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Corresponding Author
S. Potdar Swapnali,
Deptarment of Community Medicine, Swami Ramanand Teerth Rural Medical Collage, Ambajogai, Maharashtra, India
drswapna84.potdar@gmail.com

Author Designation
[1,3]Assisstant professor
[2]Associate Professor

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Health Care Need Assessment of Pregnant Women in a Rural Area

[1]S. Potdar Swapnali, [2]T. Ankushe Rajendra and [3]R. Bhondwe Meghraj

[1]Deptarment of Community Medicine, Swami Ramanand Teerth Rural Medical Collage, Ambajogai, Maharashtra India
[2]Deptarment of Community Medicine, Govt. Medical Collage, Aurangabad ,Maharashtra, India
[3]Deptarment of Community Medicine, Dr Balasaheb Vikhe Patil Rural Medical Collage, Pravara Institute Of Medical Sciences (Deemed To Be University) Loni , Dist Ahmadnagar , Maharashtra, India

ABSTRACT
Health need assessment is the systematic approach to ensuring that the health service uses its resources to improve the health of the population. It was need to study health care need assessment of pregnant women in a rural area. To study Socio-demographic characteristics and health status of pregnant women, to study the utilization of antenatal care services by pregnant women. A longitudinal community-based study carried among pregnant women of Chanai village, from 1 January to 30th August 2021. Total 84 pregnant women were studied. Interview technique was used for data collection. Data was analysed using Microsoft Excel 2010, Open EPI-Info Version 3.01 updated on 2013/04/06. Descriptive statistics (percentage, mean, standard deviation) were used. Results: Among pregnant women 4.76% had hyperemesis, 2.3% were hypertensive, 21% pregnant women were in the high-risk group. Complete utilization of ANC services was not found in 34% of pregnant women. Health status of pregnant women most prevalently shows anemia, utilization of services shows majority of pregnant women registered in 1st trimester, had complete tetanus toxoid immunization, had done 4 ANC visits.

INTRODUCTION

Health need assessment is the systematic approach to ensuring that the health service uses its resources to improve the health of the population in the most efficient way. It identifies inequalities in health and access to services and determines priorities for the most effective use of resources. Need implies the capacity to benefit from an intervention[1].

Every maternity is special and should receive excellent care. Every day, nearly 830 girls die because of preventable causes associated with maternity, most of the deaths happen in developing countries[2]. Antenatal care is a crucial factor for safe motherhood. Globally, however, only 64% of women receive antenatal care four or more times throughout their pregnancy. In India, only 51.2% of pregnant women had more than four visits[4]. According to the National family health survey-5 factsheet in India, Mothers who had an antenatal check-up in the first trimester in urban is 75.5% and in rural is 67.9%[6]. Whereas in Maharashtra, in urban area it is 69.5% and in rural areas it is 72.0%, mothers who had at least 4 antenatal care visits in an urban area is 72.2% and in a rural area is 68.7%. Mothers whose last birth was protected against neonatal tetanus in an urban area is 91.2% and in a rural area is 89.3%, consumed iron-folic acid for $\geq$100 days in pregnancy in urban area is 51.4% and in rural area is 45.7%[7].

Many studies have been conducted regarding antenatal care but very few studies take comprehensive account of antenatal care discussing the quality of health services. To comprehend the quality of Antenatal care and for appropriate planning of antenatal services in rural area this study was planned.

MATERIALS AND METHODS

Study design: A community-based longitudinal study.

Study setting: The study was carried out among pregnant women in a rural population of Maharashtra i.e., in Chanai village, Tal.Ambajogai, Dist. Beed, in a field practice area of the tertiary care hospital.

Ethical considerations: Ethical committee approval was obtained from the Institutional ethical committee prior to the start of the study.

Study duration: 1 year from 1-30th January-August 2021-2021.

Study population: All pregnant women in the selected rural field practice area were enrolled in the study as per the following inclusion and exclusion criteria.

Inclusion criteria:[1] All pregnant women in the selected rural study area[2]. Those willing to participate in the study.

Exclusion criteria: The family residing less than 6 months and guest visitors in a rural population under study.

