

## A Study on The Assessment of Utilization of the Antenatal Services and Associated Barriers Among Mothers in Northern Area of Bihar

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### Abstract

**Objectives:** This present study was to evaluate the utilization of the antenatal services and associated barriers and sociodemographic profile of pregnant women in northern area of Bihar.

**Methods:** Socio-demographic details and data related to antenatal check-ups and associated barriers for not availing the services were asked from all the pregnant women and records were prepared in a prescribed Performa. Subjects were also asked for the health facility records if available and the information gathered by the interview was cross checked and supported by these records.

**Results:** A total of 200 pregnant women were enrolled in this study. Most of the pregnant women 90(45%) and 49(24.5%) were in age group of 24-29 years and 18-23 years respectively. Most of the women 96(48%) and 92(46%) were belonged from lower middle and upper lower socioeconomic status respectively. Majorities of pregnant women 58(29%) were illiterate and 194(97%) were housewives.

**Conclusions:** Poor literacy, lower socioeconomic vulnerabilities, lack of knowledge and cost of services are the main barrier for non- utilization or partial utilization of antenatal care services. So that, the health care providers should be organised free health check -up camp time to time in rural as well as urban area of northern Bihar for awareness and services of the maternal health and antenatal care.

**Keywords:** Antenatal service, Utilization, Barrier.

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### Introduction

Adolescent pregnancies account for nearly one-fourth of the total burden of disease due to obstetric factors among women, and around 95% of such births occurred in low-

and middle-income countries, where pregnancy- and childbirth-related complications are the primary cause of fatality among adolescent girls [1].

Globally, about 800 women die every day because of preventable causes related to pregnancy and childbirth, of these women 20 per cent are only from India. Annually, it is estimated that 44,000 women die due to preventable pregnancy-related causes in India and mothers in the lowest economic category have about a two and a half times higher mortality rate [2]. Goal 5 of the Millennium Development Goals aimed to improve maternal health by reducing maternal mortality ratio (MMR) by 75% between 1990 and 2015, however the targets achieved were below the expectations [3]. The components of ANC include risk identification, prevention and management of pregnancy related or concurrent diseases, nutritional problems, and health education and health promotion [4]. Access to these services enables skilled health care professionals to identify and treat potential health risks to expecting woman and the unborn baby and ensures safe delivery [5]. In India, Reproductive and Child Health (RCH) Programme under the Ministry of Health and Family Welfare (MoHFW) advises to receive at least three ANC check-ups, iron and folic acid (IFA) tablets, calcium tablets, tetanus toxoid (TT) injections, weight monitoring, blood pressure check, abdominal examination, and counselling by a frontline health worker [6]. It is likely to happen that not all pregnant women who receive ANC services may utilize the entire package of services (full ANC). Some might register but never utilize, whereas some might utilize only part of the services [7].

Maternal mortality is a health indicator that shows very wide gaps between rich and poor, urban and rural areas, both between countries and within them. The evidence also showed that the poor get the least access to preventive and curative services. In addition, the people residing in rural areas are at great disadvantage in terms of availability, accessibility and affordability of health services when compared with

urban counterparts [8]. Objectives of this present study was to evaluate the utilization of the antenatal services and associated barriers and sociodemographic profile of pregnant women in northern area of Bihar.

### Materials & Methods

This present study was conducted in Department of Pharmacology with the collaboration of Department of Gynaecology & Obstetrics, Jawahar Lal Nehru Medical College, Bhagalpur, Bihar during a period from January 2021 to August 2021. Entire subjects signed an informed consent approved by institutional ethical committee, of Jawahar Lal Nehru Medical College, Bhagalpur was sought.

### Methods

A total of 200 pregnant women with age group 18 to 40 years who come for antenatal health check-up in OPD of Department of Gynaecology were enrolled in this study.

