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Utilization of antenatal services under Pradhan Mantri Surakshit Matritva Abhiyan in rural area of North Karnataka: a cross-sectional study

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ABSTRACT

Background: PMSMA was launched by the Ministry of Health and Family Welfare, Government of India to improve the quality and coverage of antenatal care as part of RMNCH+A to reduce MMR. It is an initiative to help pregnant women especially from backward classes, rural areas and belonging to the unprivileged group, in remaining healthy throughout their pregnancy. **Objective**: 1. To assess the utilization of antenatal care services at PMSMA clinic on 9th of each month. 2. To know factors associated with the utilization of services in PMSMA clinic. **Methods:** A cross-sectional study was carried out in February-April 2018 among 161 mothers who had delivered within one year from the date of the study and who had registered and availed ANC services at Rural field practice area of BIMS, Belagavi. Mothers were selected using systematic sampling. After obtaining an informed, written consent from the eligible participants, data was collected regarding utilization of ANC services and the quality of care received by them. The collected data was compiled, tabulated and analyzed in MS Excel and SPSS. The results are presented as percentage and proportion and chi-square test has been applied. **Results:** Majority of participants belonged to the age group 20-30 years. Majority were Hindu by religion and belonged to low socio-economic class. ANC services under PMSMA were utilized by 32% participants. The utilization of services under PMSMA was found to be significantly associated with the type of family of the participant and awareness regarding the same. **Conclusion:** This study found low level of utilization of antenatal services under PMSMA in rural area of Belagavi.

Key Words: Utilization, Antenatal services, PMSMA, Rural Belagavi, Quality care

INTRODUCTION

Maternal health refers to health of the women during pregnancy, child birth and postpartum period. While motherhood is often a positive fulfilling experience, but for too many women it is associated with suffering, ill-health and even death. The WHO estimates that every day, about 830 women die due to the complications during pregnancy and child birth.[1] Maternal Mortality Ratio in India is 130 per 100,000 live births (2014-16), and that of Karnataka is 108 per 100,000 live births (2014-16).[2]

To reduce MMR substantially and move towards elimination of preventable cause of maternal death, increased coverage should be accompanied by improved quality throughout the continuum of care. To make pregnancy safe has remained the key objective of reproductive and child health program in India. The National Rural Health Mission (NRHM) reiterates the government's commitment to the safe motherhood. The popularity of antenatal care services in the rural community has been encouraging.[3]

With the implementation of Janani Suraksha Yojana and Janani Shishu Suraksha Karyakaram, within a short span of time significant progress was observed in the maternal health care service indicators like institutional deliveries and antenatal care coverage. As per latest data of the Rapid Survey on Children (2013-14), the institutional deliveries in India are 78.7%. Till date only 61.8% women receive first ANC in first trimester (RSOC) and the coverage of full ANC is as low as 19.7% (RSOC).[4]

As per data from NFHS-4 (2015-16), 67.3% women had antenatal check-up in first trimester while 70.9% women had at least 4 antenatal care visits in rural Karnataka. Whereas in rural Belgaum, 78.6% women had antenatal check-up in first trimester and 76% women had at least 4 antenatal care visits.[5]

MMR still remains high even with improved access to maternal health care services.[5] High MMR reflects poor coverage of antenatal care services, poor quality of care and inequity to access to health services.

The World Health Organization envisions a world where every pregnant woman and newborn receives quality care throughout the pregnancy, childbirth and the postnatal period. There is a comprehensive WHO guideline on routine ANC for pregnant women and adolescent girls on the management of specific pregnancy related complications.[6]

The Pradhan Mantri Surakshit Matritva Abhiyan was launched by the ministry of health & family welfare, government of India on 9th June 2016. The program envisages to improve the quality and coverage of Antenatal Care, Diagnostics and Counselling services and also detection, referral and follow up of high-risk pregnancy as part of the Reproductive Maternal Neonatal Child and Adolescent Health (RMNCH+A) Strategy. It is ensured that not only all pregnant women complete their scheduled ANC visits but also undertake all essential investigation. The services provided in PMSMA are detailed history taking and clinical examination followed by blood and urine investigations and ultrasonography and treatment. Special care is given to the high-risk cases. The program also includes provision of counseling services to the beneficiaries on nutrition and anemia, birth preparedness, lactation and family planning .[4]

If each and every pregnant woman in India is examined by a Medical officer/ specialist and investigated appropriately at least once during the PMSMA, the program can play a crucial role in reducing the number of maternal deaths in our country.[7]

Till now no study has been conducted to assess the quality of care given to pregnant women in rural area of Belagavi. Hence this study was undertaken with the following objectives: 1. To assess the utilization of antenatal care services at PMSMA clinic on 9th of each month. 2. To know the factors associated with the utilization of services in PMSMA clinic.

MATERIAL AND METHODS

The present cross-sectional study was carried out in months of February – April 2018, among mothers who had delivered within one year from the date of the study and who had registered and availed ANC services at a rural field practice area of Department of Community Medicine, BIMS, Belagavi.

