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RESEARCH ARTICLE

Awareness regarding Antenatal Care (ANC) in Antenatal Women

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Abstract: ***Background:*** Many expectant mothers attending the antenatal visits come with very little knowledge on various aspects of ANC including investigations and scans that are needed. Hence the present study was planned to assess the ANC awareness and how it could be improved. Material ***and Methods:*** This is a prospective observational study, conducted in the Department of Obstetrics & Gynecology, Gian Sagar Medical College and Hospital, Rajpura. 1000 antenatal women were enrolled in the study. The data was collected by interviewing all the eligible subjects. Aims were to study the awareness about the ANC, knowledge and practices regarding elements of ANC care among pregnant women. ***Results:*** Women were divided in 3 groups: primigravida, multigravida and women with previous abortions. ANC awareness was >90% in each group. For ANC investigations and tetanus toxoid immunization, awareness was 74% and 79% in primi, 75% and 77.3% in multi and 79% and 73% in previous abortion group. For contraception, awareness was comparable in primigravida and multigravida, 72.1% and 73.35% but in previous abortion group, it was only 54%. Awareness about ASHA workers was comparable in all groups and ASHA visits increased progressively from 1st to 3rd trimester. ***Conclusion:*** While general awareness and perception of antenatal care (ANC) were strong, there is significant lack of knowledge regarding the specific diagnostic investigations and intervention planning critical for improving maternal and neonatal outcomes. This deficit can be addressed through targeted education provided by healthcare professionals, enhancing the understanding of both patients and their families and ASHA workers.

Keywords: Antenatal care (ANC), ASHA, Awareness, Contraception .

INTRODUCTION

The antenatal period (pregnancy) is widely regarded as a blessing, a unique and transformative journey for expectant parents. This perspective is rooted in various cultures, religions and beliefs among different population groups that celebrate the transition to motherhood in their own way. However, the period is not without its challenges, whether they are physical or emotional. Each pregnancy carries a potential health risks. Antenatal care is crucial to manage these challenges and ensures the best possible health outcomes for both the mother and the developing fetus.
In order to provide the best possible health outcomes for the mother and her unborn child, healthcare workers (HCWs) offer antenatal care, which is a comprehensive mix of medical, social, and emotional support. In order to lower maternal and perinatal morbidity and mortality, there are a set of examinations and interventions that are needed in each antenatal visit to a health facility (1,2).

The World Health Organization (WHO) has clear recommendations for a minimum of four ANC visits during the period of pregnancy by a skilled health care professional to help guide, advise and monitor the well-being of expectant mothers and their fetus (3).
In a country like India, many women face lot of health problems during pregnancy, such as anemia, gestational diabetes, hypo and hyperthyroidism, urinary tract infection, TORCH infections etc. The proportion of women age 15-49 in India who received ANC has risen from 84% in NFHS-4 (2015-16) to 94% in NFHS-5 (2019-2021) and 85% received ANC from a skilled provider. 70% of women had their first ANC visit during the first trimester and 59% had four or more ANC visits, an increase from 51% in 2015-16 (4).

To improve the maternal and fetal health, two things are of utmost importance- role of care giver and role of care receiver. As per the role of care giver is concerned Indian government has launched multiple national as well as state level programs to achieve this goal; but when we look at the other end, the receiver, data is still lacking that how much of them are aware about proper and adequate ANC care.

Regular prenatal checkups can help prevent high-risk pregnancies and their problems by providing early diagnosis and treatment.

Many expectant mothers attending the antenatal visits come with very little knowledge on various aspects of ANC including investigations and scans that are needed. Hence the present study was planned to assess the ANC awareness of such women so as a protocol-based approach could be implemented as to how and in what areas awareness could be improved.

MATERIAL AND METHODS

This is a prospective cross-sectional study, conducted in the Department of Obstetrics & Gynaecology, Gian Sagar Medical College and Hospital, Rajpura. 1000 antenatal women attending OPD in a period of 2 years were enrolled in the study. The data was collected by interviewing all the eligible subjects willing to participate in the study. Predesigned, pretested questionnaire was used. Objectives of the study were

1. To study the awareness about the ANC among pregnant women.
2. To study the knowledge and practices regarding elements of ANC care.
3. To give suggestions to improve the maternal health practices.

The collected data was checked, cleared and entered Microsoft Excel Data sheet. Results and analysis were done using SPSS (Statistical Package for the Social Sciences) softawares. As variables, Descriptive Analyses were used such as Proportions and percentages. Institutional ethical clearance was obtained and all participants gave informed consent prior to entering in the study.