Socio-demographic details and data related to antenatal check-ups and associated barriers for not availing the services were asked from all the pregnant women and records were prepared in a prescribed Performa. Subjects were also asked for the health facility records if available and the information gathered by the interview was cross checked and supported by these records. Women who were not received complete coverage of antenatal services were further probed for reasons or barriers for the same. Complete Coverage of Antenatal Services: A woman is considered to have complete coverage of antenatal services if she received the recommended ideal number of ANC visits (13 or more along with first visit of registration). Partial Coverage but Adequate: A woman is considered to have partial coverage but adequate if she received equal to or more than four (04) but less than 13 ante-natal visits. Inadequate Coverage: A woman is considered to have inadequate coverage if she has received less than four (04) ante-

natal visits [9]. Socio-economic status of study subjects was assessed by using modified Kuppuswamy Scale (CPI index 2016) [9].

**Statistical Analysis**

Data was analysed by using simple statistical methods with the help of MS-Office software. All data was tabulated, and percentages were calculated.

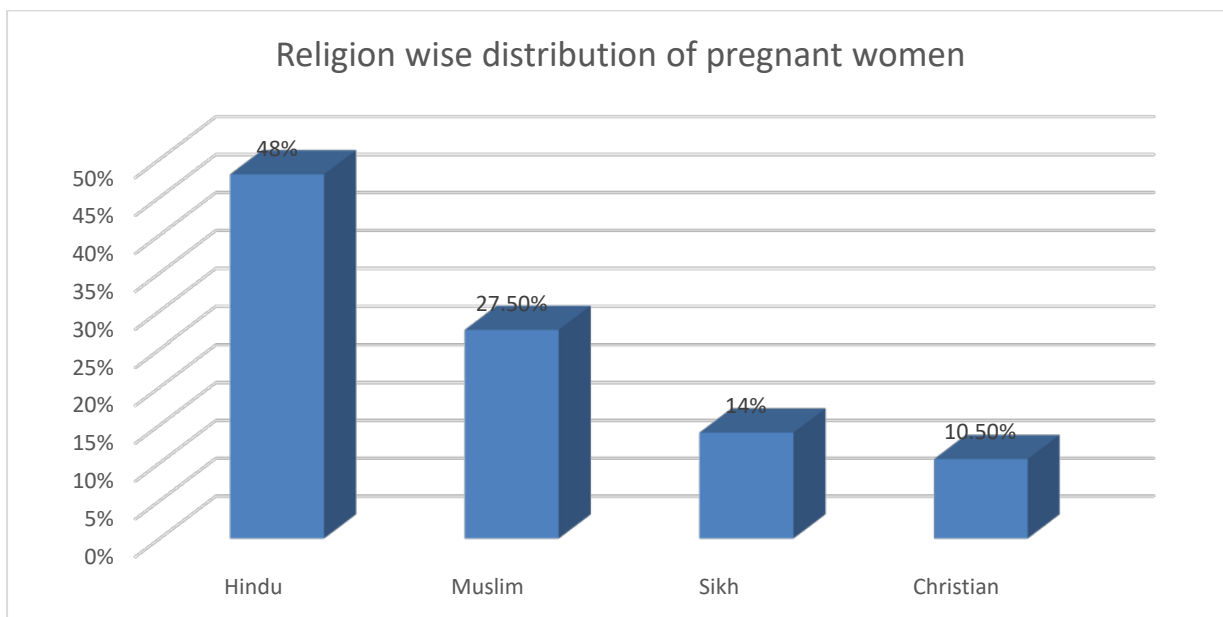
**Observations**

A total of 200 pregnant women were enrolled in this study. Most of women 90(45%) were in age group of 24-29 years. 49(24.5%) women were in age group of 18-23 years. And 45(22.5%) pregnant women were in age group of 30-35 years.

