**Evaluating Pregnant Women's Satisfaction with Antenatal Care Quality and Associated Factors Among Women of Reproductive Age at Cox's Bazar Sadar Hospital, Bangladesh**

**CHAPTER I**

**INTRODUCTION**

**1.1 Introduction**

Antenatal care (ANC) has long been considered a critical component of the continuum of care for women during pregnancy, with the potential to contribute to the survival and thriving of women and newborns (Siddique et al., 2018). This essential service allows women to be screened during their pregnancies for pre-existing conditions and potential complications, allows for initiation of timely and appropriate treatment, and provides a platform for women to receive counselling, which can support them to protect their health and that of their baby throughout the antenatal, birth and postnatal periods. Moreover, ANC is becoming increasingly important as a service as the world undergoes an obstetric transition. In this transition, preventable maternal mortality is becoming predominantly the result of indirect causes and non-communicable diseases, which requires more individualized care. ANC can provide an optimal platform for catering the individual care by screening and timely management. Promisingly, utilization of ANC has been increasing steadily throughout the past decades, with 86% women worldwide now attending at least one ANC contact and 62% receiving at least four ANC contacts between conception and birth. However, even as ANC utilization has increased over the past two decades, the content and quality of this care have fallen under increased scrutiny, as poor-quality compromises the potential benefits of care. With the new targets set out in the Sustainable Development Goals (SDGs) aiming to reduce maternal and newborn deaths to unprecedented levels, and the ambitious ‘Survive, Thrive, transform’ agenda of the Global Strategy for Women’s, Children’s and Adolescent’s Health, ensuring the quality of maternal and newborn health (MNH) services, including ANC, is as important as ever.

The World Health Organization (WHO) recently updated its ANC guidelines based on the global evidence base (WHO, 2013a). The new guidelines are notable in their adoption of a human rights-based approach and a focus on people-centered care. This emphasizes not only clinical service provision but also the experience of care; so that adolescent girls and women are able to benefit from a positive pregnancy experience. Moreover, it is now recommended that each woman attend eight of more routine ANC contacts between conception and birth, rather than the four or more suggested by the previous model (WHO, 2013a). The new guidelines are more expansive and comprehensive than the previous model, and clearly have the potential to improve the pregnancy experience and outcomes. During the Millennium Development Goals-era, the global coverage of ANC contacts inched forward, but many countries struggled to ensure adherence to the recommendations contained in the previous model. Based on this experience, it will be challenging for the countries with limited resources to ensure the adherence to the more comprehensive recommendations. A number of studies have explored the degree to which the recommended content of ANC contacts is adhered to in different countries. In general, these studies demonstrate the poor status and existing gaps related to the content of ANC contacts, even in the context of high-resource settings, much less in low and middle-income countries (LMICs).

Bangladesh has made impressive gains in reducing maternal and neonatal mortality over the past several decades, but total number and rates of these deaths remain too high. Moreover, the latest Bangladesh Maternal Mortality Survey suggests that progress in reducing maternal mortality has stalled. Use of key MNH services remains critically low. Indeed, only 37% pregnant women attend at least four ANC contacts, 47% of births occur in health facilities and 48% (6% in the case of home-based births) of women receive postnatal care from a skilled health-care professional within the first two days after birth. While the BMMS-2016 revealed that use of skilled health services during pregnancy has increased over the past decade, this has not translated into an expected reduction in maternal mortality between 2010 and 2016. This suggests that focusing solely on increasing coverage of these services is not sufficient to translate into improved health. The content and the quality of these contacts must also be ensured (WHO, 2013a).

**1.2 Justification of the Study**

The objectives of this study are to describe the quality of ANC services in the context of district level hospital in Cox’s Bazar. This study will bring an opportunity to strengthen the health systems in district level health facilities of Bangladesh through assess the different contents of quality antenatal care among the pregnant women are receiving health services during pregnancy i.e. basic indicators of ANC (Weight taken, BP measure, Urine sample collection, Blood sample collection & inform about danger signs) and cordial behavior from providers including proper counseling etc.

**1.3 Operational Definitions**

**Antenatal Care (ANC):** Antenatal care (ANC), also known as prenatal care, is a type of preventive health care that provides medical attention to pregnant women and their unborn children

**Blood Pressure (BP):** Blood pressure (BP) is the force of blood against the walls of your arteries as your heart pumps blood throughout your body. It's measured in millimeters of mercury (mm Hg) and is usually written as two numbers, systolic over diastolic.

