

ASSESSMENT OF HEALTH-SEEKING BEHAVIOR AND ASSOCIATED FACTORS AMONG PREGNANT WOMEN ATTENDING ANTENATAL CARE FACILITIES AT A TERTIARY CARE HOSPITAL IN KARACHI, PAKISTAN

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Abstract

Background: Appropriate health-seeking behavior during pregnancy is important for timely recognition of complications and utilization of maternal healthcare services. Delayed antenatal care (ANC) utilization remains an important maternal-health concern in Pakistan. This study assessed health-seeking practices and selected factors among pregnant women attending ANC at a tertiary care hospital in Karachi.

Objective: To assess health-seeking behavior and associated factors among pregnant women attending antenatal care at a tertiary care hospital in Karachi, Pakistan.

Methods: A descriptive cross-sectional study was conducted among 200 pregnant women attending ANC services at a tertiary care hospital in Karachi. Participants were selected using purposive sampling. Data were collected using a structured questionnaire validated by five experts; internal consistency was reported as Cronbach's alpha = 0.87. Data were analyzed using SPSS version 20.0. Frequencies, percentages, and descriptive measures were calculated. Pearson's chi-square test was used for exploratory associations between selected sociodemographic characteristics and self-reported health problems apart from pregnancy; $p < 0.05$ was considered statistically significant.

Results: Of the 200 participants, 127 (63.5%) initiated ANC during the first trimester, 64 (32.0%) during the second trimester, and 9 (4.5%) during the third trimester. Healthcare professionals were the main reported source of knowledge about pregnancy danger signs (132, 66.0%). Mean recognition across nine listed danger signs was 161.22 correct responses, corresponding to 80.61%. When asked about the first action toward a perceived pregnancy complication, 168 (84.0%) reported that they would visit a hospital or health centre. Husbands were reported as influencing the ANC decision by 139 (69.5%) participants. Exploratory chi-square analyses showed no statistically significant association between self-reported health problems and age, marital status, religion, occupation, or education (all $p > 0.05$).

Conclusion: The study population reported several positive ANC and health-seeking practices, including relatively early ANC initiation, high recognition of pregnancy danger signs, and preference for formal healthcare during perceived complications. Continued education, promotion of early ANC registration, and involvement of husbands and families may support timely maternal healthcare utilization. Because the study used purposive sampling and a single tertiary hospital, the findings should be interpreted within the study setting.

Introduction and Background

Maternal health remains an important public health priority. Pregnancy is a critical period during which timely healthcare utilization can facilitate early identification of complications, health education, monitoring of fetal and maternal well-being, and preparation for safe childbirth. Health-seeking behavior refers broadly to actions taken by individuals who perceive a health need and seek an appropriate response.

Women in low- and middle-income settings may experience barriers to timely maternal healthcare utilization related to socioeconomic circumstances, transportation, education, decision-making autonomy, cultural practices, and access to healthcare services. Early initiation of ANC provides an opportunity for healthcare professionals to identify risk factors, provide preventive interventions, offer counseling, and support birth preparedness.

Pakistan continues to face maternal-health challenges, making timely ANC utilization and maternal health education important areas for research and service improvement. Understanding reported healthcare-seeking practices among women attending ANC can help healthcare providers identify areas where counseling and family involvement may be strengthened.

The present study therefore assessed health-seeking practices among pregnant women attending ANC at a tertiary care hospital in Karachi and explored selected sociodemographic characteristics in relation to self-reported health problems apart from pregnancy.

Problem Statement

Delayed or inappropriate healthcare-seeking during pregnancy may contribute to missed opportunities for prevention, early diagnosis,

and timely management of maternal complications. Although ANC services are available in urban settings, women may differ in the timing and manner in which they use these services. Local evidence on reported health-seeking practices among pregnant women attending tertiary-level ANC services can inform maternal health education and service-delivery strategies.

Aim and Objectives

The aim of the study was to assess health-seeking behavior and associated factors among pregnant women attending antenatal care at a tertiary care hospital in Karachi.

The objectives were to:

- Evaluate the pattern of antenatal care utilization among pregnant women.
- Describe reported healthcare-seeking practices and knowledge of pregnancy danger signs.
- Identify selected sociodemographic characteristics in relation to self-reported health problems apart from pregnancy.
- Describe the reported role of family members and other influences in ANC decision-making.