RESULTS AND OBSERVATIONS:

Total 1000 antenatal women were enrolled in the study. Minimum age was 18 years and maximum age in the study was 42 years. Most of the primigravida were in age group 20 to 30 years whereas multigravidas were in age group 25 to 35 years.

For the better understanding about the awareness among women they were divided in 3 groups: primigravida, multigravida [at least one prior live birth] and women with previous abortions.

The knowledge of women in each group was further assessed according to the trimesters in which they were enrolled. (Table:1)

Maximum women were in multigravida group, 56% and rest 44% were in group primigravida (37.3%) and previous abortion group (6.7%). Most of women belonged to rural region (79.7%), so region wise assessment for awareness was not done. (Table:2)

Similar was for education; 92% women were educated up to middle class, so education was assessment was not done. Only a few 5% women belonged to upper middle class, rest were from lower or lower middle socioeconomical status.

All women were assessed for their knowledge regarding the important components of antenatal care, which included ANC visits, TT immunisation, Iron and calcium intake during pregnancy, ANC investigations, USG awareness and contraception awareness. (Table:3)

In all the groups; majority of the women were aware regarding the need for antenatal check ups and importance of supervised hospital delivery. Although knowledge about visit frequency varies according to preferences, experience and doctor's advice, but overall knowledge about check ups was comparable in all the groups. Similarly, awareness about tetanus toxoid immunisation during pregnancy was also comparable in all three groups, primigravida 79%, multigravida 77.3%, and 73% in previous abortion group women. Although all were not aware regarding the proper schedule for the same but as they usually get first dose of tetanus toxoid in first trimester only, hence most of them were aware about the fact.

Awareness about the need for intake of iron and calcium supplements was also comparable in all the groups, primigravida - 88%, multigravida – 80%, previous abortion 92%; and most of the women were also aware regarding the free supplementation of these supplements at medical centres.

Awareness about the ANC investigations was comparatively less and out of all the investigations; most of women were aware about Haemoglobin testing only; knowledge about specific investigations was less but knowledge about need of Ultrasounds for fetal growth was better; even though knowledge about specific timings of obstetrics scans was not there. When it comes to contraception, awareness was comparable in primigravida (72.1%) and multigravida (73.35%) group but in group with previous abortion, it was reported only 54%. The difference could be because women with previous abortion were more focussed on having a sound and safe pregnancy outcome rather than contraception.

All the women were questioned regarding the source of awareness about the need for ANC check ups (Table:4). It was found that in primigravida women; majority of them were brought by their relatives [46.11%], whereas in multigravida group [47.14%] and women with previous abortions [43.28%] as these were experienced women hence majority of them were self aware about the routine check ups. Also not many women know about the existence of certain initiatives by the government, such as role of ASHA workers. (Table:5).

Awareness about ASHA workers was comparable in all the three group women and on enquiring about the visits by ASHA, it was observed that it increased progressively from 1st trimester to 3rd trimester. This factor enlightened about the major role of ASHA workers in increasing the knowledge about ANC care during pregnancy and hence increasing the awareness regarding hospital assisted delivery in rural set up mainly.

Tables

Table:1- Number of women enrolled in study; trimester wise distribution.

	1st Trimester	2nd Trimester	3rd Trimester	Total
Multigravida	230	165	165	560
Primigravida	133	120	120	373
Previous Abortion	24	21	22	67
Total	387	306	307	1000

Table:2- Rural and Urban distribution

	Rural	Urban	Total
Primigravida	279 [74.8%]	94 [25.2%]	373
Multigravida	465 [83%]	95 [17%]	560
Previous Abortion	53 [79%]	14 [21%]	67
Total	797 [79.7%]	203 [20.3%]	1000

