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"An analytical study on the knowledge, attitude, and practices concerning antenatal care among pregnant women attending a primary health center in the rural areas of Prayagraj district, Uttar Pradesh, India"

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Abstract
Prenatal care means checking the health of the mother and baby during pregnancy to ensure the best possible outcome for both. Regular and early checkups during pregnancy help in having safer and healthier deliveries compared to those who do not receive such care. Many factors affect a woman's ability to stay healthy and recover from problems during pregnancy and childbirth. These include her general health, nutrition from childhood to pregnancy, and how easily she can reach and use health services. Her knowledge, attitude, and habits during pregnancy also play an important role. This study aims to find out how much pregnant women know about antenatal care, what their attitudes are, and what practices they follow in primary health centers in rural areas of Prayagraj, Uttar Pradesh, India.

Keywords: Knowledge and attitude, newly married women, spouses practices, pregnant women, antenatal mother, primary healthcare center

Introduction

Pregnancy is a natural process that causes many physical and emotional changes in a woman's body. It is a special and important experience for every woman. However, sometimes pregnancy can bring certain problems or complications that may be dangerous for the mother or the baby.

Antenatal care means regular checkups of the mother and baby during pregnancy to make sure both stay healthy. Getting care early and continuing it throughout pregnancy helps women have safer and healthier deliveries than those who don't get any care. During these visits, pregnant women can receive many important health services such as proper nutrition advice, treatment or prevention of anaemia, malaria, tuberculosis, and sexually transmitted infections.

Pregnancy is a special time in a woman's life, filled with excitement and care as she looks forward to meeting her baby. Most women hope for a safe pregnancy and normal delivery so they can hold a healthy baby in their arms and for that, proper antenatal care is very important.

Sadly, many mothers around the world still die from pregnancy- or childbirth-related problems. In 2017, about 810 women died every day due to such complications, and in 2015, around 303,000 women lost their lives during or after pregnancy and childbirth. Most of these deaths happened in poor or low-resource areas and many could have been prevented with proper care.

Studies have shown that about 88-98% of maternal deaths can be prevented with proper care during pregnancy and childbirth. The antenatal period (the time of pregnancy) is a very important phase for every mother. Good care and healthy practices during this time help keep both the mother and baby healthy and reduce the risk of complications. The World Health Organization (WHO) has given clear guidelines about when pregnant women should visit the clinic and what kind of care they should receive during these visits.

Health knowledge is very important for women so they can understand and take care of their health during pregnancy. There is very little information available about mothers' health

conditions in Libya. This study was done to find out how much pregnant women know about antenatal care, what their attitudes are, and what practices they follow during pregnancy in primary health centers in rural areas of Prayagraj, Uttar Pradesh, India.

Every year, about 6 million women become pregnant, and around 5 million give birth. Proper use of antenatal health services helps improve the health of both mothers and babies. Good care during pregnancy supports the healthy growth of the baby and the well-being of the mother. This can be achieved only if pregnant women start their checkups early and visit the clinic regularly for antenatal care. (WHO, 2007).

Maternal health services play an important role in improving women's reproductive health. How women use these services depends on things like how easily the services are available, their quality, cost, and the woman's social background, health beliefs, and personal habits. Every year, more than half a million women die from problems related to pregnancy or childbirth. Most of these deaths happen during delivery, but many could be prevented if trained medical staff were present to provide proper care. (UNICEF, 2008).

Aim of study

The aim of this study is to find out how much pregnant women know about antenatal care, what their attitudes are, and what practices they follow during pregnancy in primary health centers in rural areas of Prayagraj, Uttar Pradesh, India.

Significance of the Study

This study seeks to identify the existing gaps between knowledge, attitude, and practices related to antenatal care among community members. It will enable local health authorities to assess pregnant women's awareness, perceptions, and behaviors toward antenatal services. The study findings will be disseminated to the community and presented to higher authorities and policymakers. The outcomes will serve as valuable evidence for decision-makers, stakeholders, and policymakers to refine or formulate strategies aimed at reducing maternal mortality and morbidity within the community. Furthermore, the study will enhance participants' understanding of the importance of antenatal care and increase their awareness of how insufficient knowledge or poor practices can negatively impact maternal health.

Methods

In this study a hospital based cross sectional study design was adopted. The target accessible of the study includes the spouses of pregnant woman who attended antenatal clinic at PBMH and who met the criteria that the researcher established for a study. The study was conducted in primary health care centers in rural area in Prayagraj, Uttar Pradesh. India.

As documented in different literature, the proportion of various heterogeneous (15%-70%) pattern in knowledge and attitude level of spouses of antenatal mother. Therefore a sample size is thought to be maximum by assuming the prevalence of 50%. Therefore by adapting the expected 50% of prevalence at 5% of absolute precision and 95% of desired confidence level, the require sample size is 384. Therefore a total of nearby 400 spouses of pregnant mother will be recruited for the current study. A consecutive sampling technique was adopted to select husbands of 384 pregnant woman.