Sampling technique and sample size: The study was done in Chanai village, Tal. Ambajogai, Dist. Beed, Maharashtra in a field practice area of the tertiary care hospital. From Chanai village the estimated annual number of pregnancies was calculated with help of the expected number of live births, which is calculated by birth rate per 1000 population. The birth rate was 16.5 in rural Maharashtra by the census India sample registration survey conducted in 2016 the population of the study area = 4565. Birth rate = 16.5/1000. Therefore the expected number of live births = (16.5X4565)/1000 = 76 births. Correction factor (pregnancy wastage) = 10% of 76 (i.e. (10/100) X 76) = 8. (10 % of expected live births that is abortion and stillbirth as the number expected live births would be an underestimation of the total amount of pregnancy). Therefore the total no. of expected pregnancies in a year = 76+8 = 84.

Conduct of the study

Selection of a village: According to the census 2011 list, one taluka of a district was selected by lottery method. One village (Chanai) with a population of 4000-5000 was selected randomly from a selected taluka.

Selection of study participants: All the pregnant women registered during the study period from Chanai village were followed up to 9 months.

Consent of study participants: Pregnant women from Chanai village were informed about the objective and purpose of the study. From them, those who were willing to participate in the study, their written informed consent was taken and enrolled in the study.

Data collection: All pregnant women with written consent were interviewed personally by trained Medical social workers under the supervision principal investigators and with a pretested questionnaire in the local language, through house-to-house visits. Pregnant women who were not present during the first visit, then subsequent visits were given to achieve maximum coverage. From the calculated annual number of pregnancies, around 6-7 pregnancies registered in a month, missed out pregnancies were tracked down by ASHA and Anganwadi workers also with help of community women leaders and local Mahila Mandal till we get desired sample size and then study participant were given follow up to nine months. Pregnant women who were gone to their mother's houses for delivery were contacted telephonically for

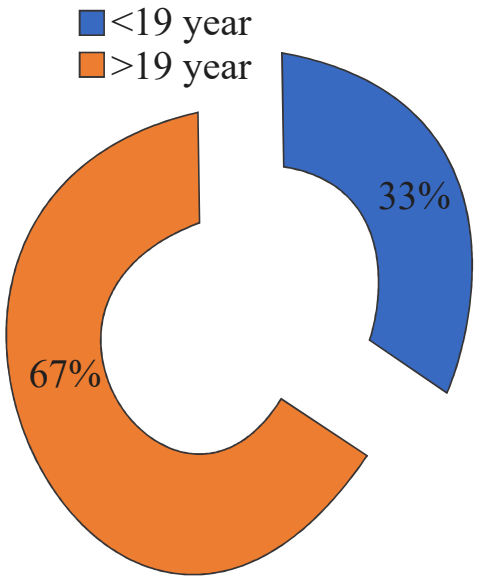

Fig. 1: Distribution of pregnant women's according to age at 1st pregnancy

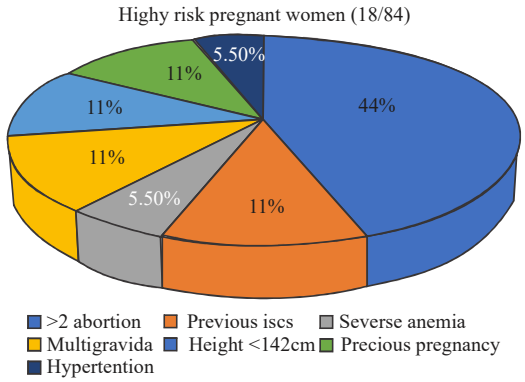

Fig. 2: Distribution of pregnant women's according to higy risk in pregnancy

follow-up. Data collected regarding socio-dempgraphic profile, age at menarche, age at marriage, duration of married life, age at first pregnancy, number of pregnancies, Antenatal registration, TT immunization, number of Iron folic acid tablets consumed, investigation done during the antenatal period, number of follow up visits, common health problems during the antenatal period, advice regarding diet taken during pregnancy. Minimum 4 home visits were given for follow-up data collection that has normal pregnancy women at high risk were paid more visits.