Table:3- ANC AWARENESS

	Number	Not Aware About Check Ups	TT Immunisation	Fe/Ca Intake	ANC Investigations	Obstetrics USG	Contraception
Primigravida							
1st Trimester	133	9 [6.7%]	81 [60.9%]	98 [73.68%]	81 [60.9%]	119 [89.47%]	101 [76%]
2nd Trimester	120	4 [3.3%]	106 [88.33%]	114 [95%]	92 [76.66%]	109 [90.83%]	84 [70%]
3rd Trimester	120	6 [5%]	108 [90%]	116 [96.66%]	103 [85.83%]	115 [95.83%]	84 [70%]
	373 [100%]	19 [5%]	295 [79.08%]	328 [88%]	276 [74%]	343 [92%]	269 [72.11%]
Multigravida							
1st Trimester	230	4 [1.7%]	209 [90.86%]	218 [94.78%]	210 [91.3%]	220 [95.65%]	204 [88.69%]
2nd Trimester	165	3 [1.8%]	109 [66%]	114 [69%]	105 [63.63%]	111 [67.27%]	98 [59.39%]
3rd Trimester	165	5 [3%]	115 [69.75%]	117 [71%]	107 [64.84%]	112 [67.87%]	104 [63%]
	560 [100%]	12 [2.1%]	433 [77.32%]	449 [80.17%]	422 [75.35%]	443 [79.1%]	406 [72.5%]
Previous abortions							
1st Trimester	24	2 [8%]	15 [62.5%]	20 [83.33]	17 [70.83%]	21 [87.5%]	17 [70.83%]
2nd Trimester	21	0	17 [81%]	20 [95.23%]	16 [76.2%]	20 [95.23%]	18 [85.7%]
3rd Trimester	22	1 [4.5%]	22 [100%]	22 [100%]	20 [90.9%]	22 [100%]	19 [86.36%]
	67 [100%]	3 [4.47%]	49 [73.13%]	62 [92.53%]	53 [79.1%]	63 [94%]	54 [80.59%]

Table:4 – Sources for awareness of ANC checkups

Source	Primigravida [373]	Percentage	Multigravida [560]	Percentage	Previous Abortion [67]	Percentage	Total [1000]	Percentage
Doctor	48	12.86%	108	19.28%	18	26.86%	174	17.40%
ASHA	29	7.8%	52	9.3%	7	10.44%	88	8.80%
Relative	172	46.11%	71	12.67%	23	34.32%	266	26.60%
Self Aware	117	31.36%	264	47.14%	29	43.28%	410	41%

Table:5 – Awareness of women about ASHA workers and ASHA visits

	1st Trimester	2nd Trimester	3rd Trimester	
Primigravida				N=373
Not Aware	44	30	10	84 [22.52%]
Visited by ASHA	48	75	94	217 [58.17%]
Multigravida				N= 560
Not Aware	34	24	14	72 [31.3%]
Visited by ASHA	100	106	127	333 [59.46%]
Previous abortion				N=67
Not Aware	5	4	2	11 [16.4%]
Visited by ASHA	12	11	19	42 [62.68%]

DISCUSSION

A study on antenatal awareness among pregnant women typically explores their existing knowledge regarding crucial aspects of prenatal care, nutrition, potential risks, and childbirth preparation. Such studies are fundamental for public health officials and healthcare providers to assess knowledge gaps and develop targeted educational interventions. Although awareness of ANC services often exists, but challenges often exists with regard to the depth of knowledge and the timing and adequacy of utilization of services, particularly in low- and middle-income countries. In India where most population rely on government institutes, PHCs and CHCs for ANC, a good awareness of ANC may hold the key in reducing maternal and perinatal morbidity and mortality rates [5]. Also timely antenatal investigations may reduce pregnancy related complications such as hypertension, gestational diabetes, bleeding, infections etc. to a sufficient extent.

A study by Jaiswal S. et al, showed that 57.36% of pregnant women were found to be aware of ANC, among the total 605 women that were enrolled in the study. 86.61% of pregnant women knew that regular antenatal check-up was necessary once they became pregnant. Most of the pregnant women were from the lower middle class (44.30%), and only 3.47% belonged to the upper class [6].

In a study by Shamanewadi AN et al, a total of 210 pregnant women were enrolled. Majority (90%) of them knew the importance of iron and folic acid. 72% of the cases knew the importance of blood group in pregnancy. 91% preferred hospital delivery compared to home delivery (9%). All women knew about only 3 danger signs, such as bleeding per vagina, loss of consciousness and convulsions [7].

In another study from India by Somu P et al, of total 280 primi mothers 82.9%, 70.4%, 80.7% of the mothers were aware respectively for IFA tablets, TT injection and adequate ANC visits. PNDT act was known to 76.1% and only 12.5% of the primi mothers were aware about Janani Suraksha Yojna (JSY) scheme. Further 91.8% of the mothers were aware about Dr. Muthulakshmi Maternity Benefit scheme prevalent in the region [8].

