

Utilization of Antenatal Care Package among Women of Urban Slums

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Abstract

Background: Antenatal period is an essential phase in shaping health care of the nation. Complete antenatal package includes minimum of three antenatal visits, two tetanus toxoid injections during the pregnancy, or received one tetanus toxoid injection during the pregnancy and at least one in the three years prior to the pregnancy, and received iron and folic acid tablets for 100 days. Utilization of complete antenatal package is pivotal for every pregnant woman and is influenced by socio-demographic factors. **Objectives:** To study the pattern of utilization of antenatal care package and factors influencing it among pregnant women of urban slums. **Methods:** Cross sectional study was done and data was collected by house to house survey after taking consent, using a pre-designed and pre-tested proforma. **Results:** Majority of 40.44% were in the age group of 18-25 years, 36.89% had completed primary education and 53.78% belonged to lower socioeconomic class. 39.56% women had availed the complete ANC package. Primigravida, literates and homemakers had utilized complete ANC package more effectively. ($p < 0.05$) Utilization of the complete ANC package was less among lower socioeconomic status women and labourers. **Conclusion:** Though women had undergone antenatal visits regularly but there was disparity in utilizing the complete ANC package, which should be focussed and emphasized on a larger perspective so as to build a healthy motherhood.

Key words: Antenatal Package, Health-care, Literacy, Pregnant, Slum, Urban, Women.

Introduction

To attain Every Woman Every Child vision and the Global Strategy for Women's, Children's and Adolescents' Health, innovative, evidence-based approaches to antenatal care (ANC) is required. The World Health Organization (WHO) envisions a world where every pregnant woman and newborn receives quality care throughout the pregnancy, during childbirth and postnatal period. ANC imparts a key platform for health-care functions, which is defined as "the care

provided by skilled health-care professionals to pregnant women and adolescent girls in order to ensure the best health conditions for both mother and baby during pregnancy." The components of ANC include risk identification, prevention and management of pregnancy related or concurrent diseases and health education and health promotion.¹

Global estimates indicate that only half of all pregnant women receive recommended amount of ANC package.² Nevertheless, the utilization of complete ANC package is not ubiquitous in India which was reflected during the National Family Health Survey 4 (NFHS-4), where only 21% of pregnant women had availed the services completely.^{2,3} In Karnataka, the utilization rates of full ANC care was 32.8% as per NFHS 4.⁴

Utilization of ANC services is of paramount importance for reducing maternal mortality in India.^{2,5,6}

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Each day in 2017, approximately 810 women died from preventable causes related to pregnancy and childbirth. Between 2000 and 2017, the maternal mortality ratio (MMR, number of maternal deaths per 100,000 live births) dropped by about 38% worldwide. 94% of all maternal deaths occur in low and lower middle-income countries. The MMR in low income countries in 2017 was 462 per 100 000 live births versus 11 per 100 000 live births in high income countries. Sub-Saharan Africa and Southern Asia accounted for approximately 86% (254 000) of the estimated global maternal deaths in 2017. Sub-Saharan Africa alone accounted for roughly two-thirds (196 000) of maternal deaths, while Southern Asia accounted for nearly one-fifth (58 000).⁷ In India maternal mortality accounts to 130/100,000 live births for the year 2014-16.⁸

WHO new antenatal care model increases the number of contacts/visits a pregnant woman has with healthcare providers throughout her pregnancy from four to eight. Focusing on a positive pregnancy experience, these new guidelines seek to ensure not only a healthy pregnancy for mother and baby, but also an effective transition to positive labour, childbirth and ultimately to a positive experience of motherhood.⁹

ANC is an essential component in the primary health care services of a country, which aims for a healthy society.¹⁰

Ensuring appropriate ANC services is of paramount importance in safeguarding maternal and newborn health, in India where health risks result from the vicious cycle of malnutrition, poverty as well as literacy status of the family.¹¹ In developing nations, though there is adequate provision of maternal health services but there is dearth in effective utilization. Thus, the present study was conducted with objectives of assessing the utilization of complete antenatal care package and the factors influencing in availing these services among pregnant women residing in urban slums.

Methodology

Study design:

A community based, cross-sectional study was conducted for a period of one year in the urban slums. The study was carried out by interviewing women in the

age group of 15-45 years, who delivered three months before the start of the study residing in urban slums, which is the field practice of Urban Health Training Centre attached to a tertiary care hospital.

Voluntary consent:

As the study was community based, the women were enrolled in the research after obtaining written informed consent on voluntary basis.

Sampling method:

The overall sample size was calculated as 225, using the formula $4pq/L^2$, where p is the prevalence 64% (According to World Health Organization, globally 64% of women receive ANC complete package)¹ q=1-p and L the permissible error, taken as 10%, the sample size worked out to be 225 at 5% alpha error. The total population of urban field practice area is 30,000. With an average family size of five members, 6000 families were residing in the study area. To achieve the required sample size, every 10th house was considered and only one woman from each family was included in the study, as she was considered to be representative of the selected family. Further for confirmation of the services utilized and to avoid recall bias, only those women were selected who had mother card with details of ANC and services availed.

