

Utilization of Antenatal and Postnatal services among Women residing in Urban Slums

Shruti Kardalkar¹, Mayur S Sherkhane^{2*}

Affiliation: ¹ Postgraduate student, Department of Community Medicine & ² Professor and Head of the Department, Department of Community Medicine, SDM College of Medical Sciences and Hospital, Dharwad, Karnataka.

Date of Submission : 29-06-2018

Date of online Publication : 15-10-2018

Date of Acceptance : 15-09-2018

Date of Print Publication : 31-12-2018

***Author for correspondence:** Dr. Mayur S Sherkhane, Professor and Head of the Department, Department of Community Medicine, SDM College of Medical Sciences and Hospital, Sattur, Dharwad- 580009, Karnataka. E-mail: drmayurss@gmail.com

ABSTRACT

Background: Maternal health care services play a major role in reducing morbidity and mortality among women of reproductive age group which has a remarkable influence by several factors, distinctly in developing countries. Continuum of care throughout pregnancy and in postnatal period is of paramount importance and thus helps in emphasizing a safe motherhood practices. **Objectives:** To compare utilization of ANC and PNC services and factors affecting these services among women residing in urban slums. **Methods:** Cross sectional study was done in urban slums and data was collected from women who had delivered one year prior to the study by conducting house to house survey after taking consent, using a pre-designed and pre-tested proforma. Descriptive statistics, Chi-square test and Odds ratio were applied. **Results:** Mean age of study participants was 24.21±3.08 years. 57.54% were educated till high school and 71.51% belonged to lower class. 87.15% women had registered their pregnancy in the first trimester. In comparison, 63.13% had utilized full ANC package compared to 17.88% PNC package (P<0.05). Literacy status and awareness played a major role in utilizing the maternal care services (p<0.05). **Conclusion:** Utilization of PNC services was very minimal as compared to ANC. Literacy and social class plays major role in utilization of these services. Thus, there is need for strengthening PNC services utilization to match up with ANC services, which can be achieved by imparting health education and community participation at all levels of the health care, which can be done at a minimal cost.

Key-words: Healthcare, Maternal, Slums, Urban, Utilization.

INTRODUCTION

Maternal healthcare is a major component of primary healthcare¹ which has always remained as a major challenge to the global public health system, predominantly in developing nations.² Maternal health situations in the country has been impeding despite various changes in a rapidly developing socioeconomic environment³ and investment in health infrastructure.⁴ Pregnancy and child birth are events where in both women and children are more vulnerable to morbidity and mortality.⁵ It is widely accepted fact that the use of maternal health services has a potential effect in reducing maternal morbidity and mortality. However, the utilization of maternal health services is inadequate which is influenced by variety of factors⁶ like literacy, socioeconomic status, occupation of the woman and number of pregnancies also. Majority of maternal casualties can be prevented by providing women access to basic and effective maternal health services⁷ during pregnancy, childbirth and postnatal period¹ and by strengthening the services to cater the needs of vulnerable.⁸

Antenatal care (ANC) service is the essential component in the primary health care services of a country, which aims for a healthy society.³ World Health Organization

(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 whereas postnatal period is the critical phase in the lives of mothers and newborn babies, constituting to most maternal and infant deaths. According to WHO, at least three home visits by health care workers, continuation of consumption of iron and folic acid tablet by 42 days of delivery, caring of infection, management of postpartum hemorrhage, breast feeding and nutrition education, postpartum exercise and advice of having suitable family planning devices are the basic services required to the mother during the postnatal period.¹ Ensuring appropriate postnatal care is of paramount importance in safeguarding maternal and newborn health, in India where health risks results from the vicious cycle of malnutrition, poverty¹⁰ as well as literacy status of the family.

Rapid urbanization has led to increase in migration of people from rural to urban areas in search of livelihood,

enhancing the growth of slums, which have very poor access to basic amenities, poverty and unhygienic living conditions. The fast growth of slums has deleterious impact on maternal and child health causing an increase in the mortality and morbidity.⁵

In developing countries although there is provision of maternal health services but there is lack of its awareness and effective utilization. Thus, the present study was conducted with objectives of assessing the utilization of antenatal and postnatal care services and the factors affecting in availing these services among women residing in urban slums.

MATERIAL AND METHODS

Study design and setting

This study was a community based, cross-sectional study, which was carried out for a period of six months. The study was conducted among women who were in postnatal period, residing in the urban slums, which is the field practice area of Urban Health Training Centre attached to a tertiary care hospital.