Research Questions

1. What are the reported patterns of ANC utilization and healthcare-seeking practices among pregnant women attending ANC at the study hospital?
2. What is the level of reported knowledge of pregnancy danger signs among the participants?
3. Are selected sociodemographic characteristics associated with self-reported health problems apart from pregnancy?

Rationale and Significance

Maternal healthcare-seeking behavior is relevant to timely utilization of ANC and response to pregnancy-related complications. The study provides local descriptive information on ANC

timing, knowledge of danger signs, sources of information, reported responses to perceived complications, and family influence on ANC decision-making. The findings may assist nurses, midwives, physicians, hospital administrators, and maternal-health educators in strengthening counseling and family-centered education.

Materials and Methods

Study Design and Setting

A descriptive cross-sectional study was conducted among pregnant women attending ANC services at a tertiary care hospital in Karachi, Pakistan. The study population comprised pregnant women who attended the ANC clinic during the data-collection period.

Participants and Sampling

The original SPSS dataset used for the present analysis contained 200 participant records. Participants were selected using purposive sampling. Women who were pregnant, attending ANC services, and willing to provide informed consent were eligible. Women who declined participation or were unwilling to provide informed consent were excluded.

Data Collection Instrument

Data were collected using a structured questionnaire covering sociodemographic characteristics, maternal and ANC indicators, knowledge of pregnancy danger signs, healthcare-seeking practices, and perceptions/attitudes toward ANC services. The questionnaire underwent content validation by five experts in nursing and public health. Internal consistency was reported as Cronbach's alpha = 0.87; the original manuscript also reported assessment using the split-half method.

Data Analysis

Data were analyzed using SPSS version 20.0. Descriptive statistics were used to summarize categorical and continuous variables. Frequencies and percentages were reported for categorical variables, and the mean was reported for the aggregate frequency of correct responses across the nine listed pregnancy danger signs. Pearson's chi-square test was used to explore associations between selected sociodemographic characteristics and the binary variable representing self-reported health problems apart from pregnancy. A two-sided p-value < 0.05 was considered statistically significant.

Important analytical clarification: the available questionnaire/data do not establish a validated composite score or binary classification for overall health-seeking behavior. Therefore, the chi-square analysis should not be interpreted as a test of an overall health-seeking-behavior score. It is reported as an exploratory analysis of self-reported health problems apart from pregnancy.

Ethical Considerations

Ethical approval was obtained from the Ethical Review Committee of Kharadar General Hospital before data collection. Written informed consent was obtained from participants after explanation of the study objectives and procedures. Confidentiality and anonymity were maintained, participation was voluntary, and participants were informed of their right to withdraw without consequences for their healthcare.

Results

A total of 200 participant records were available in the original SPSS dataset and were used for the analyses reported below.

Table 1. Demographic characteristics of participants (N = 200)

Characteristic	Frequency	Percentage
Age 18–23 years	54	27.0
Age 24–29 years	90	45.0
Age 30–34 years	41	20.5
Age 35–39 years	13	6.5
Age 40–44 years	2	1.0
Muslim	195	97.5
Christian	5	2.5

Trader/Businesswoman	9	4.5
Civil servant	11	5.5
Banker	2	1.0
Housewife/Unemployed	178	89.0
Formal education	36	18.0
Primary	75	37.5
Secondary	63	31.5
Graduation	26	13.0
First trimester	64	32.0
Second trimester	74	37.0
Third trimester	62	31.0
Single family	77	38.5
Joint family	123	61.5

Table 2. Maternal health and antenatal care indicators (N = 200)

Maternal/ANC indicator	Frequency	Percentage
Planned pregnancy: Yes	111	55.5
Planned pregnancy: No	89	44.5
ANC started: First trimester	127	63.5
ANC started: Second trimester	64	32.0
ANC started: Third trimester	9	4.5
Previous stillbirth/miscarriage: Yes	65	32.5
Previous stillbirth/miscarriage: No	135	67.5
Number of stillbirths/miscarriages: None	139	69.5
1	36	18.0
2	20	10.0
3	4	2.0
4	1	0.5
Health challenges/medical conditions: Yes	47	23.5
Health challenges/medical conditions: No	153	76.5
Danger signs can cause a pregnancy problem: Yes	134	67.0
Danger signs can cause a pregnancy problem: No	66	33.0
Source of danger-sign knowledge: Health/medical personnel	132	66.0
Social media	28	14.0
Friends	7	3.5
Relatives/family	33	16.5