Sampling procedure:

House to house survey was carried out by the investigators, by doing systematic random sampling (every 10th house was considered), if there was no study participant in the 10th house, then as per the procedure followed in systematic random method, the next houses were considered (i.e. 11th, 12th and so on). Later, as per the protocol systematic sampling method was continued considering 20th, 30th house and so on till the required sample size was achieved. Anganwadi workers and medico social workers played a pivotal role in establishing rapport with the study participants. One woman was selected from each house and she was considered as representative of the family. No other woman was selected from the same family, so as to avoid replication of the data and recall bias.

Inclusion and exclusion criteria: Women in the age group of 15-45 years, who had delivered three

months before the start of the study and residing in the study area for more than one year and who gave consent on a voluntary basis to participate in the study were included. Only the present pregnancy was considered for the study. Women who did not comply with the inclusion criteria were excluded.

Complete ANC package: Complete antenatal package includes those women who had a minimum of three antenatal visits, at least two tetanus toxoid injections during the pregnancy, or received one tetanus toxoid injection during the pregnancy and at least one in the three years prior to the pregnancy, and received iron and folic acid tablets for 100 days or more.⁷

Data collection:

A community based, cross-sectional study was conducted for a period of one year in the urban slums. Data was collected by interviewing 225 women in the age group of 15-45 years, who delivered three months before the start of the study using a pre-designed and pre-tested semi structured proforma, which included socio-demographic profile, and the various aspects of antenatal care. The questionnaire used in the study was translated to vernacular language and validated by the investigators. The data collection was restricted to the index pregnancy, to avoid recall bias and the mix-up of replies regarding earlier deliveries, if any. A house-to-house survey was done, case identification was carried out with the help of medical social and anganwadi workers equipped with the proforma. The case load was cross-checked to reassure that the cases were not missed. Data was collected after signing a written informed consent form on voluntary basis and confidentiality was assured.

Data analysis was done using SPSS software version 22.0. Descriptive statistics, Odds ratio and 95% Confidence interval were calculated. Chi-square test was applied to find an association between two attributes and $P < 0.05$ was considered as statistically significant.

Results

A total of 225 pregnant women participated in the study. The socio-demographic characteristics of the study participants were as follows. A majority of 40.44% were in the age group of 18-25 years. 72% of

the women belonged to Muslim community, 36.89% women had completed primary school education and 53.78% belonged to lower middle class socio-economic status [(SES), Modified B. G. Prasad's Classification 2019-India].¹²

Table.1, illustrates antenatal details of study participants, where in 60.44% women had registered their pregnancy at government hospital. Majority of the women 50.66% had registered their pregnancy in first trimester and 46.67% of women had taken 3 antenatal visits. Two doses of TT injection were taken by 72% women and intake of iron and folic acid with calcium tablets was recorded among 38.67% of the women.

Table 2 depicts the complete utilization of complete ANC package. It was noticed that 39.56% of the study participants had utilized the complete ANC package which included 3 or more visits, 2 TT injection doses, Iron and folic acid tablet intake for a minimum of 100 days.

Table 3 describes the association between socio-demographic characteristics and complete ANC package utilization. The utilization of complete ANC package among primigravida was 58.27% in contrast to 9.30% multigravida and was statistically significant ($\chi^2=53.29$, $df=1$, $OR=13.6164$, $95\% CI=6.1064-30.3628$, $p < 0.05$). This shows that primigravida were more apprehensive about the events occurring during ante natal period, so the utilization rate was higher in them. 61.41% of literates had used the complete ANC package when compared to 11.22% of illiterates, which was statistically significant. ($\chi^2=58.2863$, $df=1$, $OR=0.1613$, $95\% CI=0.0386-0.1635$, $p < 0.05$), connoting that education of the women played a significant role in availing the complete ANC package efficaciously. When socioeconomic class was considered, less than 50% of the study participants had utilized the complete ANC package who came from lower socio economic status. This shows that lower socioeconomic class women were not aware of the benefits of availing the complete ANC package. In the occupation category, 57.81% homemakers had used the complete ANC package in comparison to 10.98% pregnant women who were labourers and this difference was statistically significant. ($\chi^2=45.8595$, $df=2$, $OR=11.1152$, $95\% CI=5.1146-24.1562$, $p < 0.05$) ANC visits led to loss of daily wages of the labourers

and hence the package was not efficiently utilized by the women.