**Sexual and Reproductive Health (SRH):** Sexual and reproductive health (SRH) is a field of study that examines the health of a person's reproductive system and sexual well-being throughout their life. SRH is a combination of research, health care, and social activism.

**Family planning (FP):**  Family planning refers to the management of childbirth and the spacing between pregnancies, predominantly through the utilization of contraception or voluntary sterilization methods.

**1.4 Research Question (s)**

* What is the satisfaction level among women on the quality of antenatal care they are receiving from Cox’s Bazar Sadar Hospital?
* What factors are associated with the quality of antenatal care received by women at Cox's Bazar Sadar Hospital?

**CHAPTER II**

**LITERATURE REVIEW**

The major challenges of maternal and child health are maternal and child morbidity and mortality in the developing world including Bangladesh. These are associated with inappropriate health seeking behaviour in pregnancy and childbirth. As a result, WHO and UNICEF established the safe motherhood initiative with a major focus on prenatal care which includes early presentation at antenatal clinic (ANC) where risk factors can be identified and managed, and safe delivery of live babies can be ensured.

Many previous studies in Bangladesh examined the socio-economic and demographic factors associated with the utilization of ANC, PNC, and delivery care among Bangladeshi women (Amin et al., 2010; Islam, 2017; Mosiur Rahman et al., 2011). However, all these studies focused on the determinants of ANC, delivery care or PNC separately instead of assessing the determinants of maternal care seeking behaviour collectively along the full continuum of care as recommended by WHO. The findings of these studies usually masked the differentials in the quality of maternal care received, as quality of care may remain poor while the individual coverage of ANC visits, delivery and PNC visits observed to be high. According to the WHO recommended standard model, utilization of maternal care should be viewed collectively by the comprehensive use of pregnancy, delivery, and the postnatal care. This type of measure of maternal health care provides a basis of comparison between women receiving adequate care and inadequate care. In a recent study, similar approach has been adopted by (Larsen et al., 2016) to examine the predictors of health care seeking behavior during pregnancy, delivery, and the postnatal period in rural Tanzania.

Health care seeking behaviours are specific actions taken to maintain health or remedy health problems, including health behaviour during pregnancy, household self-treatment of common ailments, reliance on care available within a community’s indigenous health system or referral for care outside of the community (Yamini et al., 2017). In the developing world, data from all but two of 30 countries reviewed showed that the number of ANC visits had a positive effect on birth weight. In Israel, almost three times as many deaths occurred among newborns of women who had not attended ANC (Cavallaro et al., 2013). Despite substantial progress in primary health care over the last decades, only 21% of pregnant women in Bangladesh receive at least four ANC visits, just 31% of births are delivered at health facilities, and skilled birth attendants assist only 41% of women during childbirth in Bangladesh (El Arifeen et al., 2013). A lack of access to health providers and facilities has contributed to nearly three in four (73%) mothers in Bangladesh not receiving four or more ANC visits from skilled health professionals, let alone the eight ‘contacts’ recently recommended by the World Health Organization (WHO) (WHO, 2013b). Further, while 74% of urban women receive ANC from a trained provider, only 49% of rural women have such access (Rahman et al., 2003). Improving access to quality ANC and sustaining its implementation must be prioritized for the country to achieve the health Sustainable Development Goals.

**CHAPTER III**

**RESEARCH METHODOLOGY**

**3.1 Study Objectives**

**General Objective:** The current study seeks to assess the women's satisfaction level with antenatal care service quality and associated factors among women of reproductive age at Cox's Bazar Sadar Hospital, Bangladesh

**Specific Objectives:**

* To assess the satisfaction level among women on the quality of antenatal care they are receiving from Cox’s Bazar Sadar Hospital.
* To assess the factors associated with the quality of antenatal care received by women at Cox's Bazar Sadar Hospital?

**3.2 Conceptual Framework**

**Dependent Variable**

**Independent Variables**

**Socio-Demographic**

Age, Ethnicity, Family type, Religion, Residence

Educational Status

Occupation

Wealth index

Living status

**Satisfaction**

General,

Accessibility,

Interpersonal aspects of care,

Technical aspects of care,

Physical environment

**Clinical**

Gestational age of antenatal booking,

Time to hospital,

Parity, Gravidity,

number of ANC visit

**ANC Quality**

Blood pressure, Hepatitis B, Urine sugar, HIV, Blood grouping, Sickle cell, Malaria, TT vaccine, Hookworm prophylaxis, iron, IPTp, counselling and Pregnancy Danger signs.