Sampling method:

The overall sample size calculated was 179, using the formula $4pq/L^2$, where p is the prevalence 35.86%,¹¹ q = 1-p (64.14%) and L the permissible error, taken as 20% at 5% alpha error. The total population of urban field practice area is 20,000. With an average family size of 7 members, 2000 families were residing in the study area. To achieve the required sample size, every 11th family was selected and only one woman from each family was included in the study as she was considered to be representative of the selected family and to avoid duplication, so that entire population was covered.

Sampling procedure:

House to house survey was carried out by the investigators, by doing systematic random sampling (every 11th house was considered), if there was no study participant (mother) in the 11th house, then as per the procedure followed in systematic random method, the next houses were considered (i.e. 12th, 13th, 14th and so on). Later, as per the protocol systematic sampling method was continued considering 21st, 31st houses and so on till the required sample size was achieved. With the help of anganwadi workers and medico social workers helped in developing 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 duplication of the data and recall bias.

Inclusion and exclusion criteria:

Women who had delivered one year prior to the study, 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. Women who did not comply with the inclusion criteria were excluded.

ANC package: Complete antenatal package includes those mothers 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 90 days or more.²

PNC package: A woman should receive at least three home visits by health workers, continuation of iron folic acid and calcium tablets, management of postpartum haemorrhage, caring of infection, getting education about breast feeding, nutrition, family planning services and postpartum exercise.¹

Data collection:

Data was collected by interviewing all 179 delivered women by conducting house-to-house survey using a pre-designed and pre-tested semi structured proforma, which included socio-demographic profile, monthly income, antenatal and postnatal services utilization details. The questionnaire used in the study was translated to vernacular language and validated by the investigators. 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 and 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 179 women participated in the study. The socio-demographic characteristics of the study participants are shown in Table.1, where majority of 54.75% were in the age group of 21-25 years. 57.54% women had completed high school education, 71.51% belonged to Class V socio-economic status [(SES), Modified B. G. Prasad's Classification 2017 - India].¹⁴

Table. 2, depicts antenatal details of study participants, where in 51.96% women took ANC services at government hospital. Majority of the women 87.15% had registered their pregnancy in first trimester, and 65.93% of women had taken ≥ 3 visits. Two doses of TT injection were taken by 75.98% women. Intake of IFA and calcium tablets was seen in 57.54% of the women. 63.13% of women had utilized the complete ANC package.

Table. 3, describes post natal details of study participants. 30.17% of the women had availed a minimum of three post natal visits. A majority of 79.89% women had not continued intake of iron and folic acid tablet during the post natal period. 87.15% and 64.80% of women were educated about breast feeding practices and family planning services respectively. A larger number of women 88.27% were not advised regarding post natal exercises. The complete PNC package utilization was fulfilled by 17.88% of women.

Table. 4, shows comparison of ANC and PNC utilization among study participants. It was found that 63.13% had utilized full ANC package when compared to PNC package which was only 17.88% ($\chi^2=76.05$, df=1, OR=7.865, 95% CI=4.826 -12.82, P<0.05, Significant).

This shows that ANC package is utilized 8 times more than PNC services.

Table 1. Demographic characteristics of study participants (n=179)

Demographic characteristics	Number	Percentage
Age (years)		
15-20	4	2.24
21-25	98	54.75
26-30	56	31.28
31-35	21	11.73
Religion		
Hindu	48	26.82
Muslim	128	71.51
Christian	3	1.67
Others (Jain, Sikh)	0	0
Educational status		
Illiterates	19	10.62
Primary (1-7)	37	20.67
High school (8-10)	103	57.54
Intermediate (11-12)	12	6.7
Graduate & above	8	4.47
Socioeconomic status(B.G. Prasad classification 2017)		
Class I	0	0
Class II	4	2.23
Class III	11	6.15
Class IV	36	20.11
Class V	128	71.51

Table 2. Antenatal details of study participants (n=179)

Antenatal registration	Number	Percentage
1 st trimester	156	87.15
2 nd trimester	18	10.06
3 rd trimester	5	2.79
Gravida		
First	148	82.68
Second	23	12.85
Third	8	4.47
Place of registration		
Government hospital	93	51.96
Private hospitals	67	37.43
Medical colleges	19	10.61
Antenatal visits		
1	4	2.23
2	57	31.84
≥3	118	65.93
Intake of IFA and Calcium		
Yes	103	57.54
No	76	42.46
TT doses		
1	43	24.02
2	136	75.98
ANC package (3 or more visits, 2 TT doses, Iron and folic acid tablet intake)		
Utilized	113	63.13
Not utilized	66	36.87