**Table1: Distribution of age group of antenatal care women**

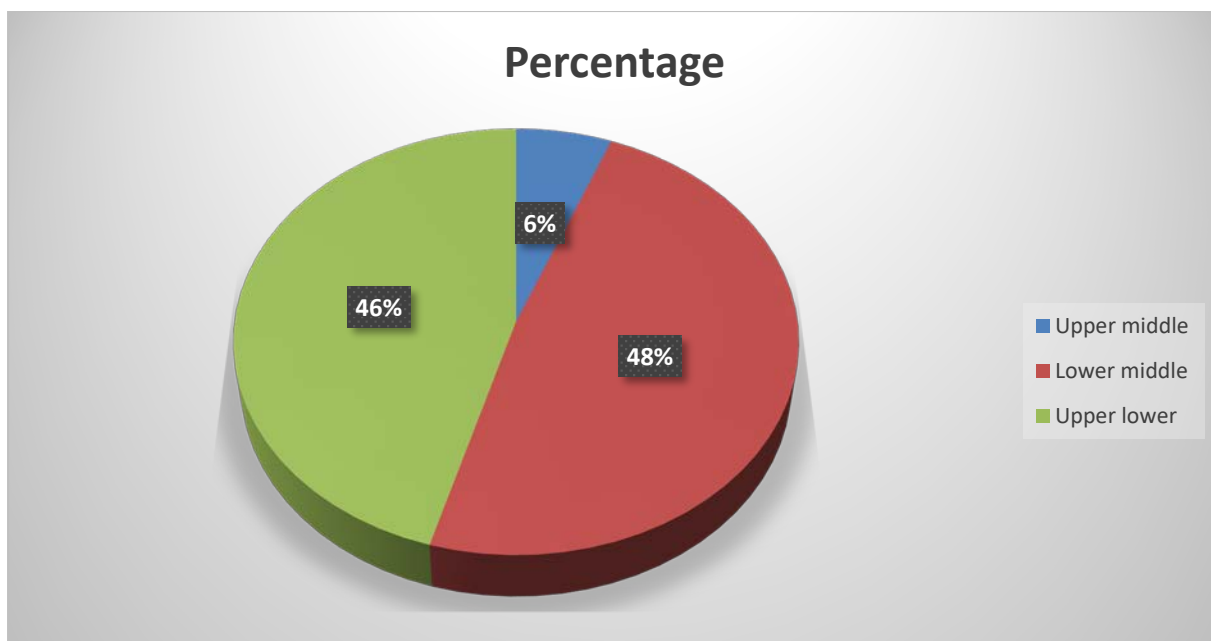
Age group	No of Pregnant women	Percentages
18-23	49	24.5%
24-29	90	45%
30-35	45	22.5%
35-40	16	8%
Total	200	100%

In this present study, most of the pregnant women 96(48%) were belonged from Hindu religions. And rest of the women were belonged from 55(27.5%) Muslim, 28(14%) Sikh and 21(10.5%) Christian.



**Figure 1: Religion wise distributions of pregnant women**

Most of the women 96(48%) were belonged from lower middle socioeconomic status. And rest had 92(46%) upper lower and 3(6%) upper middle socioeconomic status.