**3.3 Study Design**

A facility based cross-sectional method will be applied as design. Questionnaire, observation tools will be used to collect data.

**The first part (Socio-economic variable):** The socio-economic variables utilized in this study, includes age, ethnicity, family type, religion, residence educational status, occupation, counseling, wealth index, and living status.

**The second part (Medical data):** This segment covered the gestational age of antenatal booking, time to hospital, parity, gravidity, number of ANC visit.

**The third part (Satisfaction):** This component includes general, accessibility, interpersonal aspects of care, technical aspects of care, physical environment.

**The fourth part (ANC Quality):** This component includes blood pressure, hepatitis B, urine sugar, HIV, blood grouping, sickle cell, malaria, TT vaccine, hookworm prophylaxis, iron, IPTp, counselling and pregnancy danger signs.

**Antenatal care quality:** Our dependent variable was antenatal care quality. To construct this variable, we used respondents’ self-reports of services they received during their most recent pregnancy. We asked women if they received any of the following services at least once during their most recent pregnancy. The services included screening, vaccination, and prophylaxis, as well as education and counseling. The fifteen prenatal services included blood pressure measurement, hepatitis B, malaria, and HIV screening, blood grouping, iron and folic acid supplementation, drugs against malaria (IPTp), and hookworm. Not only did we rely on women’s recollections of the services they received, but we also confirmed the provision of these services through their maternal health book. These fifteen items gave us a Cronbach alpha reliability coefficient of 0.868 (≈ 87%). We then developed a binary antenatal care quality variable, low and high-quality, based on the services provided, classifying women who received all fifteen services as having received high-quality ANC and those who received fewer than fifteen services as having received low-quality ANC.

**Patient Satisfaction:** We measured satisfaction with ANC using a 16-item instrument adapted from a previous study. The items covered several key dimensions of client satisfaction: accessibility (two questions), interpersonal aspect of care (five questions), physical environment (three questions), technical aspects of care (four questions) and outcome of care (two questions). The responses were marked using a 5-point Likert-type scale: (1) fully satisfied, (2) somewhat satisfied, (3) neither satisfied nor dissatisfied, (4) somewhat dissatisfied and (5) fully dissatisfied.

**3.4 Target Population & Sample Population**

The target population in a study is the group to which the study aims to extend its findings, often known as the theoretical population. In this particular study, the target population encompasses all women within the reproductive age range of 18 years and above. Meanwhile, the study population pertains to the actual sampling frame from which a sample is selected. In this study, the study population consisted of women between the ages of 18 years and above in Cox’s Bazar who met the specified inclusion and exclusion criteria.

**3.5 Study Site & Area**

Cox’s Bazar District Sadar Hospital is located in southeastern part of Bangaldesh, which is 150 km (93 mi) south of the city of Chittagong. The city covers an area of 23.4 km2 (9.0 sq mi) with 58 mahallas and 27 wards and as of 2022 had a population of nearly 200,000.

**3.6 Study Period**

An institutional-based cross-sectional study will be conducted from October 01, 2024, to November 15, 2024 in Cox’s Bazar District Sadar Hospital among pregnant women.

**3.7 Sample Size**

The required sample size was determined by using single population proportion formula with basic assumptions of 95% confidence interval, 5% margin of error, and 73.6% estimated proportion of good health-related quality of life from a previous study (Saleh et al., 2014). Hence, the following formula was used for sample size calculation for the first objective:

The formula is: n =

Where, n = estimated sample size

Z = 1.96 (in 95% Confidence Interval)

p = prevalence, 18% (0.18),

q = 1- 0.18 = 0.82,

d = permissible error, 5% (0.05)

So, sample size (n) = {(1.96)2\*0.18\*0.82}/ (0.05)2 = 227. Additional participants will be included in the sample size calculation to account for any missing data, resulting approximately 250 patients will be interviewed for the study.

**3.8 Inclusion Criteria**

This review will be focused:

a) Pregnant women;

b) People who are intended to take part in the study.

**3.9 Exclusion Criteria**

The study will exclude:

a) Women who are not pregnant;

b) Pregnant women in case of not willing to participant in the study and in regards of physically disabled or mentally retarded.

**3.11 Data Collection Tools**

The primary researcher and research assistants conducted interviews with the study participants to gather quantitative data. The questionnaire encompassed inquiries about demographic and socio-economic details, featuring a combination of open-ended and closed-ended questions. The questionnaire was structured into three sections: the first section, labeled as socio-demographic (Section A), the second section (Medical data), focusing on the clinical features of participants (Section B), the third, focusing on women satisfaction (Section C), and the fourth, focusing on ANC quality (Section D).