Table 3. Post natal details of study participants (n=179)

Post natal visits	Number	Percentage
1	42	23.46
2	83	46.37
≥3	54	30.17
Continuation of IFA and Calcium		
Yes	36	20.11
No	143	79.89
Family planning		
Yes	116	64.8
No	63	35.2
Advice on Breast feeding practices		
Yes	156	87.15
No	23	12.85
Advice on Postpartum exercises		
Yes	21	11.73
No	158	88.27
Advice on Nutrition		
Yes	76	42.46
No	103	57.54
PNC package (3 or more visits, Iron and folic acid tablet intake, Breast feeding & Nutrition education, Postpartum exercise, Family planning services)		
Utilized	32	17.88
Not utilized	147	82.12

Table. 5, depicts the association between maternal services utilization with literacy and socio economic status. Among the literates 84.07% had availed complete ANC package and 87.50% used PNC services. When socioeconomic class was considered, 68.14% and 62.50% of women belonging to class V had used ANC and PNC packages respectively. Among the class II women the utilization rates for ANC and PNC packages was 2.66% and 3.13% accordingly. This shows that literacy plays a role in utilization of the services. ($\chi^2=0.2279$, $df=1$, P value=0.6331, Not significant)

DISCUSSION

The present study was aimed in assessing the utilization patterns of complete ANC and PNC packages among women residing in urban slums. 63.13% of women had utilized full ANC package when compared PNC package which was only 17.88% ($P<0.05$). The reason for ample availment of PNC package was probably the focus of attention shifting towards the newborn after delivery and negligence in educating the mother regarding her health and her needs in postnatal period.

The present study showed that majority of women 54.75% were in the age group of 21-25 years. 57.54% women had completed high school education when compared to a study conducted in Mumbai by Singh pk et al², where in larger number of women belonged to less than 18 years of age and 48.5% of the participants were illiterates.

It was also found that 65.93% of the women had taken a minimum of 3 antenatal visits, and 87.15% of them had

Table 4. Comparison of ANC and PNC utilization among study participants (n=179)

ANC and PNC package					
ANC package			PNC package		Significance
(3 or more visits, 2 TT doses, IFA intake)			(3 or more visits, IFA intake, Breast feeding & nutrition education, postpartum exercise, Family planning services)		
Package Utilization	No.	%	No.	%	$\chi^2=76.05, df=1$ $P<0.0001, \text{Significant}$ $OR=7.86595\%$ $CI=4.826 -12.82$
Utilized	113	63.13	32	17.88	
Not utilized	66	36.87	147	82.12	

Table 5. Comparison of demographic characteristics with utilization among study participants

Demographic characteristics	Utilized				χ^2	df	p
	ANC package (n=113)		PNC package (n=32)				
	No.	%	No.	%			
Literacy status					0.2279	1	0.6331
Literates	95	84.07	28	87.5			Not Significant
Illiterates	18	15.93	4	12.5			
Socioeconomic status							
Class II	3	2.66	1	3.13			0.9383
Class III	7	6.19	2	6.25	0.4092	3	Not Significant
Class IV	26	23.01	9	28.12			
Class V	77	68.14	20	62.5			

registered their pregnancy in first trimester when compared to a study done by Roy MP et al³ in Lucknow where 85.5% of the women had taken at least 3 antenatal visits and 53.7% had registered in first trimester.

In a study conducted at Belgaum, by Paudel DP et al¹, 61.3% of the women had taken at least 3 postnatal visits and 89% of them had continued intake of iron and folic acid consumption after delivery in contrast to the present study where only 30.17% and 20.11% women had availed more than 3 visits and continued intake of iron supplements respectively. This was probably because during the post natal period, mother considered concern of the newborn was most important and top priority rather than caring for herself and women thought that if they continued iron supplements in postnatal period it would cause gain in weight leading to further complications.

The present study also revealed that 68.14% and 62.50% of women belonging to lower socioeconomic status had utilized ANC and PNC services accordingly which was in contrast to a study conducted at Mumbai by Singh A et al¹⁰ wherein 54.8% women had taken ANC services and only 22.7% had received PNC services that constituted to the lower socioeconomic class of the society.

The maternal health services were utilized maximum by the literate women in the present study (more than 80%), accomplishing the fact that literacy had a significant role. However, women who constituted to higher socio economic class in the community had not utilized the packages adequately as these women were working and had registered at private hospitals wherein the waiting period at hospitals was one of the main reasons. The lower class group women had used the maternal services adequately as maximum had registered in government hospital and these packages were available to them free of cost and provided at their door steps by health care workers which also helped in saving their time.

