Research Article

A Study to Assess Knowledge, Attitude, and Practices of Antenatal Care among Antenatal Women in Selected Rural Area of Haryana and Punjab State

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ABSTRACT

Background: Antenatal care (ANC) is the care of the women during pregnancy. The primary aim of ANC is to achieve a healthy mother and a healthy baby at the end of pregnancy. The objectives of ANC are to promote, protect, and maintain the health of the mother during pregnancy. ANC helps to detect high-risk cases, to foresee complications, and to remove anxiety and dread associated with delivery. At the country level, two countries account for a third of global maternal deaths; India at 17% (50,000) and Nigeria at 14% (40,000). **Methodology:** The study was conducted after verbal consent from the participants. The study was designed as a cross-sectional study. The study populations were pregnant women residing in rural areas of Haryana and Punjab. Three hundred pregnant females recruited randomly women were questioned regarding obstetric health history during home visit. A total of 20 questions were framed on the knowledge regarding various aspects of ANC and other questions were regarding practices and attitude related to ANC. **Results:** The knowledge, attitude, and practices (KAP) study was conducted in a rural area of the state of Punjab and Haryana about ANC among pregnant women. It was found that knowledge, practices, and positive attitude about ANC among pregnant women score for knowledge was 64%, score for positive attitude was 79.66%, and score for ANC practices was 67%. **Conclusions:** Considerable gaps were found in the KAP regarding ANC among antenatal women. Literacy is an important factor in the utilization of ANC services. To improve community, spousal and family awareness of ANC, information, education, and communication activities should be increased on ANC through community campaign, mass media, and digital phones.

Keywords: Antenatal care, Antenatal women, Attitude, Knowledge, Practices

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Introduction

The care of women during pregnancy is called antenatal care (ANC). It includes pregnant woman's visit to antenatal clinic, examination, investigations, immunization, supplements (iron folic acid [IFA], calcium), and the required interventions. This is a comprehensive approach to medical care and psychological support to the family that ideally begins at conception and ends with onset of labor. It envisages on-going assessment of risk, identifying and managing problems through education, counseling, and medical interventions. The goal of ANC

is to have a healthy mother and healthy baby at the end of pregnancy.

ANC is an important step which means care before birth with complete screening treatment, promoting, and monitoring if the safety of mother and fetus. The ANC could provide pregnant women with valuable information and advices that could help them during their pregnancy delivery and postnatal period to avoid the right rates of death that results from inappropriate knowledge about ANC.

In 2016, millions of births globally were not assisted by a trained midwife, doctor, or nurse, with only 78% of births were in the presence of a skilled birth attendant.^[1]

Within the continuum of reproductive health care, ANC provides a platform for important health-care functions, including health promotion, screening and diagnosis, and disease prevention. It has been established that by implementing timely and appropriate evidence-based practices, ANC can save lives.^[2]

The National Health Mission purposes a reduction in infant mortality rate to 25/1000 live births and maternal mortality rate 1/1000 live births by the year 2025. There are many basic institutional mechanisms for achieving lower infant mortality level always in place, but reduction in maternal mortality rate will require a rapid expansion of antenatal and obstetric services for pregnant women, particularly in rural areas where only a minority of births are supervised by trained health personnel.

The present study was aimed at assessing knowledge, attitude, and practices (KAPs) of expectant mother in relation to ANC.

The study published by Singhla shows that at the country level, two countries account for a third of global maternal deaths; India at 17% (50,000) and Nigeria at 14% (40,000).^[3]

ANC is the care of the women during pregnancy. The primary aim of ANC is to achieve a healthy mother and a healthy baby at the end of pregnancy. The objectives of ANC are to promote, protect, and maintain the health of the mother during pregnancy. ANC helps to detect high-risk cases, to foresee complications, and to remove anxiety and dread associated with delivery.

Knowledge is the understanding of any given topic. In this study, it refers to pregnant women's understanding of components of ANC which includes registration of pregnancy, danger signs during pregnancy, intake of prophylactic IFA tablets during pregnancy, and adapting family planning methods.