**3.12 Data Management & Analysis Plan**

Data collection will involve conducting face-to-face interviews. Before initiating data collection, permission will be sought from the respective couples. A comprehensive explanation of the study's purpose will be provided to the respondents. The interviews will be conducted within the waiting area. Respondents will receive assurance, from an ethical standpoint, that the content of the interview will remain confidential and will not be disclosed to any unauthorized individuals.

**Data Preparation:** The data will be thoroughly cleaned and prepared for analysis, which includes the identification of missing values, outliers, and any other irregularities within the data.

**Descriptive Statistics:** Descriptive statistics will be calculated for the variables of interest. This will involve determining measures such as the mean, median, standard deviation, and frequency distribution. These calculations will provide insights into the data's distribution and facilitate the identification of outliers or unusual observations.

**Inferential Statistics:** Inferential statistical tests will be conducted to examine the study's hypotheses. These tests may include a chi-square test and logistic regression to assess the association between ANC quality and various socioeconomic and satisfaction factors.

**Interpretation of Results:** The results of the statistical tests will be interpreted, taking into consideration elements such as p-values, effect sizes, and confidence intervals. Typically, a p-value below 0.05 is considered indicative of statistical significance, implying that there is less than a 5% probability that the results are due to random chance.

**3.13 Quality Control & Quality Assurance**

Before collecting data from the respondents, a friendly and welcoming environment was established, and the research objectives were clearly communicated to the participants. Throughout the data collection process, an effort was made to engage with the respondents in the local Bangla language.

**3.14 Ethical Considerations**

Written permission will be obtained from the relevant authorities and the respondents before commencing data collection. The investigator will provide the respondents with a detailed explanation of the study's objectives before collecting data.

**3.15 Expected Outcomes**

We anticipate that there is a noteworthy association between the ANC quality received by pregnant women with various socioeconomic and satisfaction factors. We hypothesize that there is a relationship between the quality of ANC services, socio-economic status, and satisfaction factors those who receive ANC services from Cox’s Bazar Sadar Hospital.

**3.16 Work Plan**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activities** | **Jun**  **2023** | **Jul**  **2023** | **Aug**  **2023** | **Sep**  **2023** | **Oct**  **2023** | **Nov**  **2023** | **Dec**  **2023** | **Jan**  **2023** |
| **Designing the Study** |  |  |  |  |  |  |  |  |
| **Review of Literature** |  |  |  |  |  |  |  |  |
| **Development & approval of proposal** |  |  |  |  |  |  |  |  |
| **Development of Data Collection Tools** |  |  |  |  |  |  |  |  |
| **Pre-testing Questionnaire** |  |  |  |  |  |  |  |  |
| **Data Collection, Entry & Analysis** |  |  |  |  |  |  |  |  |
| **Report Writing** |  |  |  |  |  |  |  |  |
| **Submission & Approval of Thesis** |  |  |  |  |  |  |  |  |
| **Printing, Binding, and Submission** |  |  |  |  |  |  |  |  |

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**APPENDICES**

**APPENDIX-A**

**CONSENT FORM**

Hello, my name is (your name). We are from the North South University (NSU). We are surveying the situation of children, families, and households. I would like to talk to you about your health and other topics. This interview usually takes about 45 minutes. We are also interviewing mothers about their children. All the information we obtain will remain strictly confidential and anonymous. If you wish not to answer a question or wish to stop the interview, please let me know. May I start now?

**APPENDIX-C**

**QUESTIONNAIRE**

**ABOUT YOU**

Before you begin, we would like to ask you to answer a few general questions about yourself: by circling the correct answer or by filling in the space provided.

**Socio-Demographic**

What is your **age**?

What is your **ethnicity**?

What is your **family type**?

What is your **religion**?

Where is your **residence**?

What is the highest **education** you received? None at all

Primary school

Secondary school

Tertiary

What is your **occupation**?

Do you have **smoking habit**?

Do you have **alcohol consumption**?

What is your **wealth index**?

What is your **living status**?

**Clinical**

What is your Gestational age of antenatal booking**?**

What is your Time to hospital**?**

What is your Parity**?**

What is your Gravidity**?**

What is your number of ANC visit**?**

**Satisfaction**

What is your general**?**

What is your accessibility**?**

What are your interpersonal aspects of care**?**

What are your technical aspects of care**?**

What is your physical environment**?**

**ANC Quality information from health card.**