate	3	6	0	
Primary	12	11	1	
Middle	12	24	6	
High school	29	37	29	
Higher studies	31	81	40	
Residence				0.021*
Rural	45	66	23	
Urban	42	93	53	
Monthly income				0.048*
20,000-30,000	19	23	4	
31,000-40,000	9	21	8	
41,000-50,000	18	29	11	
50,000-60,000	11	26	10	
>60,000	30	60	43	
Duration of marriage				0.233
<1yr	7	20	7	
1-4yr	32	46	15	
5-8yr	19	38	19	
>8yr	26	54	33	
No. of children				0.031*
1	27	58	18	
2	18	54	22	
3	20	27	18	
4 or more	22	20	18	

Table-IV Significance of association between demographic profile and Attitude level

Demographics	**Attitude Level**			**Significance (p-value)**
	Poor (n)	Adequate (n)	Excellent (n)	
Age				0.629
18-25	14	15	15	
26-30	28	24	19	
31-35	22	29	14	
36-40	17	21	9	
>41	34	32	30	
Education				0.174
Illiterate	5	3	1	
Primary	14	5	6	
Middle	17	17	8	
High school	35	33	27	
Higher studies	44	63	45	
Residence				0.63
Rural	58	44	33	
Urban	57	77	54	
Monthly income				0.913
20,000-30,000	19	15	12	
31,000-40,000	16	15	7	
41,000-50,000	20	22	17	
50,000-60,000	15	20	12	
>60,000	45	49	39	
Duration of marriage				0.704
<1yr	11	11	12	
1-4yr	37	36	21	
5-8yr	24	31	21	
>8yr	40	40	33	
No. of children				0.66
1	33	41	30	
2	33	42	19	
3	23	26	16	
4 or more	26	12	22	

The significance of the association was determined using the Chi-square test.

*Statically significant at $p<0.05$

Demographics like age, monthly income, duration of marriage, and age at marriage do not significantly affect the attitudes of males. Attitudes towards ante-natal and post-natal needs were comparatively better in males with urban residence, greater number of children, and better educational backgrounds.

Table-V Correlation of Knowledge and Attitudes Towards Antenatal and Postnatal Needs Of Women.

		Attitude	Knowledge
Attitude	Pearson correlation	1	0.499**
	Sig. (2-Tailed)		<0.001
	N	323	322
Knowledge	Pearson correlation	0.499**	1
	Sig. (2-Tailed)	<0.001	
	N	322	322

Knowledge and attitudes were correlated (correlation coefficient 0.499, $p < 0.001$).

89.2% of males think laboratory investigations should be done before pregnancy. Detailed analysis of knowledge about various laboratory investigations is given in figure 1.

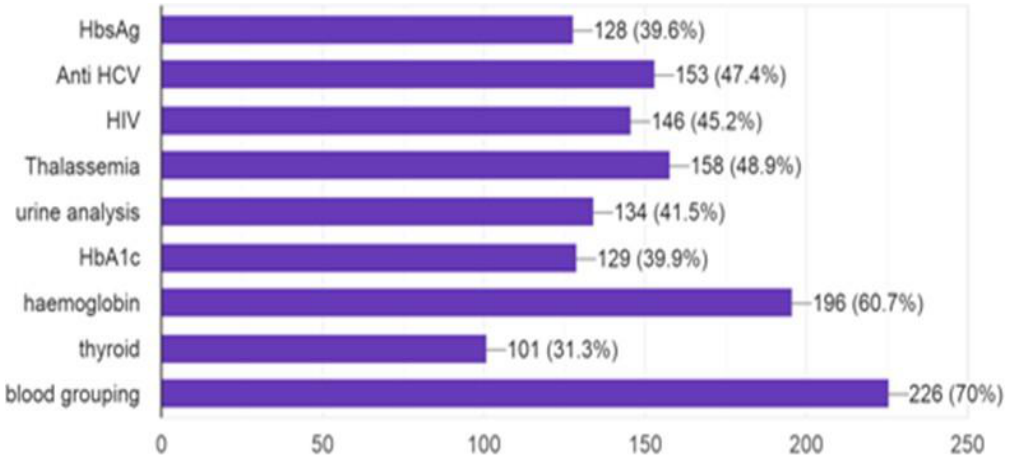

Figure 1 Knowledge of Laboratory Investigations in Participants.

The majority of participants were knowledgable regarding the importance of antenatal visits (91.6%), the safety of ultrasound (64.4%), and the need for hepatitis B vaccination during pregnancy (66.5%). They acknowledged that maternal diseases affect pregnancy (76.5%), hospitals are the safest for delivery (78.6%), and pregnant (82.7%) and lactating women (77.7%) require additional calories. Most also understood that the postnatal period is stressful for women (69.6%).

However, fewer participants were aware of the WHO-recommended antenatal visits (28.8%), the need for tetanus toxoid vaccination (48.2%), the acceptability of both home and hospital deliveries (16.1%), and the harmful effects of caffeine during pregnancy (32.9%)

Attitude assessent showed that majority of men believed that husbands should encourage their wives to seek professional help for anxiety and depression (75%), support open emotional expression during pregnancy and postpartum (78.6%), take responsibility for various aspects of antenatal care, including prenatal visits, screening tests, and vaccination (79.2%), make antenatal care a mutual decision rather than the wife's sole responsibility (78%), and ensure proper dietary support during pregnancy (79.2%). In contrast, a minority of participants did not consider spending extra time or speaking positively about pregnancy and childbirth necessary (19.5%), denied the importance of family and social support for women during and after childbirth (14.9%), and believed that men should focus on their jobs and other responsibilities rather than actively participating in caregiving (34.6%).