Inclusion criteria

Spouses of pregnant women who ware gave the consent. Spouses of Primi Gravid mother Spouses of pregnant woman who were attending antenatal clinic selected Hospital. Spouses of pregnant woman who were willing to participate in the study.

Exclusion criteria

Spouses who work as health professionals. Spouses who are suffering with mental disorder.

Data collection tool and Development of tool

The study tool had two sections.

Section I included basic demographic information such as age, occupation, socioeconomic status, husband's education level, type of family, monthly family income, main decision-maker in the family, age at marriage, and source of health information.

Section II included a structured questionnaire to assess knowledge. The researcher expresses sincere thanks to Community Health Officer, Rural Area of Prayagraj. Uttar Pradesh, for his valuable guidance, suggestions, and constant support throughout the research, which made this study a meaningful and successful learning experience.

A structured questionnaire was used to check the knowledge and attitude about antenatal care among the husbands of pregnant women. Before starting the study, written permission was taken from the concerned authorities.

Consent was also taken from the participants to confirm their willingness to take part in the study. The data was collected personally by the researcher.

Data collection

After getting permission from the concerned authorities of the selected hospital, the researcher collected the data. Before starting, the spouses were seated comfortably in a quiet and peaceful place.

The researcher introduced herself, explained the purpose of the study, and took consent from the husbands of pregnant women to ensure their full cooperation. Each day, about 10 to 30 husbands were interviewed using a structured questionnaire with closed-ended questions.

Statistical analysis

The collected data was entered into Microsoft Excel and then analyzed. The relationship between the mothers' knowledge scores (before the test) and their selected social and demographic factors was checked using the chi-square test. The effectiveness of the planned teaching program was measured using the paired 't' test. A p-value of less than 0.05 was considered statistically significant.

Results

The level of knowledge about antenatal care among the husbands of pregnant women who attend the antenatal clinic.

Most of the husbands had good knowledge about antenatal care. The average knowledge score was 61.10%, which was calculated as the mean of all the scores.

The standard deviation, which shows how much the scores varied, was 17.2 indicating that the difference between the

scores was small. (Table no 1)

Table1: Mean and standard deviation of knowledge score.

Statistic	Knowledge score
N	384
Maximum	94.44
Mean	61.10
SD	17.22
Minimum	16.67

The majority of the spouses had adequate knowledge (48.7%) and moderately knowledge (46.6%). Only 4.7% have inadequate knowledge about antenatal care during pregnancy.

The knowledge scores varied with the age of the husbands. This difference was found to be significant ($p = 0.002$). Husbands aged 20 years or below had much lower knowledge scores compared to those aged 21-30 years and 31-40 years ($p < 0.05$). (Table2).

Table 2: Frequency and percentage distribution according to knowledge score.

Knowledge Score	Frequency (f)	Percentage (%)
Inadequate	187(13-18)	48.7
Moderately	179(8-13)	46.6
Adequate	18(1-7)	4.7

Level of attitude regarding Antenatal care among the spouses of pregnant woman those attending antenatal clinic

Mean attitude score was very high 94.29% with small SD3.87. Minimum score 78.2% and Max score 100. The attitude of spouse towards antenatal care is found to be extremely high this low variability indicated that the attitude scores of the spouse of pregnant women are closely spread around the average or mean (Table 3).

Table 3: Attitude score criteria.

Attitude Score Criteria	Percentage
Positive	67 - 100
Neutral	34 - 67
Negative	00 - 33
Deviation of Attitude Score	
N	384
Minimum	78.82
Maximum	100
Mean	94.29
SD	3.87

Association between knowledge and demographic variables

The data shows that the knowledge scores differed significantly based on the husbands' ages ($p = 0.002$). Husbands aged 20 years or below had much lower knowledge scores compared to those aged 21-30 years and 31-40 years ($p < 0.05$). The results also show that as the education level of the husbands increased, their knowledge scores also improved. This difference in knowledge scores among different education levels was found to be highly significant ($p = 0.000$).

Husbands who had no formal education scored much lower than those with any level of schooling ($p < 0.05$). The knowledge scores of husbands with only primary education were also significantly lower compared to those who were graduates or had higher education.

The knowledge scores were almost the same among husbands who had secondary, higher secondary, or graduate-level education ($p > 0.05$). There was also no significant difference in knowledge scores based on their occupation ($p = 0.450$). However, as the family's income increased, the knowledge scores also increased significantly ($p = 0.000$). The type of family also showed a strong connection with knowledge scores ($p = 0.018$), meaning that the family type had a positive effect on the level of knowledge. (Table 4).

Table 4: Association between knowledge and demographic variables (N=384).

