

Research Article

Assessment of knowledge regarding 'essential obstetrics care' among rural pregnant women in Kancheepuram District of Tamil Nadu, India

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ABSTRACT

Background: The first step towards achieving the goals of Reproductive and Child Health programme is to create awareness and educate the pregnant women about salient features of essential & emergency obstetric care and neonatal care provided. Objectives: To assess the level of knowledge on essential obstetrics care among pregnant women in a rural area.

Methods: This cross sectional study was done in a rural area of Kancheepuram District in Tamil Nadu State, using a sample size of 100 pregnant women, arrived based on the prevalence of knowledge on antenatal care available from literature. The participants were selected by simple random sampling and data collected regarding the knowledge on 'essential obstetrics care', using a structured interview schedule based on the Mother Child Protection card.

Results: About 45% of the participants had adequate knowledge regarding antenatal care, 46% had adequate knowledge on danger signs and symptoms of pregnancy, but only 13% of them had adequate knowledge regarding obstetric care. Knowledge regarding obstetrics care was found to have significant association with the educational status of pregnant mothers.

Conclusions: The knowledge gap found in this study points to the need for re-evaluation of the effectiveness of health education measures given through the health care delivery system and the need for improved / revamped content and quality of health education materials to create better awareness among the pregnant women.

Keywords: Antenatal care, Obstetrics care, MCP card, Primary health care

INTRODUCTION

The health of a country is directly proportional to the health of its women, especially those in the reproductive age group. Hence much focus has been given throughout the world for Maternal and Child Health (MCH) and India is no exception. MCH care, including family planning services is one among the eight elements of primary health care services provided in India.¹

During 1997-98 the Reproductive and Child Health [RCH] Programme was launched with one of the key components being essential obstetrics care. The essential

obstetrics care intends to provide the basic maternity services to all pregnant women through;

1. Early registration of pregnancy,
2. Provision of minimum three antenatal checkups by ANM/Doctor,
3. Provision of safe delivery at home or in an institution
4. provision of three post natal checkups.²

The integration of the RCH programme with the National Rural and Urban Health Mission has helped to broaden its service outreach and this has helped in substantial

reduction in the maternal and infant mortality rates in the country.

As part of implementing effectively the components of RCH services, a joint 'Mother Child Protection' (MCP) card has been developed as a tool, which is a graphical presentation of information pertaining to demographic characteristics, antenatal, intra natal and postnatal mother and infant care details and practices. The MCP card helps the families to learn, understand and follow practices for achieving good health for pregnant women, young mothers and children. The card also acts as a strong medium of monitoring and delivering preventive and curative services of MCH care.³

The MCP card has been in use all over the country and is easily understood by mothers as well as health workers with a visual record of mother and child's details. It is kept by the mother and brought to health center during each visit.⁴ Adequate knowledge on obstetrics care by antenatal women will be reflected by their level of knowledge and comprehension of information obtained from MCP card.

Based on this background, this study was planned and carried out to assess the level of knowledge regarding 'essential obstetrics care' among the pregnant women in a rural area of Kancheepuram district.

METHODS

Study design: This is a community based cross sectional descriptive study done to assess the level of knowledge on 'essential obstetrics care' among rural pregnant women.

Study area and study population: The study area is the field practice area of the rural health training center of our medical college in Kancheepuram district of Tamil Nadu. The study population was the pregnant women residing in the study area at the time of the study period [April - May 2014].

Sample size and sampling technique: A study done by Manju Sharma showed that about 52.1% of the pregnant women were found to have adequate knowledge on antenatal care.⁵ Based on this, the sample size was calculated using the formula $[4 PQ / L2]$ which came to be 91.9, at 95% level with 20% limit of accuracy. Accounting 10% for non-response, the final sample size was calculated and rounded off to 100 pregnant women. The list of antenatal women in the area was obtained from the registers of the rural health centers and from among them, 100 pregnant women were selected by simple random sampling.

Data collection: The data collection was carried out by house to house visits using a structured questionnaire which comprised of background information and

knowledge regarding essential obstetrics care prepared with reference to the MCP card.

Data analysis: The knowledge of essential obstetrics care was assessed under three components: knowledge regarding

1. Antenatal care,
2. Danger signs during pregnancy
3. Obstetric care.

For each of the component, the correct response to the question was given a score of '1' and any other response was given '0' score. The maximum score that could be obtained at the end of the interview was '9' and a score of above 50% was taken as adequate knowledge. Data were analyzed using SPSS version 17 software. Student "t" test was used to estimate the statistical significance between mean scores and knowledge regarding the antenatal care.