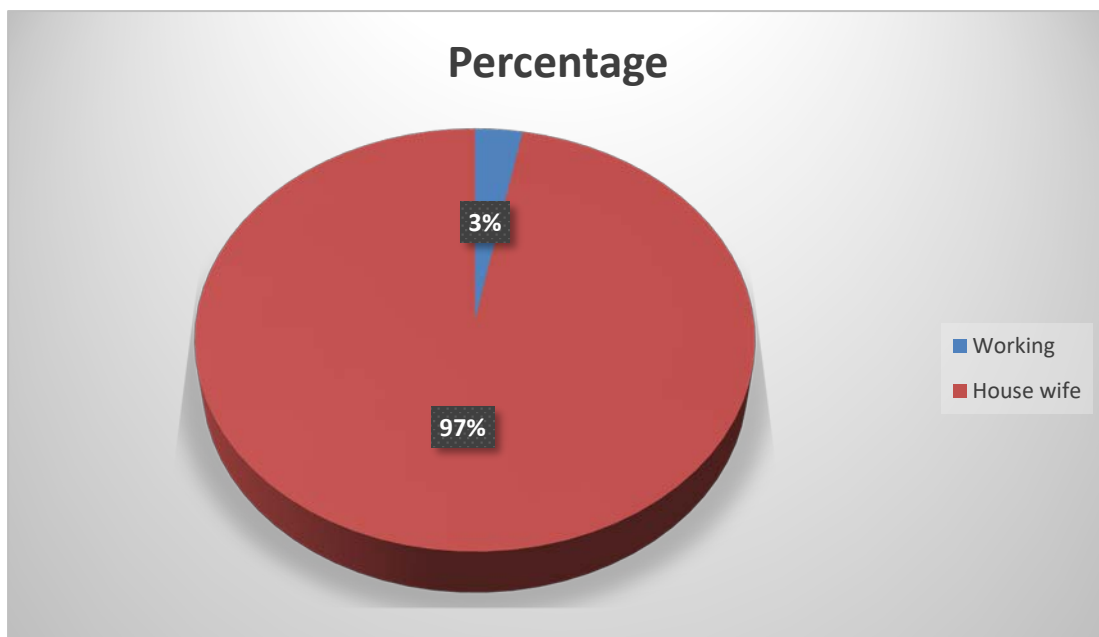


**Figure 2: Showing the socioeconomic distributions of pregnant women according to modified Kuppuswamy Scale.**

**Table 4: Education status**

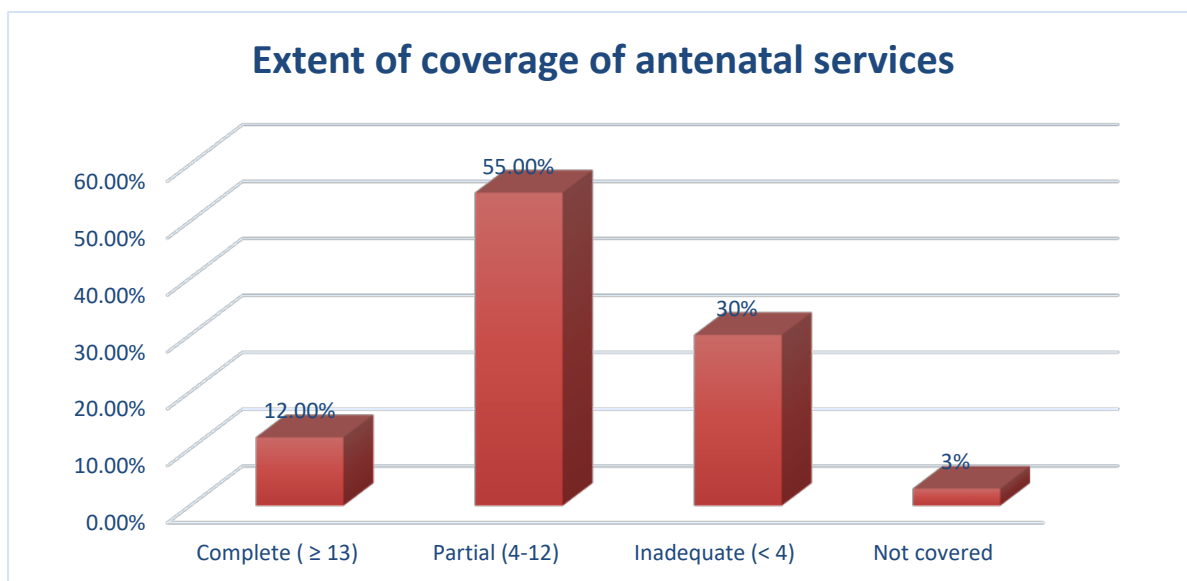
Education	No	Percentage
Illiterate	58	29%
Primary School	30	15%
Middle School	19	9.5%
High School	37	18.5%
Intermediate	46	23%
Graduate/ Post Graduate	10	5%
Total	200	100%

In this present study, most of the pregnant women 58(29%) were illiterate. And 46(23%) were intermediate educational status. It was also seen than most of the women 194(97%) were housewives.



**Figure 3: Working status of pregnant women**

In this present study, most of the pregnant women 110(55%) were partially covered (4-12) the antenatal care services. 60(30%) pregnant women were inadequately covered the antenatal care services.



**Figure 4: Extent of coverage of antenatal services of pregnant women**

Most of the pregnant women 100(50%) were not benefited for the antenatal care services due to lack of knowledge. 51(25.5%) pregnant women were not benefited due to high cost of the antenatal care services.