Table 3. Knowledge of pregnancy danger signs among participants (N = 200)

Pregnancy danger sign	Yes n (%)	No n (%)
Vaginal bleeding	167 (83.5)	33 (16.5)
Swelling of feet and face	165 (82.5)	35 (17.5)

Marked reduction in fetal movement	168 (84.0)	32 (16.0)
Blurred vision with high fever	158 (79.0)	42 (21.0)
Persistent abdominal pain	164 (82.0)	36 (18.0)
High fever	166 (83.0)	34 (17.0)
Weakness	169 (84.5)	31 (15.5)
Convulsions	140 (70.0)	60 (30.0)
Breathing difficulty	154 (77.0)	46 (23.0)
Mean across nine items	161.22 (80.61)	38.78 (19.39)

Table 4. Reported healthcare-seeking practices (N = 200)

Healthcare-seeking practice	Frequency	Percentage
Any health problem apart from pregnancy: Yes	26	13.0
Any health problem apart from pregnancy: No	174	87.0
Asthma	4	2.0
Ulcer	5	2.5
Diabetes	13	6.5
Hypertension	26	13.0
None	152	76.0
Other health problems related to pregnancy: Yes	19	9.5
Other health problems related to pregnancy: No	181	90.5
First action toward perceived complication: Pray	5	2.5
Visit hospital/health centre	168	84.0
Inform husband	20	10.0
Visit medicine store/chemist	3	1.5
Contact friends/family	4	2.0
Reason for primary healthcare centre: Religious belief	7	3.5
Family choice/Husband decision	164	82.0
Cheap service/Finance	1	0.5
Facilities at centre	28	14.0
Who influenced ANC decision: Husband	139	69.5
Self	39	19.5
Neighbors	1	0.5
Friends	5	2.5
Relatives	16	8.0
Registered pregnancy apart from this hospital: Yes	186	93.0
No	14	7.0
Other healthcare used: Primary health centre	42	21.0
Religious home	21	10.5

General hospital	72	36.0
Teaching hospital	65	32.5

Table 5. Perceptions and attitudes toward antenatal care services (N = 200)

ANC perception/attitude statement	Agree n	Disagree n	No response n
Satisfied with ANC at selected hospital	193	4	3
Pregnant woman should avoid all household work for 9 months	51	142	7
ANC visits are necessary for every pregnancy	178	19	3
It is a waste of time to visit hospital when mother feels healthy	30	162	8
ANC visits are only for tetanus injections	25	165	10
Every pregnant woman should register for ANC in first 3 months	177	15	8
Ultrasound during pregnancy is harmful to the baby	43	148	9
Husband support is important for a healthy pregnancy	157	31	12
Spreading awareness about antenatal visits	184	15	1
Government hospital should provide same ANC quality as private hospital	130	59	11
Aggregate response across 10 items	58.4%	38.0%	3.6%

Exploratory Association Analysis

The available dataset contains a binary variable for self-reported health problems apart from pregnancy. Pearson's chi-square tests were

therefore used to explore whether this variable differed according to selected sociodemographic characteristics. The analysis did not establish an overall health-seeking-behavior score.

Table 6. Exploratory associations between selected sociodemographic characteristics and self-reported health problems apart from pregnancy (N = 200)

Variable	Pearson χ^2	df	p-value	Interpretation
Age	3.179	4	0.528	Not statistically significant
Marital status	0.150	1	0.698	Not statistically significant

Religion	0.766	1	0.381	Not statistically significant
Occupation	0.513	3	0.916	Not statistically significant
Education level	2.454	3	0.484	Not statistically significant

Discussion

This study described ANC utilization, knowledge of pregnancy danger signs, reported healthcare-seeking practices, and selected factors among 200 pregnant women attending a tertiary care hospital in Karachi. The findings indicate several positive reported practices, while also demonstrating opportunities to strengthen early ANC registration, maternal education, and family-centered counseling.

In the present study, 127 (63.5%) participants reported initiating ANC during the first trimester, while 64 (32.0%) initiated care during the second trimester and 9 (4.5%) during the third trimester. Early ANC attendance provides an opportunity for healthcare professionals to identify maternal and fetal risk factors and provide preventive and educational interventions. The proportion initiating ANC in the first trimester indicates relatively early utilization among many participants; however, the proportion initiating care after the first trimester demonstrates a continuing need to promote early registration.

