International Journal of Community Medicine and Public Health
Kumar A et al. Int J Community Med Public Health. 2022 Mar;9(3):1464-1468
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20220714

Original Research Article

Study of profile and factors associated with high-risk pregnancies among PMSMA beneficiaries visiting block Barwala, District Hisar of Haryana

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Received: 17 January 2022
Revised: 12 February 2022
Accepted: 16 February 2022

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ABSTRACT

Background: Any pregnant woman can develop life-threatening complications with little or no advance warning, so all pregnant women need access to quality antenatal services to detect and prevent life-threatening complications during childbirth. The Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA) is thus being introduced to ensure quality antenatal care to pregnant women in the country. Under the campaign, a minimum package of antenatal care services would be provided to the beneficiaries on the 9th of every month at the PMSMA clinics. The objectives of study were to study profile and identify high risk pregnancies and associated factors of PMSMA beneficiaries.
Methods: It was a retrospective study. Information was collected from hospital records of antenatal beneficiaries attending monthly PMSMA clinic in block Barwala. Maternal characteristics such as age, gravida, parity, trimester at time of first visit were noted. High risk factors were also noted. Data was collected & analysed by using SPSS version 20 software. Percentage & Chi-square test are used to analyse the data.
Results: The records of total 401 antenatal beneficiaries were analysed. Out of total beneficiaries 26.9% were detected as high-risk pregnancy. Most common medical condition was anaemia. Majority of beneficiaries were belonged to age group 21-30 years. Percentage of Rh-ve beneficiaries were found to be 7.7%. Out of total 4.2% beneficiaries were having twins' pregnancies. Maximum number of high-risk pregnancies belonged to blood group A.
Conclusions: Detecting High-risk pregnancies in an effective measure to reducing maternal and infant mortality.

Keywords: Antenatal care, High risk pregnancy, PMSMA

INTRODUCTION

Every pregnancy is special and every pregnant woman must receive special care. Any pregnant woman can develop life-threatening complications with little or no advance warning, so all pregnant women need access to quality antenatal services to detect and prevent life-threatening complications during childbirth.[1] The Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA) has been introduced to provide fixed day quality antenatal care services to women in their 2nd and 3rd trimesters of pregnancy on the 9th day of every month. The initiative aim is to ensure comprehensive antenatal services provided to pregnant women at designated health facilities by Obstetricians / medical officers.[2] Skilled care before, during and after childbirth can save the lives of women and new-borns.[3] India is among countries which have a high maternal mortality ratio. According to SRS

report 2016-2018 the MMR has reduced from 167 per lakh live births in 2011-13 to 113 per lakh live births in 2016-18. The Global strategy goal is to reduce global maternal mortality to less than 70 per 100,000 live births to be achieved by 2030.

The main purpose of fixed day quality antenatal care services is to identify high risk cases among large group of antenatal mothers. These cases comprise the following elderly primi (30 years and above), short statured primi(140cm and below), malpresentations viz breech, transverse lie etc, antepartum haemorrhage ,threatened abortions, preeclampsia, eclampsia, anaemia, twins, hydramnios, previous still birth, intrauterine death, manual removal of placenta, elderly grand multiparas, prolonged pregnancy, history of previous caesarean or instrumental delivery, pregnancy associated with general disease viz CVD, kidney disease, diabetes, tuberculosis, HIV etc, treatment of infertility, three or more spontaneous consecutive abortions. The risk approach is a managerial tool for improved MCH care.[4]

The objectives of study were to study profile of PMSMA beneficiaries visiting block Barwala and to Identify high risk pregnancies and associated factors among PMSMA beneficiaries.

METHODS

A record based retrospective study was done on ANC beneficiaries, who visited block hospital CHC-cum-SDH Barwala, district Hisar of Haryana, on PMSMA clinic. The data was collected for the period of 6 months from April 2019 to September 2019.

Maternal characteristics such as age, religion, education, gravida, parity, gestational age, and time of 1st visits were studied. High risk factors identified were also noted. To identify high risk cases from large group of antenatal mothers criteria comprise: elderly primi (30 years and above), short statured primi (140cm and below), malpresentations viz breech, transverse lie etc, antepartum haemorrhage, threatened abortions, preeclampsia, eclampsia, Anaemia, twins, hydramnios, previous still birth, intrauterine death, manual removal of placenta, elderly grand multiparas, prolonged pregnancy, history of previous caesarean or instrumental delivery, pregnancy associated with general disease viz CVD, kidney disease, diabetes, tuberculosis, HIV etc, treatment of infertility, three or more spontaneous consecutive abortions.[4]

The operational definition of high risk pregnancy in this study was defined as the conditions that put the mother and the developing foetus or both at a higher risk than normal for any complications arising during antepartum, intrapartum or postpartum period.[5] All ANC beneficiaries whose information was completely recorded during the study period were included in the study.