Ethical clearance and support: The study was carried out after obtaining approval from the Institutional Ethical Committee. Informed consent was obtained prior to the data collection.

RESULTS

The knowledge regarding antenatal care is given in Table 1. It was observed that 69% of the participants had correct knowledge regarding the timing of antenatal registration, but 61% were not aware of the minimum antenatal checkups required.

Moreover, 56% of the women knew that Blood Pressure should be measured during every visit and 44% of the participants were unaware of the minimum number of iron and folic acid tablets that has to be taken during pregnancy. The knowledge regarding the correct dosage of Tetanus injection was good [79%] but knowledge level about the preparations for emergency care was not adequate since 52% participants were unaware of it.

Table 2 gives the details on the knowledge regarding danger signs and symptoms of pregnancy. It was observed that 45% of the participants answered pain abdomen as an important danger sign of pregnancy, followed by bleeding per vaginum (34%). No cases of pallor were reported.

About 26% were unaware of any danger signs of pregnancy. The knowledge regarding obstetric care is illustrated in Table 3. This study shows that 75% of the participants were unaware of the 'five cleans' of home / institution delivery and 77% do not know the meaning of the Family Planning symbol, the inverted Red Triangle.

The association between mean scores and the background characteristics like level of education, type of family and ability to read is given in Table 4.

Table 1: Knowledge regarding antenatal care.

Characteristic	Frequency [n=100]	Percentage
Timing of antenatal registration		
Correct (1 st trimester)	69	69
Wrong	23	23
Do not know	8	8
Minimum number of antenatal check ups		
Correct (4 times)	37	37
Wrong	61	61
Do not know	2	2
Number of times BP should be measured during pregnancy		
Correct (during every visit)	56	56
Wrong	38	38
Do not know	6	6
Minimum number of IFA tablets to be taken during pregnancy		
Correct (100 tablets)	38	38
Wrong	44	44
Do not know	18	18
Number of TT injections to be given during pregnancy		
Correct (2 injections)	79	79
Wrong	15	15
Do not know	6	6
Preparation for emergency labour*		
Do not know	52	52
Save money	12	12
Arrange for transport	40	40
Advance identification of hospital	25	25

* Multiple responses: sum of the frequencies will not total to 100

Table 2: Knowledge on danger signs and symptoms of pregnancy.

Characteristic	Frequency [n=100]	Percentage
Do not know	26	26
Bleeding per vaginum	34	34
Fever	14	14
Pedal Oedema	22	22
Convulsions/Unconsciousness	17	17
Pain Abdomen	45	45
Bursting of bag (Rupture of membrane)	4	4

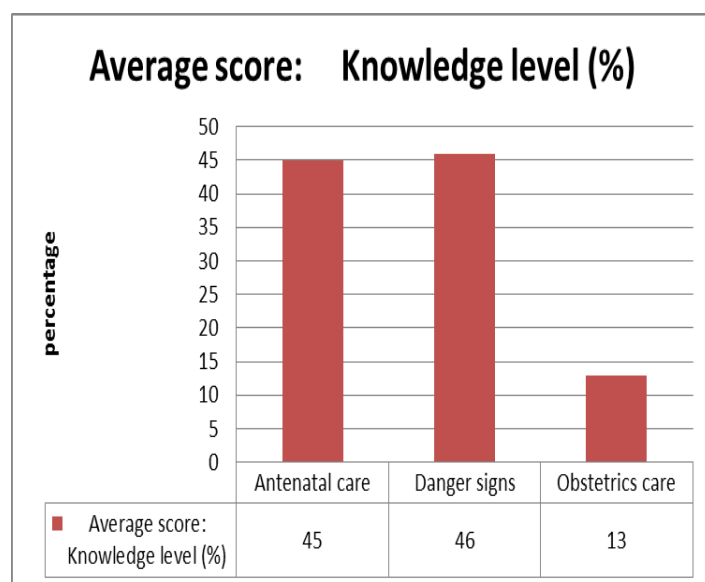
From Figure 1, it can be seen that 46% of the study participants had adequate knowledge about the danger signs/symptoms of pregnancy while 45% had adequate knowledge about antenatal care and only 13% had adequate knowledge on obstetrics care.

Table 3: Knowledge on obstetric care.

Characteristic	Frequency [n=100]	Percentage
Five Cleans of home / institution delivery*		
Do not Know	75	75
Clean Hands	8	8
Clean Surface	13	13
Clean Blade	10	10
Clean Umbilical Cord/Cord tie	18	18
Clean Clothes	0	0
Meaning of family planning symbol [inverted red triangle] when shown		
Knows	23	23
Do not know	77	77

Table 4: Association between knowledge scores and background characteristics.