Sample size was estimated by considering the findings by Manju Rani et al on clinical components of quality antenatal care in south India, the average prevalence of which comes as 88%.[8] By taking absolute error of 5% the sample size was calculated to be 161.

Primary Health Centre in the rural field practice area of BIMS caters to a population of 43,000 and has 6 subcentres. The study population was selected in proportionate to the number of total deliveries in each subcentre in the last 1 year. A list of mothers who delivered within last 1 year of the commencement of the study was collected from each subcentre and individual subjects were selected using systematic sampling with sampling interval being 5. In case the selected participant was not available, the next participant was selected for interview. Women not willing to participate in the study and women with psychiatric illness were excluded from the study.

After obtaining an informed written consent from the eligible participant, she was interviewed at her residence or nearest anganwadi centre using a predesigned and pretested questionnaire to get information on her socio demographic profile, quality of care given to her, utilization of antenatal services in PMSMA clinic and awareness of this program launched by the Government. Mother child protection card which is available from the respondent was checked to confirm the service utilization and the investigations carried out. The data was cross checked from the ANMs registers and registers of PHC.

The collected data was compiled and tabulated in MS Excel and analysis was done in SPSS 20.0. The results have been presented as frequency, percentage, proportion and chi-square test has been applied.

RESULTS

A total of 161 mothers were surveyed during the study period. Majority of them i.e. 117 (72.7%) were between 16-25 years. The remaining 44 (27.3%) participants belonged to 26-35 years age group. The majority of the participants, i.e. 153 (95%) were Hindus by religion. 72 (13.6%) participants were SC/ST, 41 (25.5%) were OBC and the remaining 98 (60.9%) belonged to other caste groups. 3.1% of the participants were illiterate while 94.4% of the participants had received education beyond primary school. Out of 161 mothers, 152 (94.4%) were housewives while remaining 9 (5.6%) were employed. 38 (23.6%) belonged to nuclear family while remaining 123 (76.4%) belonged to joint/3 generation family. Socio economic status classification showed that 5 (3.1%) belonged to class I, 26 (16.1%) belonged to class II, 34 (21.1%) belonged to class III, 62 (38.5%) belonged to class IV and 34 (21.1%) belonged to class V socio-economic status according to modified B.G.Prasad classification. Out of 161, 116 (72%) mothers were BPL card holders (Table 1).

Among the study participants, only 32% (52) claimed to have utilized antenatal care in PMSMA clinic which is held on 9th of every month. The remaining 68% (109) of the participants utilized the routine antenatal care given at the health centres .

There are 4 components of antenatal services under PMSMA which are to be provided at the PMSMA clinic that is held on 9th of every month. The first component is history and examination. All the 52 participants (100%) who attended PMSMA clinic, stated that their history was taken, height, weight and BP were measured and their clinical examination was done in the PMSMA clinic.

Table 1. Distribution of participants on the basis of socio-demographic variables

Variables	Frequency	%
Age		
16-25	117	72.7
26-35	44	27.3
Religion		
Hindu	153	95
Muslim	8	5
Caste		
SC/ST	22	13.6
OBC	41	25.5
Others	98	60.9
Educational status		
Illiterate	5	3.1
Primary	4	2.5
Beyond primary	152	94.4
Occupation		
Employed	9	5.6
Unemployed	152	94.4
Family type		
Nuclear	38	23.6
Joint / 3 generation	123	76.4
SES		
1	5	3.1
2	26	16.1
3	34	21.1
4	62	38.5
5	34	21.1
BPL card		
Yes	116	72
No	45	28

The second component of PMSMA is investigations. Hb estimation, HIV, HBsAg, random blood sugar and blood grouping and typing were done for all 52 participants (100%) while only 45 (86.5%) were tested for VDRL and urine routine and microscopy. None of the participants underwent ultrasonography at the PMSMA clinic. However, all of them stated that they had undergone USG scanning at private centres.

The third component of PMSMA is treatment. 52 (100%) of the participants stated that they had received injection TT, IFA and calcium tablets at the PMSMA clinic. 22 (42.3%) of the participants who had received ANC at PMSMA clinic were referred to higher centres for further care and treatment owing to the high-risk factors associated with their pregnancy.

The fourth component of PMSMA is counselling. Out of 52 mothers who had attended PMSMA clinic, 49 (94.2%) were counselled for nutrition and anemia, 47 (90.4%) were counselled regarding birth preparedness, 44 (84.6%) were counselled for lactation and 41 (78.8%) were counselled regarding family planning (Table 2).Awareness regarding PMSMA was seen in only 5% of the participants.