A pregnant female's antenatal check-up, adapting family planning behavior is influenced by her emotions, motivations, perceptions, and thoughts. Attitudes influence future behavior no matter the individual's knowledge and help to explain why an individual adopts one practice and no other alternatives.

Practices are defined as the observable actions of pregnant women that could affect her to go to the hospital for antenatal check-up, after knowing the danger signs during pregnancy, how she is making the arrangement to attend hospital and how she had adapting the family planning methods after marriage, in the previous and present pregnancy.

The World Health Organization^[4] in 2013 stated that 286,000 of maternal deaths in developing countries were due to

preventable complications. Primary cause of maternal deaths is the result of three delays; delay in seeking care, delay in reaching health-care facility, and delay at an institutional level in providing appropriate care. Appropriate ANC helps in early detection, treatment, and prevention of conditions that are associated with maternal morbidity and mortality. Unfortunately, many women in developing countries do not receive such care. Understanding knowledge and practices of the community regarding care during pregnancy and delivery are required for program implementation.

With this background, the present study was conducted among pregnant females to find out the KAP score about ANC.

Objectives

The objectives of this study were as follows:

- To assess the knowledge and attitude on ANC among rural mother
- To access the influence of socioeconomic factors on ANC of delivery practices of the rural mothers
- To find out the percentage and KAP score of ANC among antenatal women.

Methodology

This is descriptive study on the antenatal women residing at rural area of Punjab and Haryana state, India, within data collection period of 3 months.

The study was conducted after verbal consent from the participants. The study was designed as a cross-sectional study. The study population was pregnant women residing in rural areas of Haryana and Punjab. Three hundred pregnant females recruited randomly.

Sampling technique

Verbal consent was taken from the mothers after explaining the purpose of the study. Of 305 antenatal women, 300 were willing to participate in the study. House-to-house survey was done to collect the information.

Data collection

Kaliyaperumal^[5] in his guidelines for conducting Knowledge, Attitude and practice study explained the importance of assessing the awareness of community before creating awareness programmes. Keeping this in view, in this study total 20 questions were framed on the knowledge regarding various aspects of Ante natal care and other questions were regarding practices and attitude related to ANC.

Data analysis

Data obtained were entered into Microsoft excel and analyzed. For correct answer of KAP score of 1 is given and 0 for incorrect response. Adequate KAP was defined as those getting a score of

50% and above of the total score and inadequate KAP as getting a score of <50% of the total score. Indicators used to quantify knowledge are reported in terms of percentages and score.

Percentage

Percentages of respondents used as indicators of knowledge who know the correct answer to a question; Score – For a score-based indicator of knowledge, each respondent is given a score based on the number of correct responses provided. The knowledge score of the population is calculated for each question as the total number of correct response to one question divided by the total number of responses. Participants who did not answer the question or for with incomplete information were excluded from the study. Measurement of attitudes – Attitudes are measured by asking the respondents to judge whether they are positively or negatively inclined toward ANC. Similarly, the practices followed by the pregnant female regarding ANC were asked. Then, score for practices regarding ANC was calculated.

Results

ANC

Table 1: Demographic Data

Variables	Number (%)
Age (years)	
18–25	108 (3)
26–33	136 (88)
34–40	56 (6)
Religion	
Christian	9 (3)
Hindu	264 (88)
Muslim	18 (6)
Sikh	9 (3)
Education of mother	
Graduate	68 (22.6)
High school	81 (27)
Illiterate	39 (13)
Intermediate	34 (11.33)
Primary school	78 (26)
Education	
Graduate	41 (13.66)
High school	100 (33)
Illiterate	30 (10)
Intermediate	65 (21.66)
Primary school	64 (21.33)
Occupation of mother	
Labor worker	143 (47.66)
Non-labor work	84 (28)
Unemployed	73 (24.3)
Annual family income (in rupees)	
Up to 20,000	106 (35.33)
<20,000	72 (24)
>50,000	122 (40.66)