Characteristic	Number [n =100]	Mean Score	't' value	P value
Educational status				
≤ 10 th standard	79	30.23	4.33	0.001*
>10 th standard	21	46.21		
Ability to read Tamil				
Read Tamil	82	35.22	2.18	0.031*
Can't read Tamil	18	26.14		
Type of family				
Nuclear	49	30.85	1.6	0.048*
Joint	51	36.22		

**Figure 1: Participants with average level of knowledge for each category.**

DISCUSSION

An adequate knowledge on antenatal and obstetric care among the pregnant women is a preliminary step towards achieving the goals of RCH program. The mean age of the study participants was found to be 24.33 years whereas the study done by J. Laishram showed that the mean age of participants to be 29.5 years.⁶ About 57% were educated up to high school and 82% of them were able to read and write Tamil.

In this study, 45% of the participants had adequate knowledge regarding antenatal care, while the study by Manju Sharma shows adequate knowledge level among 51.2% of the participants.⁵ About 38% of the participants were aware of the number of Iron and folic acid tablets to be taken during pregnancy while 79% responded correctly about the number of Tetanus Toxoid injections to be given. J. Laishram showed that 34.2% of the participants were aware of the correct number of Iron and folic acid tablets, which is similar to the findings of this study.⁶

Nearly 52% of the participants reported that they do not know or have any advance planning or preparation for an emergency labour situation. About 69% of the participants knew the timing of antenatal registration, but only 37% knew about the minimum number of antenatal visits. A study on Utilization of Maternal Health Care services done in Kancheepuram district found that 96.6% of the antenatal mothers received the minimum required antenatal visits and about 99% deliveries were conducted in an institution, 97.6% of the mothers were fully immunized with tetanus toxoid while more than 90% consumed 100 or more IFA tablets.⁷

In this study, 45% of the participants answered pain abdomen as a danger sign of Pregnancy followed by 34% saying it is bleeding per vaginum. Kapil Gyawali reported that 42.2% of the participants felt pain abdomen as an important danger sign of imminent labor.⁸ Overall, 46% had adequate knowledge regarding the danger signs and symptoms of pregnancy.

Only 13% of the participants in this study had adequate knowledge regarding the correct components of obstetric care. Nearly 75% of the pregnant women did not know the importance of the "Five Cleans" to be practiced during conducting delivery at home or an institution to prevent neonatal infections, which is a cause for concern. Studies from Nepal, India and Nigeria had reported that infection accounts for up to 40% of neonatal deaths, which were mainly due to the inadequate knowledge on clean delivery practices.⁹⁻¹²

Analysis of the association of level of knowledge with background characteristics revealed that mother's education played a major role in the knowledge regarding antenatal care ($t=4.33$; $P=0.001$). Those from joint families obtained better scores than nuclear families (t

$=1.6$; $P=0.0485$). Not able to read Tamil also played a significant risk factor for low scoring ($t=2.18$; $P=0.03$). Studies by Laishram and Manna have also revealed similar statistical significant result.^{6,13}

This study has shown significant association between the level of education and type of family with respect to the improvement of knowledge on antenatal care among the target group. According to Census 2011, the overall female literacy rate in Tamil Nadu was 74% and the rural female literacy level of Kancheepuram district was 68.20%. Kancheepuram district has got the distinction of achieving the highest number of institution based deliveries conducted in the whole of Tamil Nadu.^{7,14} Nevertheless, this study reveals a wide gap between the literacy rate and the level of knowledge regarding antenatal /obstetrics care.

A study by Tara M.S revealed that only less than 70% of the health workers had enough knowledge required to provide health education to the antenatal mothers.¹⁵ According to a recent article, the antenatal care in rural India is about 50% for more than one visit and about 10% for more than four visits and the availability of skilled attendant at the time of delivery is only about 20%. This strongly suggests that the coverage of antenatal care in India has to be increased extensively.¹⁶

Even though Tamil Nadu is in the forefront of delivering the RCH services through the better established health care delivery system, showing better health indicators, the level of knowledge among the target group about the services provided needs to be improved for better utilization of the services provided.

CONCLUSION

The study has given adequate insights into the gaps and lacunae existing in educating the target groups based on the RCH programme. The study shows that the content and quality of health education materials regarding maternal and child health care, especially regarding essential obstetric care, and imparted through the MCP cards have not adequately reached the target group. Since educational status of the mothers plays a key role in their comprehension and improvement in the level of knowledge, it is mandatory to target all the potential mothers with an opportunity for better education to achieve an acceptable level of education status which will help to bridge the knowledge gap. This will greatly help to reduce the maternal and infant morbidity and mortality rates in the country.

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