Association of Knowledge score with age of Spouses				
Knowledge score	**Frequency**	**Mean**	**SD**	**P value**
≤ 20	5	34.44	6.09	0.002
21-30	295	61.09	17.45	
31-40	84	62.7	15.56	
Association of Knowledge score with education status of Spouses				
Educational status of spouse	**Frequency**	**Mean**	**SD**	**P value**
No education	20	43.33	14.6	0.000
Primary education	52	56.2	17.17	
Secondary education	39	58.4	14.3	
Higher Secondary	59	61.49	15.19	
Graduate and above	214	64.33	17.23	
Association of Knowledge score with occupation status of Spouses				
Occupation status of spouse	**Frequency**	**Mean**	**SD**	**P value**
Unemployed care	19	57.02	15.14	0.450
Public sector	118	62.29	16.72	
Private sector	149	62.08	15.67	
Business	78	59.19	20.8	
Other	20	58.06	17.7	
Association of Knowledge score by socio economic status of Spouse and his family				
Family income in Rupees	**Frequency**	**Mean**	**SD**	**P value**
≥ 5000	18	47.22	18.98	0.000
5001-10000	89	57.74	16.34	
11001-15000	129	59.56	17.65	
15001-25000	94	64.6	16.17	
≤25001-29000	54	68.83	14.13	
Association of Knowledge score with types of Spouse family				
Knowledge score	**N**	**Mean**	**SD**	**P value**
Joint	184	63.25	16.29	0.018
Nuclear	200	59.11	17.84	

Association of attitude score with demographic variable

The attitude scores did not show any significant difference based on the husbands' ages ($p = 0.320$). The type of family also did not affect the attitude scores ($p = 0.441$). Although the attitude scores increased slightly with higher education levels, the difference was not significant ($p = 0.297$). The husbands' occupations also showed no significant difference in attitude scores ($p = 0.902$). Similarly, family income did not have a significant effect on attitude scores ($p = 0.251$) (Table 5).

Table 5: Association of attitude score with demographic variable.

Age Group	No	Mean	SD	P value
≤ 20	5	96.47	3.33	
21-30	295	94.17	3.94	0.32
31-40	84	94.57	3.62	
Family type	**No**	**Mean**	**SD**	**P value**
Joint	184	94.13	3.8	
Nuclear	200	94.44	3.93	0.441
Education of spouse	**Frequency**	**Mean**	**SD**	**P value**
No education	20	95	4.09	
Primary education	52	94.64	3.4	
Secondary education	39	95.02	3.45	0.297
Higher Secondary	59	93.52	3.24	
Graduate and above	214	94.22	4.16	
Occupation of spouses	**No**	**Mean**	**SD**	**P value**
Private sector	149	94.43	3.53	
Public sector	118	94.07	4.26	
Business	78	94.4	3.86	0.902
Unemployed	19	93.81	3.92	
Other	20	94.59	4.15	
Income level	**No**	**Mean**	**SD**	**P value**
≤ 5000	18	94.31	3.7	
5001-10000	89	94.62	3.59	
11001-15000	129	94.66	3.74	0.251
15001-25000	94	93.97	4.27	
≥25001-29000	54	93.4	3.87	

Discussion

This study was done to find out the knowledge and attitude of husbands of pregnant women about antenatal care. Out of 384 participants, most of the husbands (76.8%) were between 21 and 30 years old. The average knowledge score was 66.10 ± 17.22. Factors like education level ($p < 0.000$), age ($p < 0.002$), type of family ($p < 0.018$), and monthly income ($p < 0.000$) were found to have a significant effect on their level of knowledge.

A similar study by Raymond *et al*. was conducted among husbands of first-time pregnant women attending antenatal care at tertiary and secondary health centers in Ogbomosho. The average age of the participants was 30.6 ± 5.3 years, and their mean knowledge score was 63.55 ± 6.27. The study showed that education level ($p < 0.001$), occupation ($p < 0.001$), type of marriage ($p = 0.005$), and monthly income ($p < 0.002$) were significantly linked to their knowledge levels. In that study, when asked about the danger signs of pregnancy, 61.5% of the husbands mentioned bleeding, while only 38.5% mentioned constipation, backache, or hemorrhoids as danger signs.

A study by Iliyasu *et al*. in Northern Nigeria was done among 400 men to understand husbands' involvement in antenatal care. When asked about danger signs in pregnancy, 51.9% mentioned bleeding, 37.8% mentioned convulsions, and 33.2% mentioned loss of consciousness. Some also identified pale appearance in the mother (21.6%) and no movement of the baby (15.4%) as danger signs. Only 4.1% thought fever was a serious sign. The study also found that 8.6% of the husbands were not aware of the importance of antenatal care.

A similar study by Rohini *et al*. in Maharashtra, India, found that 9% of the husbands did not know about the need for antenatal care.

The present study looked at the knowledge and attitude of husbands of pregnant women about antenatal care. It found that most husbands had good knowledge and a positive attitude toward antenatal care.

Conflict of Interest

Not available

Financial Support

Not available

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