Statistical analysis

The Data was collected, entered and compiled in Microsoft Excel and analysis was done by using SPSS version 20.0. Percentages and Chi square test were used to analysed the data. P<0.05 was considered as level of significance.

RESULTS

Data of total 401 beneficiaries were analysed in the study. Out of these maximum number of beneficiaries attended in PMSMA clinic in month of May 2019 and least number of beneficiaries attended in the month of June 2019. About 108 beneficiaries were detected as high risk, thus making 26.9 % at PMSMA clinic at block Barwala.

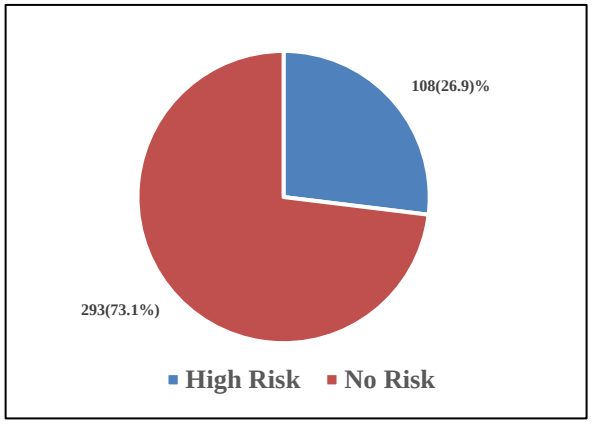

Figure 1: Type of antenatal beneficiaries (n=401).

Table 1: Distribution of Beneficiaries according to their trimester (n=401).

Trimester	Frequency	Percent
First trimester	39	9.7
Second trimester	207	51.6
Third trimester	138	34.4
Not Known trimester	17	4.2

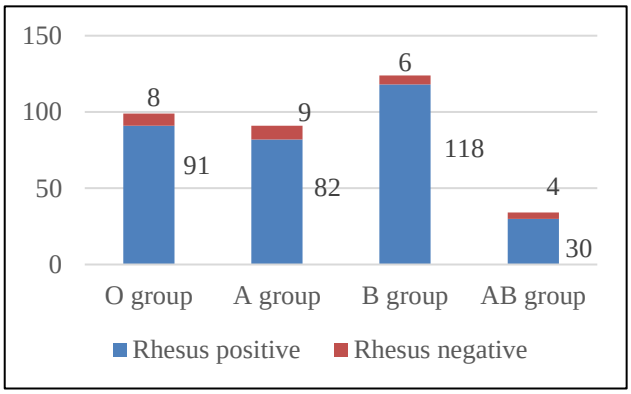

Figure 2: Distribution of beneficiaries according to their blood group.

Table 2: Association of maternal characteristics with High-Risk Pregnancy (HRP) (n=401).

Characteristics	HRP +ve, n (%)	HRP-ve, n (%)	Total n (%)	χ^2	P- value
Age group (years)					
<20	9 (15.8)	48 (84.2)	57 (100.0)		
21-30	90 (27.8)	234 (72.2	324 (100.0)	7.032	0.03
31-40	9 (45.0)	11 (55.0)	20 (100.0)		
Education					
Illiterate	15 (40.5)	22 (59.5)	37 (100.0)		
Up to Middle	34 (27.2)	91 (72.8)	125 (100.0)	4.707	0.195
Up to Graduation	54 (24.1)	170 (75.9)	224 (100.0)		
No Information	5 (33.3)	10 (66.7)	15 (100.0)		
Blood Group					
O	22 (22.2)	77 (77.8)	99 (100.0)		
A	35 (38.5)	56 (61.5)	91 (100.0)		
B	30 (24.2)	94 (75.8)	124 (100.0)	8.869	0.064
AB	10 (29.4)	24 (70.6)	34 (100.0)		
No Information	11 (20.8)	42 79.2	53 (100.0)		
Trimester					
First	8 (20.5)	31 (79.5)	39 (100.0)		
Second	53 (25.60)	154 (74.40)	207 (100.0)	2.355	0.502
Third	43 (31.20)	95 (68.80)	138 (100.0)		
Not Known	4 (23.50)	13 (76.50)	17 (100.0)		
Anaemia					
Yes	97 (26.9)	263 (73.1)	360 (100.0)		
No	4 (21.1)	15 (78.9)	19 (100.0)	0.601	0.741
No Information	7 (31.8)	15 (68.2)	22 (100.0)		
Parity					
No Child	28 (16.1)	146 (83.9)	174 (100.0)		
Two Children	65 (32.8)	133 (67.2)	198 (100.0)	22.946	0.001
≥3 children	15 (51.7)	14 (48.3)	19 (100.0)		
Living Children					
No Child	32 (17.2)	154 (82.8)	186 (100.0)		
>1 children	43 (32.8)	88 (67.2)	131 (100.0)	17.77	0.001
>2 children	33 (39.3)	51 (60.7)	84 (100.0)		
Abortion					
NO H/O abortion	88 (24.9)	265 (75.1)	353 (100.0)		
Up to 2 abortions	11 (36.7)	19 (63.3)	30 (100.0)	7.032	0.03
≥3 Abortion	9 (50.0)	9 (50.0)	18 (100.0)		
Gravida					
Gravida 1-3	84 (24.0)	266 (76.0)	350 (100.0)	12.027	0.001
Gravida >3	24 (47.1)	27 (52.9)	51 (100.0)		