Conclusion

The present study findings suggest that utilization of PNC services is very minimal as compared to ANC, which is influenced by factors like literacy, working status of women and socioeconomic status and thus, emphasizing the fact that these services are not adequately utilized irrespective of the availability and easy access to healthcare resources. Women should be sensitized regarding the importance of postnatal period so that they utilize the PNC services as effectively as ANC. This can be achieved by imparting health education, community participation and monitoring of activities undertaken by

health care workers. Strategies should be framed to focus on individual basis in the community and encouraging the beneficiaries to utilize the complete ANC and PNC packages.

ACKNOWLEDGEMENT

We express our sincere gratitude to all the women who gave voluntary consent and participated in the study.

REFERENCES

1. Paudel DP, Nilgar B, Bhandankar M. Determinants of postnatal maternity care service utilization in rural Belgaum of Karnataka, India: A community based cross-sectional study. *Int J Med Public Health* 2014;4:96-101.
2. Singh PK, Rai RK, Alagarajan M, Singh L. Determinants of Maternity Care Services Utilization among Married Adolescents in Rural India. *PLoS ONE* 7(2):e31666. <https://doi.org/10.1371/journal.pone.0031666>.
3. Roy MP, Mohan U, Singh SK, Singh VK, Srivastava AK. Determinants of utilization of antenatal care services in rural Lucknow, India. *J Fam Med Primary Care* 2013;2:55-9.
4. Kotresh M, K Prashant. Determinants of Use of Maternal Health Services in Rural Field Practice Area of Basaveshwara Medical College, Chitradurga: A Cross Sectional Study. *Journal of Preventive Medicine and Holistic Health* 2015;1(2):59-66.
5. Singhal A. Utilization of Maternal Health Services in Slums of Rajasthan. *International Journal of New Technology and Research* 2015;1(8):76-81.
6. Jat RT, Ng Nawi, S S Miguel. Factors affecting the use of maternal health services in Madhya Pradesh state of India: a multilevel analysis. *International Journal for Equity in Health* 2011 10:59.
7. Ahmed S, Creanga AA, Gillespie DG, Tsui AO. Economic Status, Education and Empowerment: Implications for Maternal Health Service Utilization in Developing Countries. *PLoS ONE* 5(6): e11190. <https://doi.org/10.1371/journal.pone.0011190>.
8. Venkatesh R R, Umakantha G A, Yuvaraj J. Safe Motherhood Status in the Urban Slums of Davangere City. *Indian J Community Med* 2005;30(1):6-7
9. World Health Organization. (2017). Pregnant women must be able to access the right care at the right time, says WHO. [cited 29 December 2017] Available at: <http://www.who.int/news-room/detail/07-11-2016-pregnant-women-must-be-able-to-access-the-right-care-at-the-right-time-says-who>.
10. Singh A, Padmadas SS, Mishra US, Pallikadavath S, Johnson FA, et al. Socio-

Economic Inequalities in the Use of Postnatal Care in India. *PLoS ONE* 7(5):e37037. <https://doi.org/10.1371/journal.pone.0037037>.

11. Uppadhaya SK, Bhansali S, Sivodia SK, Agrawal N, Garg K, Singh M. Utilization of Postnatal Care Services in Rural Area of Western Rajasthan, India. *Ntl J Community Med* 2016; 7(7):569-72.
12. WHO recommendations on postnatal care of the mother and newborn. [cited 29 December 2017] Available at: http://www.who.int/maternal_child_adolescent/documents/postnatal-care-recommendations/en/
13. V.J Madhusudan, M B Tilla Vinter. DETERMINANTS OF ANTENATAL CARE SERVICES UTILIZATION IN MEGHALAYA, INDIA. *International Recognition Multidisciplinary Research Journal* 2016;3(8)1-5.
14. Tabassum N, Rao RLL. An Update on B.G. Prasad's Socio-Economic Classification. *Journal of Medical Pharmaceutical and Allied Sciences* 2017:670-73.

Conflict of Interest: None

Source of funding support: Nil

How to cite this article: Shruti Kardalkar, Mayur S Sherkhane. Utilization of Antenatal and Postnatal services among Women residing in Urban Slums. *Nat J Res Community Med* 2018;7(4): 266-270.

© Community Medicine Faculties Association-2018
NJRCM: www.commedjournal.in