In a study from Ethiopia, by Wassihun B et al, 422 mothers with mean age around 25, SD of 4.3 year were assessed. 59.5% were found to have poor knowledge of obstetric danger signs. Majority mentioned vaginal bleeding (64.7%) as a danger sign of pregnancy. Respondents who attended antenatal care were 1.26 times more likely to have good knowledge of obstetric danger signs than those who had no antenatal care [AOR = 1.26, 95%CI (1.08–1.85)]. Respondents who gave birth at health center were 3.57 time more likely to have good knowledge of obstetric danger signs than

those who gave birth at home [AOR = 3.57, 95%CI (1.23–10.39)] [9].

Our study had a largest sample size than any other awareness studies that were searched in literature. Also, present study is the only of its kind that assess women for ANC awareness different trimester wise. Our study showed that only 5% of primigravida, 2.1% of multigravida and 4.47% in the previous abortion group were not aware about ANC (awareness of >90% in each group). However, when it comes to investigations, there is a major knowledge gap with only 74% in primigravida, 75% in multigravida and 79% in previous abortion group were aware. Contraception awareness still remains at bay in our country as shown in table. Accredited Social Health Activists (ASHA) are frontline female community health workers in India who act as a crucial link between the community and the public health system [10]. Hence the knowledge of women having first encounter after conception plays major role in the awareness regarding check ups and timings of the same. So this becomes very crucial that the emphasis should be given on improving knowledge of not only of the patient but also strengthening the knowledge of ASHA workers and the relatives as well.

Limitations

There were some limitations to this study. Although the sample size was large but majority of women belonged rural areas and lower middle income group so the findings could not be generalized to urban and higher income group of population. There might be a chance for recall bias as well.

CONCLUSION

While general awareness and perception of antenatal care (ANC) are strong, there is a significant lack of knowledge regarding the specific diagnostic investigations, early detection methods, and intervention planning critical for improving maternal and neonatal outcomes. This deficit can be addressed through targeted education provided by healthcare professionals, enhancing the understanding of both patients and their families, and improving the training of ASHA workers.

REFERENCES

1. Pallikadavth S, Foss M, Stones RW. ANC: Provision and inequality in rural North India. Soc Sci Med. 2004;59:1147-58.
2. Bhimani NR, Vachhani PV, Kartha GP. Utilization pattern of antenatal health care services among married women of reproductive age group in the rural area of Surendranagar district, Gujarat, India: A community based cross sectional study. Int J Res Med Sci. 2016;4:252-61.
3. World Health Organization. WHO recommendations on ANC for a positive pregnancy experience. World Health Organization. 2016. Available https://www.who.int/publications-detail at: redirect/ 9789241549912. Accessed on 12 March 2022.
4. James, KS, et al. National family health survey (NFHS-5) 2019-21. Compendium of fact sheets, key indicators, India and 14 states/UTs. Ministry of health and family welfare, government of India, 2021. mohfw.gov.in., https://mohfw.gov.in/sites/default/files/NFHS-5_Phase-II_0.pdf.
5. Praveen R. Health education needs for pregnancy a study among women attending primary health centers. J Family Comm 2003;10(1):31-38.
6. Jaiswal S, Shankar R, Jaiswal SK. Antenatal care awareness among rural pregnant women of Uttar Pradesh, India: a community-based study. Int J Reprod Contracept Obstet Gynecol. 2022 Jul;11(7):1877-85.
7. Shamanewadi AN, Pavithra MB, Madhukumar S. Level of awareness of risk factors and danger signs of pregnancy among pregnant women attending antenatal care in PHC, Nandagudi. J Family Med Prim Care. 2020;9:4717 22.
8. Somu P, Narmatha DS. A study on perception about antenatal care among primigravida attending a tertiary care hospital. Int J Reprod Contracept Obstet Gynecol. 2020;9:56-9.
9. Wassihun B, Negese B, Bedada H, Bekele S, Bante A, Yeheyis T, et al. Knowledge of obstetric danger signs and associated factors: A study among mothers in Shashamane town, Oromia region, Ethiopia. Reprod Health. 2020;17:4.
10. Fathima FN, Raju M, Varadharajan KS, Krishnamurthy A, Ananthkumar SR, Mony PK. Assessment of 'accredited social health activists'-a national community health volunteer scheme in Karnataka State, India. J Health Popul Nutr. 2015 Mar;33(1):137-45. PMID: 25995730; PMCID: PMC4438657.