Table 1. Antenatal details of study participants (n=225)

Antenatal registration	Number	Percentage
First trimester	114	50.66
Second trimester	87	38.67
Third trimester	24	10.67
Gravida		
Primi	139	61.78
Multi	86	38.22
Place of registration		
Government hospital	136	60.44
Private hospitals/Clinics	21	9.33
Teaching hospitals	68	30.23
Antenatal visits		
1	12	5.33
2	88	39.11
3	105	46.67
≥4	20	8.89
Intake of IFA and Calcium (For a minimum of 100 days)		
Yes	87	38.67
No	138	61.33
TT doses		
1	63	28
2	162	72

Table 2. Complete Utilization of ANC Package of study participants (n=225)

Complete ANC Package (3 or more visits, 2 TT doses, Iron and folic acid tablet intake for a minimum of 100 days)		
ANC Package Utilization	Number	Percentage(%)
Utilized	89	39.56
Not utilized	136	60.44

Table 3: Comparison of Sociodemographic characteristics with ANC package utilization

Characteristics	ANC Complete Package		Chi-square	df	p value	Odds Ratio	95%CI of OR
	Utilized (n=89) (%)	Not utilized (n=136) (%)					
Literacy							
Illiterates (n=98)	11 (11.22)	87 (88.78)	58.2863	1	<0.00001*	0.0794	0.0386-0.1635
Literates (n=127)	78 (61.41)	49 (38.59)					
Gravida							
Primi (n=139)	81 (58.27)	58 (41.73)	53.29	1	< .00001*	13.6164	6.1064-30.3628
Multi (n=86)	08 (9.30)	78 (90.70)					
Occupation							
Homemakers (n=128)	74 (57.81)	54 (42.19)	45.8595	2	< .00001*	11.1152	5.1146-24.1562
Labourers (n=82)	09 (10.98)	73 (89.02)				2.0556 Ref	0.6905- 6.1196
Others (Employees, Business, Vendors) (n=15)	06 (40.00)	09 (60.00)					
Socio-economic status**							
Upper middle class (n=11)	6 (54.55)	5 (45.45)	5.0043	3	0.171482	1.2000 Ref	0.2464- 5.8440
Middle class (n=14)	7 (50.00)	7 (50.00)				2.4300	0.6991-8.4461
Lower middle class (n=121)	40 (33.06)	81(66.94)				1.4333	0.4038-5.0873
Lower class (n=79)	36 (45.57)	43 (54.43)					

*p value <0.05 indicates statistical significant.

** As per Modified BG Prasad classification 2019.¹²

Discussion

The present study was aimed at assessing the utilization pattern of complete antenatal care package and also to evaluate the causable factors affecting it.

The overall utilization of complete ANC package as a whole was 39.56% in the present study. This low rate of utilization was attributed to factors like literacy, gravida of the women, occupation, sociocultural factors and

socioeconomic status subject to awareness, availability and accessibility of the services.

In the present study, it was found that 40.44% of the women were in the age group of 18-25 years, which was similar to a study done in Belgaum, Karnataka by Paudel DP et al.,¹³ where 54.6% of the women belonged to 20-24 years of age.

A study done by Jerath et al.,¹⁴ in urban slums of Delhi, 44.4% had registered pregnancy in first trimester, which was similar to the present study where 50.66% women availed ANC in first trimester.

In the present study, 43.56% of the study participants were illiterates and 58.67% belonged to nuclear family, which was alike to the results of a study done in Gujarat by Bhimani RN et al.,¹⁵ where 43.92% were illiterates and 42.93% lived in nuclear families.

In a study done by Jogia PD et al.,¹⁶ Junagadh, Gujarat, 80% of study participants were Hindus majority were homemakers, 56% were primigravida, whereas in the present study 72% were Muslims, 56.89% were homemakers and 61.78% were primigravida.

In a study done by Sarkar TK et al.,² in West Bengal it was observed that 90.26% had availed three or more than three antenatal visits, 55.8% had consumed iron and folic acid tablets for >100 days, 89.6% had taken 2 doses of tetanus toxoid injection, whereas the present study findings revealed that 46.67% had taken 3 antenatal visits, 38.67% had consumed iron and folic acid for a minimum of 100 days and 72% had taken two doses of tetanus toxoid injections.

The present study findings revealed that 39.56% had utilized the complete ANC package, which was significantly associated with literacy, primigravida and homemakers. This was in resemblance to findings of a study done in Gujarat where 46.03% had availed complete ANC package and was significantly associated with literacy, employment status of women and socioeconomic status.

Conclusion

ANC bestows opportunity to communicate with and support women, families and communities at an essential phase of a woman's life. Although the services

are feasible, affordable and accessible but the complete ANC package utilization remains in a dismal state.

The communication and support of ANC are vital not only in saving lives, but enhances health-care utilization and quality of care. Women's positive experiences during ANC lays foundation for healthy motherhood in the community and nation as a whole.

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Ethical Clearance: As the study was community based, the women were enrolled in the research after obtaining written informed consent on voluntary basis.

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