Data compilation and data analysis: Collected data was entered into Microsoft Excel 2010 worksheets and coded appropriately. Data was analysed using Microsoft Excel 2010, Open EPI-Info Version 3.01 updated on 2013/04/06. Descriptive statistics (percentage, mean, standard deviation) were used to describe the data appropriately.

Reference Citation[8]: Vancouver's system of listing and citing references was used. The references were numbered according to their appearance in the text and listed accordingly.

RESULTS

Socio-demographic characteristics: Table 1 shows that most of the pregnant women in the present study were in the age group of 19-24 years (64.29%) 45.33% were educated up to intermediate, 92% were housewives, 8% were working as agricultural/non-agricultural labourers, 76% were Hindu and 48% were belonged to the middle-class according to modified B.G Prasad classification 2021. In Table 2 majority (55%) of pregnant women were married at the age of 19 years. It was seen in Figure 1 that 67% of pregnant women were 19 years or older at the time of their first pregnancy and Table 3 that 40% of pregnant women were pregnant for the first time and 60% were multigravida.

Health status of pregnant women: Table 4 shows 29% of pregnant women had nausea and vomiting as the most common symptoms during the first trimester, 4.76% complained of hyperemesis for which they required hospitalization for some time, 23% had pedal oedema which was physiological in nature, 8% had

Table 1: Sociodemographic characteristics of pregnant women

Age of pregnant women	Number (n = 84)	Percentage
19-24	54	64.29
25-29	26	30.95
30-34	3	3.57
>35	1	1.19
Total	84	100
Education	**Number (n = 84)**	**Percentage**
Illitrate	1	1.19
Highy school	30	35.71
Intermediate	38	45.33
Graduate and above	15	17.67
Total	84	100
Occupation	**Number (n = 84)**	**Percentage**
Housewife	77	92
working	7	8
Total	84	100
Religion	**Number (n = 84)**	**Percentage**
Hindu	64	76
Muslim	12	14
others	8	10
Total	84	100
Socioeconomic status	**Number (n = 84)**	**Percentage**
Upper	4	4.76
Upper middle	16	19.04
Middle	41	48.80
Lower middle	17	20.23
Lower	6	7.17
Total	84	100

Table 2: Distributsion of pregnant women according ro age at marriage

Age at marriage	Number	Percentage
<19	37	45
>19	47	55
Total	84	100

Table 3: Distributsion of pregnant women according to time of antental registration

Time of antenatal registration	Number	Percentage
1st trimester	72	85
2nd trimester	12	15
Total	84	100

Table 4: Distributsion of pregnant women according to utilization of antenatal care

Utilization of antenatal services	Number	Percentage
adequate utilization	56	66
inadequate	28	34
Total	84	100

complained of increased micturition which was seen in 1st trimester, burning micturition was also present in which urine routine microscopy showed normal value. 2.3% of pregnant women in this study were known cases of hypertension and 49% of the pregnant woman were anaemic. In Figure 2, 18 (21%) pregnant women were in the high-risk group.

Utilization of Antenatal care among pregnant women: In this study it was found that 100% of pregnant women registered, Table 5 showed that 15-85% were registered in 1st and 2nd trimester respectively. Out of 84 pregnant women, 100% of pregnant women have completed their tetanus toxoid immunization and had taken adequate (minimum 4 visits) antenatal visits in their pregnancy. 66% of pregnant women have taken more than 100 tablets of iron and folic acid. From Table 6, it was observed that 56(66%) pregnant women had taken adequate utilization of antenatal services which include early registration, minimum 4 antenatal visits, 2 doses or booster dose of tetanus toxoid immunization and 100 tablets of iron and folic acid.