Obstetrics health history

Table 2a: Obstetric History

Previous delivery (times)	Number (%)
0	29 (9.66)
1	144 (48)
>2	127 (42.33)

Table 2b: History of abortion

Abortion history	Number (%)
Previous induced/spontaneous abortion: No	239 (79.66)
Previous induced/spontaneous abortion: Yes	61 (20.33)

Table 2c: Frequency of ANC visit

Antenatal visits (times)	Number (%)
0	29 (9.66)
1	144 (48)
>5	42 (33)

Table 2d: Place of delivery

Delivery place	Number (%)
Number of delivery happen in home	41 (13.66)
Number of delivery happen in hospital	259 (86.33)

Table 2e: Obstetrics Complication

Obstetrics complication	Number (%)
Number of obstetrics with complication	240 (80)
Number of obstetrics without complication	60 (20)

Table 2f: Breast Feeding

Breastfeeding within 24 h	Number (%)
Yes	25 (8.33)
No	275 (91.66)

Table 2g: Immunization

TT immunization done	Number (%)
Yes	295 (98.33)
No	5 (1.66)

Table 2h: Iron Supplementation

IFA tablets taken during pregnancy period	Number (%)
Yes	187 (56.1)
No	113 (43.9)

Knowledge

Table 3: Knowledge regarding ANC

Variables	Yes	No
Do you think ANC is need?	290 (96.66%)	9 (3%)
Pregnant women should do the antenatal examination within the first 3 months?	271 (90.33%)	29 (9.66%)
Is it needed to count fetal movement every day in the stage of pregnancy?	216 (72%)	84 (28%)
Can anemia be prevented by eating more iron-contained food during pregnancy?	274 (91.33%)	26 (8.66%)
Does pregnant woman need calcium supply?	274 (91.33%)	26 (8.66%)
Should pregnant women often check blood pressure?	251 (83.66%)	47 (15.66%)
What action should be taken after amniotic fluid breaks? (immediately lie down, keep sitting, no special attention, or unknown)	260 (86.66%)	40 (13.33%)
If pregnant women feel severe headache, Is it needed to go to hospital?	227 (75.66%)	73 (24.33%)
Is it needed to go to hospital when vision problem happens?	251 (83.66%)	47 (15.66%)
Should child be vaccinated?	274 (91.33%)	26 (8.66%)
Supplementing pregnant women with IFA, calcium, and important vitamins are must during ANC visits	260 (86.66%)	40 (13.33%)
ANC doctors inform you about the fetal developmental stages	253 (84.33%)	47 (15.66%)
ANC visits could decrease the rates of maternal mortality	270 (90%)	30 (10%)
ANC visits give you information about danger symptoms and the proper complications	274 (91.33%)	26 (8.66%)
ANC visits give you information about correct pain or labor signs	253 (84.33%)	47 (15.66%)
ANC visits give you information about breastfeeding and postpartum care and exercises	267 (89%)	33 (11%)
Regular visits for ANC are important for yourself and your child health	263 (87.66%)	37 (12.33%)
It is important to book, follow-up, and deliver later in the same place that you were booked in?	226 (75.33%)	68 (22.66%)

ANC: Antenatal care

Practice

Table 4: Practice related to ANC

Variables	Yes	No
Have you followed ANC service?	260 (86.66%)	40 (13.33%)
If you experience abortion or other pregnancy complication, I seek ANC	205 (68.33%)	95 (31.66%)
It is important to book, follow-up, and deliver later in the same place that you were booked in.	288 (96%)	12 (4%)
Two tetanus toxoid doses required to immunize against tetanus during pregnancy	270 (90%)	30 (10%)