Knowledge of pregnancy danger signs was generally high across the nine items assessed. Recognition was highest for weakness (84.5%), marked reduction in fetal movement (84.0%), and vaginal bleeding (83.5%). Recognition was lower for convulsions (70.0%), breathing difficulty (77.0%), and blurred vision with high fever (79.0%). These findings indicate that ANC counseling should continue to emphasize less-recognized but potentially serious warning signs rather than assuming that general awareness is sufficient.

Healthcare and medical personnel were the most frequently reported source of knowledge about danger signs (66.0%). This finding emphasizes the importance of nurses, midwives, physicians, and other ANC providers in delivering clear and repeated maternal-health education. The reported role of healthcare professionals also provides an opportunity to

integrate individualized counseling, danger-sign education, and birth-preparedness messages into routine ANC visits.

When asked about the first action toward a perceived pregnancy complication, 168 (84.0%) participants reported that they would visit a hospital or health centre. This response suggests a strong stated preference for formal healthcare when a pregnancy-related complication is perceived. However, because the study is cross-sectional and relies on self-reported responses, this finding should be interpreted as reported intention rather than observed emergency-care behavior.

Family influence was prominent in the reported decision-making pattern. Husbands were identified as influencing the ANC decision by 139 (69.5%) participants, and family choice/husband decision was reported as the reason for selecting the primary healthcare centre by 164 (82.0%). These findings support the value of family-centered maternal health education, particularly where healthcare decisions involve spouses or other family members.

The exploratory chi-square analysis did not demonstrate statistically significant associations between self-reported health problems apart from pregnancy and age, marital status, religion, occupation, or education. The originally reported p-values in the manuscript were inconsistent with the displayed counts and have therefore been corrected. These analyses should not be interpreted as evidence that the listed sociodemographic characteristics were significantly associated with overall health-seeking behavior.

Overall, the findings suggest that strengthening ANC counseling remains important, particularly for promoting first-trimester registration, reinforcing knowledge of less-recognized danger signs, and involving husbands and families in maternal-health education. Because the sample was obtained purposively

from a single tertiary hospital, the findings should not be generalized to all pregnant women in Karachi or Pakistan.

Conclusion

Among 200 pregnant women attending ANC at the study hospital, 63.5% reported initiating ANC during the first trimester, and 84.0% reported that they would visit a hospital or health centre as the first action toward a perceived pregnancy complication. Healthcare professionals were the main reported source of knowledge about pregnancy danger signs, and husbands were frequently reported as influencing ANC decision-making. Knowledge of the nine listed danger signs was generally high, although recognition of convulsions and breathing difficulty was comparatively lower. Exploratory analyses found no statistically significant associations between self-reported health problems apart from pregnancy and the selected sociodemographic characteristics. Continued maternal education, early ANC registration, danger-sign counseling, and family involvement are appropriate areas for service improvement.

Strengths of the Study

- The study provides local descriptive information on ANC utilization and reported healthcare-seeking practices in a tertiary-care setting.
- The questionnaire underwent content validation by five experts and had a reported Cronbach's alpha of 0.87.
- Ethical approval and informed consent procedures were reported.

Limitations of the Study

- The cross-sectional design does not permit causal inference.
- Purposive sampling may limit generalizability.
- The study was conducted at a single tertiary care hospital.
- Self-reported responses may be affected by recall or social-desirability bias.
- Women who were not attending healthcare facilities and rural populations were not represented.
- The available dataset does not contain a validated composite score for overall health-

seeking behavior; therefore, the association analysis was limited to self-reported health problems apart from pregnancy.

Recommendations

- Strengthen routine ANC education, with emphasis on first-trimester registration and recognition of pregnancy danger signs.
- Give additional counseling attention to less-recognized danger signs, including convulsions and breathing difficulty.
- Encourage involvement of husbands and relevant family members in maternal-health education and decision-making.
- Use ANC encounters to reinforce appropriate responses to perceived pregnancy complications.
- Future studies should use probability sampling where feasible and include multiple urban and rural facilities to improve generalizability.
- Future research should develop and validate a clearly defined health-seeking-behavior scale or composite outcome if the objective is to identify predictors of overall health-seeking behavior.

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Conflict of Interest

The authors declare no conflict of interest.

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