DISCUSSION

A longitudinal community-based study was undertaken among 84 pregnant women in rural areas. In Table 1 it was most of the pregnant women in the study population were in the age group of 19-24 years (64.28%). Paladugu *et al.*[9] found in the study that 61% were belonging to the age group of 20-24. Dogra *et al.*[10] showed that the majority (46%) of the participants belong to the 21-25 years age group. A study was conducted in a rural area girls married at an earlier age and are exposed to pregnancy earlier. Table 1 observation depicts that 45.33% were educated up to intermediate and 35.71% up to high school and 17.57% up to graduation and above. Sultana *et al.*[11] more than half of the respondents completed SSC-level education followed by post-graduation 17%, graduation 15%, HSC 6%, primary 2.50% and illiterate 2.50%. In Maharashtra, women's literacy is higher than the national average findings of the present study are consistent to the literacy phenomenon only one pregnant woman was illiterate. In the present study, we have seen that 92% of women were housewives and 8% were working. Pathak *et al.*[12] observed in the study the majority of the mothers that is 98% were housewives. Sultana *et al.*[11] the study participant found 82.50% were housewives.

In the present study the maximum numbers of pregnant women were belonged to joint families and 3-generation families and the majority of pregnant women are housewives.

In the present study from Table 1, 76% of pregnant women are Hindus and 14% are Muslims and 10% were others. Kumar *et al.*[13] observed 71.1% of pregnant women were Hindu. Neeta *et al.*[14] found in the study that the majority (82.9%) were from the Hindu religion. In the present study 48% of the families of the study, participants were belonging to the middle class (class III) 20% to the lower middle (class IV) 19% to the upper middle class(class-II) 4.76% upper(class I) and 7.14% Lower (Class V) of socioeconomic status by modified B.G prasad classification. Kumar *et al.*[13] found in the study that 44.0% belonged to social class -III. Neyaz *et al.*[15] saw in the study that 43.3% of families belonged to Medium followed by Low (42.8%) and high standard of living (13.9%). Table 2 in the present study, showed that the majority (55%) of the pregnant women were married at age 19 years or older whereas 52.3% of the mothers were married at the age of ≥18 years and the remaining i.e. 47.7% were married at ≤18 years of age found in the study by Kaur *et al.*[16].

From Figure 1, it was seen that in 67% of pregnant women, their age at 1st pregnancy was more than 19 years, 33 % of teenage pregnancy (≤19 years) was seen among the study population. From Table 3 it was observed that 40% of pregnant women were primigravida and 60% multigravida. It was seen in the study conducted by Kumar *et al.*[13] that 67.1% were multipara and 32.8% were primipara. There are more multigravida women (58%) than primigravida women (42%) found in the study conducted by Dogra *et al.*[10]. From Table 4, it was seen that nausea vomiting and pedal edema as the most common symptoms in pregnant women, 4% hyperemesis was observed and 2.3% of pregnant women were found hypertensive. Dave *et al.*[17] found in the study that 1.20% and 0.20% had stage I and stage II systolic BP HTN. From Figure 2 there were 18 out of 84 (21%) pregnant women were in the high-risk group. In the study conducted by Pradeep *et al.*[18] (30.66%) and Jaideep *et al.*[19] (30.7%) the prevalence of high-risk pregnancy was found comparable to our study. Table 6 showed that 85% of pregnant women were registered in 1st trimester similarly 88.1% were registered in the First Trimester found in the study done by Jahnavi *et al.* In the current study, it was observed that all the pregnant women

have done adequate antenatal visits (minimum 4 antenatal visits) similarly about 98% of mothers had at least four ANC visits seen in the study done by Sateesh *et al.* these findings are comparable to our study.

CONCLUSIONS

Health status of pregnant women most prevalently shows anemia, utilization of services shows majority of pregnant women registered in 1st trimester, had complete tetanus toxoid immunization and had done 4 ANC visits.

Recommendations: Early registration through women's clubs, Mahila Mandal, Bachat gat and festivals exclusively celebrated by women like Makar Sankranti, an opportunity like this should be utilized to educate women in reproductive age group and newly married regarding missed periods and early registration, needs reinforcement. Health education and proper counselling regarding all antenatal services like early registration, consumption of iron folic acid and its importance for betterment of health in pregnant women and infants and the importance of an increase in the diet.

Limitations: Results cannot be generalized to different populations since cultural and contextual factors may influence study results. There might be a problem of recall bias in the assessment of diet and IFA tab. consumption. Lockdown in covid pandemic has interfered with proper follow-up.

Relevance of study: The study highlights the need to improve of iron folic acid consumption regularly in pregnancy.

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