ANC: Antenatal care

Attitude

Table 5: Attitude regarding ANC

Question asked	Yes	No	Does not matter
Would you like to get teaching and training on breastfeeding from health worker?	220 (73.33%)	50 (16.66%)	30 (10%)
Would you like to be visited by health worker during postpartum period?	216 (72%)	34 (11.33%)	50 (16.66%)
Would you seek for ANC for any pregnancy complications?	183 (61%)	117 (39.00%)	0 (0%)
Would you follow regular ANC visits during your pregnancy period?	253 (84.33%)	45 (15%)	2 (0.66%)
Do you think that your family or the society supports you during delivery and antenatal period?	279 (93%)	18 (6%)	3 (1%)

ANC: Antenatal care

Table 5a: Reason for not attending ANC

Main reason for not attending ANC as required	Number (%)
No time	20 (6.66%)
Transportation inconvenience	82 (27.33%)
Financial difficulties	65 (21.66%)
No need	24 (8%)
Physician's bad attitude	15 (5%)
Others	94 (31.33%)

ANC: Antenatal care

Table 5b: Duration of breast feeding

How long would you like to breastfeed?	Number (%)
0–3 months	36 (12%)
4–10 months	99 (33%)
11 months and above	165 (55%)

Table 5c: Joining back for job

When would you like to return to work after giving birth?	Number (%)
0–2 months	11 (3.66%)
3–6 months	206 (68.66%)
7 months and above	83 (27.66%)

Table 5d: Newborn deformity

Stage of pregnancy does newborn deformity most likely to happen?	Number (%)
12 weeks	31 (10.3%)
12–28 weeks	159 (53%)
>28 weeks	100 (33.33%)
Unknown	10 (3.33%)

Discussion

The KAP (Knowledge, Attitude & Practices) study was conducted in a rural area of state of Punjab & Haryana about antenatal care among pregnant women. It was found that knowledge, practices and positive attitude about antenatal care among pregnant women Score for knowledge was 64%, [Table 3] score for antenatal care practices was 67% [Table 4] and score for positive attitude was 79.66% [Table 5]. Many of the mothers could not seek proper antenatal care for various reasons [Table 5a] but maximum mothers showed positive attitude towards breastfeeding for more than 3 months [Table 5b] as very minimal percentage (3.66) had to join back for work within 3 months [Table 5c]. Only 3% of mothers said that they are unaware of newborn deformities [Table 5d].

A study conducted by Laishram *et al.*^[6] found that the mean score of the knowledge on ANC was 20.9 ± 4.3 , of a total score of 36, which was 55.56%. It is quiet higher than our study. In the same study, 42.6% of women got full ANC and main reason for not attending any antenatal check-up was thought of as not necessary and financial constraints. It was found that higher level of education, Hindu religion, age at marriage, and living in owned house were statistically associated with better knowledge. Here, full antenatal is defined as at least three visits for antenatal check-up, at least one tetanus toxoid injection received and 100 IFA tablets/syrup consumed. Question asked from women who delivered in the past 5 years and residing in an urban area. However, in our study, the questions were asked to pregnant women for their KAP regarding ANC of their present pregnancy residing in rural area.

Chandhiok *et al.*^[7] conducted a study on ANC utilization in different parts of India found that 73.9% of women had completed three antenatal visits. In our study maximum mothers participated in this study were multi gravida [Table 2a] and maximum mothers did not have any previous abortion or obstetric complications [Table 2b and e]. 42.33% pregnant female had completed four antenatal care visits [Table 2c].

A study done by Khatib *et al.*^[8] in which the minimum three antenatal visits made by pregnant female are 33.6%. Iron tablets were taken by 94% of women, though only 45.3% completed the required 100 tablets. In our study, 187 pregnant female (57.6) has taken IFA tablets [Table 1h].