Table 2. Utilisation pattern of PMSMA

History and examination	Frequency	%
History	52	100
Height	52	100
Weight	52	100
BP examination	52	100
Clinical examination	52	100
Investigation		
Hb	52	100
HIV,HBsAg	52	100
VDRL	45	86.5
Urine (R)	45	86.5
RBS	52	100
Blood group	52	100
USG at PMSMA clinic	0	0
Treatment		
TT	52	100
2 doses	23	44.2
Booster dose	29	55.8
Folic acid	52	100
Iron capsule	52	100
Calcium tablet	52	100
Referral	22	42.3
Counselling		
Nutrition and anemia	49	94.2
Birth preparedness	47	90.4
Lactation	44	84.6
Family planning	41	78.8

This study found that the utilization of antenatal services in PMSMA clinic was more in the mothers who belonged to joint/three generation families and those who were aware regarding the program and its various components and services and this association was found to be statistically significant. (Table 3).

DISCUSSION

This is the first study in India to assess the utilization of antenatal services in PMSMA clinic and to study the factors associated with the utilization of these services.

A study done by Manju rani et al on the differentials in the quality of antenatal care in India found that blood pressure was measured in 40% women who received antenatal care in north India while in 87% in south India as compared to 100% in our study. Weight was measured in less than 33% of participants in north and in 80% in south India as compared to 100% in our study. Blood examination was done in 40% in north and 79% in south India, while in our study blood examination was done in all the participants in PMSMA clinic except for VDRL which was done in 86.5 % only. Urine examination was done in 38% in north and 77% in south India as compared to 86.5% in our study. IFA tablets were given to 89% in north while 95% in south

Table 3. Factors associated with utilisation of PMSMA

Factors	PMSMA	Routine	P value
Age			
16-25	38	79	0.936
26-35	14	30	
Religion			
Hindu	48	105	0.272
Muslim	4	4	
Caste			
SC/ST	8	14	0.836
OBC	14	27	
Others	30	68	
Educational status			
Illiterate	2	3	
Primary	1	3	0.89
Beyond primary	49	103	
Occupation			
Employed	2	7	**0.506**
Unemployed	50	102	
Family type			
Nuclear	18	20	0.023
Joint / 3 generation	34	89	
SES			
1	1	4	0.487
2	6	20	
3	10	24	
4	25	37	
5	10	24	
BPL card			
Yes	41	75	0.184
No	11	34	
Registration			
Early registration	49	100	0.701
Late registration	3	8	
Parity			
Primigravida	21	48	0.661
Multigravida	31	61	
PMSMA awareness			
Yes	50	10	< 0.001
No	2	99	

India as compared to 100 % in our study. Counseling on birth preparedness was given to 23% in north and 44% in south India as compared to 90.4% in our study.[8]

Sugunadevi G conducted a study on the quality of antenatal care services at subcentres and reported that 70.2% of patients were examined for height, 83.4% for weight, 87% for BP while in our study all the participants received these aspects of examination in PMSMA clinic.100% participants were reported to receive TT injection and IFA tablets which was found to be similar to the results in our study. 32.5% were counseled regarding nutrition as compared to 94.2% in our study.17.8 % were counseled regarding family planning as compared to 78.8% in our study.[9]

In our study, clinical examination was done for all the participants who attended PMSMSA clinic, while a study done on the quality of antenatal services in Kanpur reported weight examination in 74.9%, height measurement in 60.8%, BP examination in 66.2%, and clinical/obstetric examination in 76.4% of patients in ANC clinic. Hb estimation was done for 69.6% and urine examination for 50.2% of patients as compared to 100% and 86.5% respectively as reported in our study.[10]

A study in Manguluru by C.S.Vishnu et al on the utilization of antenatal services and supplementary nutrition during pregnancy reported similar findings for antenatal registration, weight and BP measurement and TT injection. 95% and 65% of patients had received advice on nutrition and birth preparedness as compared to 94.2% and 90.4% respectively in our study. PMSMA awareness was seen only in 5% of the participants as compared to 37% in our study.[11]

Kakati R et al conducted a study on the factors associated with the utilization of antenatal care services in rural areas of Assam. The utilization of antenatal care services was found to be significantly associated with age of mother at last birth, religion, caste, socio-economic status, and parity of mother and place and mode of delivery. While in our study the utilization of antenatal services was found to be significantly associated with only the type of family the lady belonged to and to the degree of awareness regarding the services.[12]

This study found low level of utilization of antenatal services under PMSMA in rural area of Belagavi. Quality of care was found to be good in those who attended PMSMA clinic. The utilization of PMSMA was significantly associated with the type of family and awareness of PMSMA. There is a need for improving community awareness on maternal health and for motivating women to utilize maternal care services under PMSMA by intensive IEC activities.

Only high-risk antenatal cases are seen in PMSMA clinic at our health centre. This might be the reason behind the low utilization of the antenatal services in PMSMA clinic at the PHC attached to BIMS. Hence the findings of this study cannot be generalized to get the information regarding utilization of PMSMA across the country.

This study has a limitation that the number of follow up visits in the PMSMA clinic have not been dealt with in this study.Future research on utilization of services in PMSMA in India could assess its acceptability in a broader variety of settings, and evaluate outcomes in facilities across the nation.

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