Discussion

Our study reveals that 72% of the population under study possesses good knowledge of antenatal care (ANC) and postnatal care (PNC). Specifically, 23.6% of male partners exhibit excellent knowledge, while approximately half (49.4%) have adequate knowledge, with about 27% demonstrating poor knowledge regarding ANC and PNC. An improvement in the knowledge of participants from Rawalpindi was seen i n comparison to a previous study conducted in Swat, KPK which reported only a 52% prevalence of knowledge. This may be attributed to a higher proportion of people with higher education (47%) and better income (41% earning more than 60000 PKR).[12]

Urban areas like Rawalpindi show higher knowledge than rural areas, reflecting better access to education and healthcare services. Significant associations were found between knowledge levels and variables such as education, urban residence, income, and number of children, aligning with findings from Indonesia and contrasting with Ethiopia's lower knowledge score of 36%.[13,14] Our study revealed that 64.4% of participants exhibited good attitudes towards their spouses' maternal needs, with 26.9% showing excellent attitudes and 37.5% demonstrating adequate practices. This percentage is lower compared to a study in Swat, Pakistan, where 84% of the population had positive attitudes towards maternal needs.[12] Despite this, significant associations with variables such as age, income, number of children, education level, area of residence, duration of marriage, and age at marriage were not found during the analysis. Other studies have shown that antenatal care (ANC) participation increases with men's knowledge, urban residence, and higher income levels.[12-16] Similarly, a study in Ethiopia reported similar challenges with men's practices, indicating a need for increased community education and awareness campaigns to improve male involvement in maternal care.[14]

The findings of our study also reveal the effect of some demographic factors on the knowledge

and attitude of men regarding antenatal care. One of the important factors is the education level of the male partner, there is a significant relation between these two variables, which is also reported by a study conducted in Swat, KPK.[12] Suresh and Balram also described the importance of educating and empowering men about pregnancy complications to enhance the health outcomes of both mothers and newborns.[17] Another study in the North West also reported that respondents with secondary education were 1.5 times more likely to accompany their wives to ANC visits than those with no formal education.[14] Our study also shows that males living in urban areas have better knowledge and attitudes regarding antenatal care than males in rural areas.

Another important factor is the number of children. Our study shows that males having more children have better knowledge and attitudes regarding antenatal care. Another study reported that couples with two or fewer children likely have limited prior experience with pregnancy, which motivates the husband to be involved in pregnancy care and take an active role in ensuring his wife's health during pregnancy.[13] Our study shows that income does not affect the knowledge and attitude of males regarding antenatal care. This result is similar to the research conducted in Northeast.[14] On the contrary, a study conducted in Indonesia shows that the income of males influences the knowledge and attitude of males regarding antenatal care because people with better socioeconomic status have better access to health care services and needs which is in contrast to our study.[13] Factors like the age of the male partner, duration of marriage, and age at marriage do not affect the knowledge and attitude of males regarding antenatal care.

Our study indicates that a large proportion of the male population might play a crucial role in antenatal care, such as attending antenatal visits, undergoing screening tests, and receiving vaccinations. Additionally, 78% of males believe that decisions regarding antenatal care should be a joint effort between husband and wife, this is by a study conducted in Uganda; when men support their wives through pregnancy and postpartum with planning and communication, it ensures healthier mothers and babies.[18] Another study conducted in Sokoto, Nigeria, shows similar results; Involving women in decision-making empowers them to take charge of their health and encourages them to include their spouses in improving their prenatal care behaviors.[19,20]

The present study indicates that most males believe spending extra time and positive communication during pregnancy is crucial for women. Also, a large proportion believe, antenatal visits are necessary for mothers and babies, to accompany their wives for visits. Studies conducted in KPK, Pakistan, India, Salvador, Nepal, and Ethiopia show similar results.[12-14] This study also points out that approximately 50% of the population believes women should get the tetanus toxoid vaccine during antenatal checkups. Studies conducted in KPK and Bangladesh show similar findings which might be because all these countries are located in the same region.[12]

The current study shows that 78.6% of men agree they should support their spouses in openly expressing their feelings during pregnancy and after childbirth. In a study conducted in Nigeria, first-time fathers preferred to maintain an outward look of strength for their spouses and tackle their emotional challenges quietly.[19]

The present study indicates that men are considerably knowledgeable regarding the dietary needs of pregnant and breastfeeding wives. This is in contrast with a study conducted in Ethiopia, which reports that few men are knowledgeable about the nutritional needs of women, especially iron-rich foods.[21]

This contradiction is due to the low literacy rate of men assessed there.

There were certain limitations in this study that could potentially impact the findings. Limitations of our study include Potential biases from self-reported data, limited generalizability due to non-probability sampling, and cross-sectional design which limits causality conclusions. Further research is needed to explore the underlying causes of poor attitudes. Our research indicates that to enhance males' understanding and attitude towards the maternal needs of women, the implementation of health promotion strategies is essential. These strategies may include health awareness initiatives through print and electronic media, as well as promoting male participation in joint health checkups and prenatal visits with their spouses. Arranging public health-related seminars and campaigns will help create a favorable environment for maternal care.

Conclusion

People with good education, more than 2 children, and better income have a good knowledge about ANC and PNC needs of women but the same cannot be said regarding attitude. This may be due to several reasons mainly less awareness and practices regarding these particular needs. This embarks on the need to create awareness in men and mobilize them for the care of their spouses through community education. However, more research is needed to find the root cause but the percentage is still good for knowledge of men, depicting their courteous attitude towards their spouses.

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