A study conducted in Alexandria in which the total score for the knowledge on ANC in urban women was 11.23 ± 2.91 and in rural women, the knowledge score was 6.59 ± 4.14 . In our study also, the knowledge score is less and it is 64%. The attitude score for ANC among urban women was 10.60 ± 2.33 and the attitude score for ANC among rural women was 8.55 ± 2.39 . However, in our study, about positive attitude toward ANC is 79.66% [Table 4]. Hence, the study conducted by Kishk^[9] in Alexandria, the attitude among pregnant female and their family members regarding ANC is very less. About 45.3% of urban women had not been vaccinated against tetanus toxoid vaccine during their

last pregnancy compared to only 24.7% of rural area. In our study, 98.33% [Table 1g] has taken tetanus toxoid injection. A study by Patel found that 58% of women attending an antenatal clinic in a tertiary care hospital had adequate knowledge regarding ANC. In the same study, 100% of women had a positive attitude toward ANC and 70% of women practicing ANC adequately. In this study, knowledge was assessed about ANC visits, tetanus toxoid immunization, investigations and nutritional factors, danger signs of pregnancy, contraception, and personal habit. Here, score >70% is considered adequate and score <70% is considered inadequate. However, in our study, adequate knowledge is taken when score is >75%. Variable to assess attitude was opinion on the place of child birth, the effect of smoking and alcohol on the health of mother and fetus, ANC registration, ANC visits and motivation, investigation, and dietary changes. IFA intake and regularity of intake also taken into consideration for assessing attitude of pregnant females and their family member. Questions were asked to assess the practices with regards to antenatal visits, dietary changes made during pregnancy, intake of iron and folic acid tablets, tetanus toxoid immunization and use of contraception. But in this study question related to dietary intake, smoking and alcohol were not taken.

A study by Gupta *et al.*^[10] found that 10.9% of pregnant female knew that >3 ANC visits were essential. In our study, none of the pregnant female knew that minimum four ANC visits are necessary. Regarding the knowledge about ANC services, 86.2% knew about early registration (preferably before 16 weeks) to be done to have proper ANC. 94.3% had adequate knowledge about the importance of tetanus toxoid injection during pregnancy. In our study, 90% [Table 3] of pregnant female responded that two tetanus toxoid doses required to immunize against tetanus during pregnancy.

Hospital as a place of delivery was favored by 82.03% of women while 17.96% of women preferred to deliver at homes and private clinics. In our study, 86.33% [Table 1d] of pregnant females responded that they had taken decision to give birth the baby in the hospital.

A study by Lilungulu *et al.*^[11] in which the questions asked to women about ANC services of their previous pregnancy. Nearly 12% of women had one visit of antenatal clinic and 54.0% have two antenatal visits and 18.6% have three antenatal visits and 54.0% have four antenatal visits.^[12] In our study, 42.33% [Table 1c] of pregnant female had completed more than four ANC visits.

In a study conducted by Ibrahim *et al.*^[13] it was found that knowledge had significant and direct correlation with the practices towards antenatal care, whereas it had an insignificant correlation with the attitude All the studies have some variation in KAP score in pregnant females.

The complications arise due to hypertension were not known by 39.8% of the women and also they do not know that women with high blood pressure will affect the fetal growth in pregnancy.^[12] In our study, 25.92% [Table 2]

of pregnant females reported that they knew about the danger signs during pregnancy. These pregnant females had mentioned the danger signs during pregnancy as severe abdominal pain, less fetal movement, any problem, bleeding per vagina, severe headache, vomiting, palpitation, white discharge, and nausea.

Lilungulu *et al.*^[11] reported that 74.2% of women have positive attitude that early antenatal registration is important and 61.8% of the women have positive attitude toward the use of oral contraceptive pills. In our study, 93% of pregnant females have positive attitude toward registration of pregnancy [Table 3].

All the studies have some variation in KAP score in pregnant females. The score has not reached towards 100%. The practices and attitudes are better in percentage than knowledge component.

The limitations of the present study were that it was conducted in a small number of pregnant female, the participants were from rural community and not hospital-based study.

Conclusions

Considerable gaps were found in the knowledge and practices regarding ANC. Literacy is an important factor in the utilization of ANC services. To improve community, spousal and family awareness of ANC, information, education, and communication activities should be increased on ANC through community campaign, mass media, and digital phones.

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