**Table 5: Reasons/ Barriers for partial/ Inadequate/ non coverage of ANC services**

Characteristics	No. of pregnant women	Percentage
Long waiting lines	10	5%
Lack of knowledge	100	50%
No one to accompany	7	3.5%
Rude behaviour of staff	10	5%
Time is not suitable	4	2%
Religious and social beliefs	18	9%
Cost of the services	51	25.5%
Total	200	100%

## Discussions

Several studies exploring factors associated with utilization and coverage of ANC services have been conducted [10]; however, these research efforts have focused on women of all reproductive age groups, with inadequate attention given to understanding factors associated with ANC utilization among adolescent pregnant women. According to the NFHS-4 survey, the proportion of ANC coverage among women aged 15–49 years has increased by 7% during 2005–2006 to 2015–2016 [11, 12]. Around 59% of women of reproductive age received first ANC check-up during the first trimester of pregnancy, and 51% had more than three ANC visits [11], which is comparable to the global coverage of 58.6% and slightly higher than ANC coverage for South Asia (50.0%) [13]. There are notable variations in the exploitation of ANC services by younger (adolescents) and older (adult) pregnant women. Adult pregnant women are more likely to utilize ANC as compared to adolescent pregnant women, and a number of socioeconomic and demographic factors like education, employment, income, place of residence, geographical variations, birth order, and parity explain the differences in utilization of ANC services among adolescent and adult pregnant women [14, 15]. However, there is insufficient evidence available exclusively on the use of ANC services by adolescent pregnant women, and their specific vulnerabilities [16, 17]. Exploring the ANC utilization among

adolescent pregnant women and adult pregnant women may be useful to spot disparities, distinguish barriers, and suggest appropriate measures to enhance the uptake of ANC services.

In this present study, most of the pregnant women 90(45%) and 49(24.5%) were in age group of 24-29 years and 18-23 years respectively. And around 60(30%) of the pregnant women had less than 4 ANC visits and 110(55%) received 4 or more ANC visits but out of these only 24(12%) had made recommended number of ANC visits (13 or more). Similar results were seen in cross sectional study by Agarwal N. et al (2005-2006) in Punjab which reported 77.2 8 % of women receiving at least 3 Antenatal check- ups and another study conducted by Fagbamigbe A. F. et al (2015) in Nigeria with 81.5% 9 women receiving at least 4 ANC visits. Some studies including one by Sahni B. et al (2007) [18], Pallavi R. S. et al (2007) [19] and Mansur et al (2014) [20] reported very less ANC utilization with only 41.4%, 10.5% and 33.7% women receiving more than 3 antenatal visits. The main reason for poor utilization of antenatal care services in these present studies was found to be unsatisfactory behaviour of health staff as well as lack of trained health care professionals.

Study done by S. Pal et al (2008) [21] in Community Development Block of West Bengal reported that 38% mothers who failed to avail appropriate care attributed it to convenient time or place and long waiting time (main barrier). Study done by

Rai S. K et al (2009) [22] found lack of resources being the main reason for home deliveries.

In this present study, complete coverage of antenatal services was observed in 24(12%) in the study population, 110(55%) of the women had adequate but partial coverage of antenatal services, 60(30%) women were those who received partial but inadequate ANC services and there were 6(3%) women who did not receive any antenatal care. Similar results were seen in study done by Singh J. P. et al in 2013 [23] in Bareilly which showed that only 24.7% of women received full antenatal care. NFHS-4 (2015-2016) [24] shows that 21% mothers had full antenatal care (31.1% in urban area and 16.7% in rural) in which full antenatal care is at least four antenatal visits.

It was observed that lack of knowledge was the main reason in majority of the women 100(50%) who did not avail the complete antenatal care, followed by long waiting lines in the government health facilities 10(5%) women and 7(3.5%) women said that they had no one to accompany for their antenatal visit and 18(9%) had not received antenatal care services due to religious and social beliefs. Study done by Dhakal S et al [25] in 2006 among rural women in Nepal reported that the major perceived barriers to ANC were no perceived need (38%), distance to health facility (36%), no money (19%), lack of skilled health workers (11%) and no time available (8%).

### Conclusions

This study concluded that the poor literacy, lower socioeconomic vulnerabilities, lack of knowledge and cost of services are the main barrier for non- utilization or partial utilization of antenatal care services. So that, the health care providers should be organised free health check -up camp time to time in rural as well as urban area of northern Bihar for awareness and services of the maternal health and antenatal care.

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