In present study, majority of 366 (91.3%) beneficiaries were already registered in RCH register of Block Barwala and out of these 20 pregnant women were attended the PMSMA clinic twice. Out of total number more than half 224 (55.9%) beneficiaries were educated up to the level of graduation and however there were no information regarding education available for 15 (3.7%) beneficiaries. In all beneficiaries of 186 (46.4%) were having no live children, followed by having one child 131 (32.7%) and >2 having 84 (20.9%). Among beneficiaries 30 (7.5%) were given history of up to 2 abortion and 18 (4.5%) reported > 3 abortions. From them 77(19.2%) were referred to higher centre for further management. Only one pregnant woman was having Pregnancy induced hypertension. In present study, out of recorded beneficiaries, majority of 360 (89.8%) were identified as anaemic and 23 (5.7%) were identified severely anaemic, twin pregnancy in 17 (4.2%) beneficiaries. At PMSMA clinic, 39 (9.7%) were attended in first trimester, 207(51.6%) in second trimester and 138 (34.4 %) in third trimester. However, for 17% beneficiaries (4.2%) no information was recorded for trimester. Table 1 represents distribution of beneficiaries according to trimester (n=401).

As per record 348 beneficiaries informed about their blood group out of which 27 were rhesus negative and 53 beneficiaries were not having information about their blood group. Figure 2 shows distribution of beneficiaries according to their blood group.

DISCUSSION

Recognition of high-risk factors should be first step to improve morbidity and prevent mortality in pregnant women. In this study, majority (81.8%) of beneficiaries were in age group 21-30 years, which is similar to study done by Dahiya et al (84.2%), Bharti et al (85.3%) and Majella et al (86.40%).[6,8,10] In this study 5% beneficiaries were in age group of 31-40 years which is similar to study done by Bharti at el (4.2%).[8] Majority of beneficiaries were in second trimester in this study and this finding is similar to study done by Dahiya et al.[6] In present study, out of total 26.9% beneficiaries were assessed as high-risk pregnancy. This observation is higher than observation done by Dahiya et al (12.73%), Mufti et al (15%) and lower than study done by Bharti et al (32.14%).[6-8] The observed difference may be due to different geographic area. In this study percentage of Rh-ve beneficiaries was 7.7% which was about half of finding observed by Dahiya et al (15.27%) and about doubles of observation done by Jaideep et al (3.3% Rh-ve).[6,9] Among the beneficiaries attended antenatal clinic 12.7% were in >3 gravida which was much lower than beneficiaries in the study of Dahiya et al (46.3%).[6] In this study 4.2% beneficiaries were having twin pregnancies; this finding is lower than finding of Dahiya et al (26.2%) and higher then observed by Jaideep et al (1.4%) in their study.[6,9] In Present study (9.7%) women reported in first trimester, however 22.99% women reported in their first trimester in study done by Dahiya et al.[6] The difference may be explained as PMSMA was implemented for second and third trimester pregnant women. In this study anaemia is most frequent medical disorder found in high-risk women, same findings were observed in study done by Dahiya et al.[6] In this study 89.8% beneficiaries were identified as anaemic and 5.7% were identified as severely anaemic, however Jaideep et al conducted a study in which 1.7% beneficiaries were diagnosed with severe anaemia.[9] Incidence of anaemia was maximum in 21-30 years age group in this study, however Dahiya et al found in their study increasing trend of anaemia with increase in age.[6] In this study 9.2% beneficiaries were illiterate, however the study done by Sinha et al only 3.1% participant were illiterate.[11] With increase in status of education percentage of high-risk pregnancies decreases. In this study percentage of high-risk pregnancy found to be increase with increasing age group, gravida, parity and increase number in abortion. Maximum high-risk pregnancy belongs to Blood group A. Maximum number of complications was found in Blood group A and Blood group B was having maximum number of twin pregnancies. Maximum high-risk pregnancies were recognised in third trimester. However, present study has its own limitations as it is a retrospective data-based study.

CONCLUSION

Detecting high-risk pregnancies in an effective measure to reducing maternal and infant mortality. Initiative like PMSMA can help to detect different avoidable high-risk factors and can go long way in reducing Maternal Mortality Ratio. However, observed in this study record should be maintained properly, not a single data should be left unrecorded.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Kumar A, Sharma S, Sindwani P, Jakhu P, Pandey SM, Diksha. Study of profile and factors associated with high-risk pregnancies among PMSMA beneficiaries visiting block Barwala, District Hisar of Haryana. Int J Community Med Public Health 2022;9:1464-8.