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STUDY ON KNOWLEDGE ABOUT ANTENATAL CARE AMONG MEDICAL STUDENTS IN A MEDICAL COLLEGE OF HAPUR DISTRICT IN UTTAR PRADESH, INDIA

Community Medicine

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ABSTRACT

Background: Antenatal care is essential for pregnant women and care givers like medical professionals to have healthy baby and mother. The medical students should have knowledge about antenatal care .So that they can guide and give health education to pregnant women. **Materials and methods:** A structured questionnaire was administered to all students in Phase III Part 1 through Google Form during the lecture session of Community Medicine department. The data was collected and analysed. **Results:** Total 104 students participated in the study. Knowledge score for ideal visits to be done by a pregnant women to the health facility and basic laboratory investigations required during pregnancy was less than 80% and that is 17.3% and 78.8% respectively. Other knowledge score about antenatal care like minimum antenatal visits by pregnant women, TT immunisation required during pregnancy, Extra calorie required during pregnancy, Iron folic acid tablets were given free of cost in the government health facility, Danger signs during pregnancy required hospitalisation, Medication required before pregnancy to prevent neural tube defect in fetus, Mild exercise required during pregnancy and Place of child birth better for pregnant women were more than 80% and these were 91.3%, 96.1%, 90.38%, 100%, 89.4%, 97.11%, 99.03% and 98.07% respectively. **Conclusion:** Knowledge score for ideal visits to be done by a pregnant women to the health facility and basic laboratory investigations required during pregnancy was less than 80% and inadequate require attention by the medical students. Other components of antenatal care knowledge score were more than 80% and adequate.

KEYWORDS

Antenatal care, Danger signs, Folic acid tablets, Knowledge, Medical students,

INTRODUCTION:

Pregnancy is a normal process that results in a series of both physiological and psychological changes in pregnant women. It is a unique and powerful feminine experience. However, normal pregnancy may be accompanied by some problems and complications that are potentially life threatening to mother and fetus. [1]

Globally every year more than 200 million women become expectant mother. About 15% of them are likely to develop complications during pregnancy or child birth that require skilled obstetrics care to prevent death or serious ill health. About 90% of death of women during reproductive age group occurring in Asia and sub-Saharan Africa and 10% in other developing countries and less than 1% in developed world. [2,3]

The women should have better maternal health care access to save their lives. If proper antenatal care (ANC) is not provided to pregnant women, the likelihood of death was more in comparison to pregnant women having proper knowledge about antenatal care.

It was found that about 88-98% of all maternal deaths could be avoided by proper handling or care during pregnancy and child birth. [2,3]

Medical students who will be the future health care provider, should have the proper knowledge about antenatal care. So that they can guide their patients, relatives and family members properly. With appropriate knowledge about antenatal care, a Medical student can provide proper health education to pregnant women, to improve the quality of life of pregnant women.

Most of the studies revealed knowledge about Antenatal Care among pregnant women. Studies about awareness about Antenatal Care among Medical Students were very limited. This study was conducted to assess the knowledge of Antenatal Care among Medical Students in Phase III Part 1(seven semester) as they have had their classes and clinical posting in Community Medicine and Obstetrics & Gynaecology.

Aims and objective of the study:

To assess the knowledge score about antenatal care among medical students. If the knowledge score is more than 80% then it is considered to be adequate knowledge about antenatal care. If the knowledge score is less than 80 % then it is considered to be inadequate knowledge about antenatal care.

MATERIALS AND METHODS:

A structured questionnaire was administered to all students in Phase III Part 1 (7th Semester) students through Google Form during the lecture session of Community Medicine department. Total 10 questions asked in the Google form. The consent to participate in the study was collected from all the students. The permission to conduct the study also taken from the institutional ethics body. The data was collected and analysed . The number of correct responses (knowledge score) and incorrect responses by the medical students depicted in percentages. Ideal numbers of antenatal visit to be done by a pregnant woman to the health facility, Minimum number of visit should be done by the pregnant women to the health facility, Which immunisation is necessary during pregnancy ? and During pregnancy Iron and Folic acid supplementation Tablets are given to pregnant women free of cost are considered as antenatal care component I.

Which place of child birth is better for pregnant women?, which basic laboratory investigations are require during pregnancy, What are the danger signs during pregnancy require hospitalisation, medication is required before conception to prevent neural tube defect in fetus and mild exercise during pregnancy is necessary are considered as antenatal care component II. The antenatal components were entered in the excel sheet and analysed. Graphs also plotted from the excel sheet data.

RESULTS:

Total 104 students participated in the study by giving the consent. Ideally there should be total 13 visits to be done by pregnant women to have better health check up. Only 18 (17.3%) students respond the correct answer as 13 visits. The household work done by pregnant females, they get very less time to attend the hospital for check up. So minimum 4 visits to be done by the pregnant women to have basic health check up during pregnancy. Most of the students, 95 (91.3%) gave the correct response **(Figure 1)** Only 9 (8.6 %) students gave the response three visits as the minimum visits. TT immunisation is required during pregnancy as the correct response was given by 100 (96.1%) students (**Table 1 and 2**).

During pregnancy 350 kcal extra calorie require in their diet. Correct response was given by the 94 (90.38%) medical students. Most of the Indian women are anaemic at the time of pregnancy, so they require Iron and Folic acid tablets. These tablets are supplied to the pregnant women free of cost by the government health facility. All students (100%) had the knowledge about giving iron and folic acid tablets free of cost to the pregnant women by the government health facility. The knowledge score for which place of birth is better for pregnant women, which laboratory investigations require during pregnancy, what are the danger signs require hospitalisation during pregnancy, which medication is require before conception to prevent neural tube defect and mild exercise require during pregnancy are depicted in **Table 3 , 4 and Figure 2**.

The place of birth for delivery should be hospital for better care of mother and child. In this study 98.07% of medical students respond that hospital delivery is better than home delivery.

Some basic laboratory investigations require during pregnancy like haemoglobin estimation, urinary protein and VDRL test. Abdominal x ray is contraindicated during pregnancy. But 21.2% of students respond abdominal x ray is indicated, which is a wrong response. Knowledge score for basic laboratory investigations require during pregnancy is inadequate among medical students, it is less than 80% and it is 78.8%. There are a numbers of danger signs like severe headache, swelling of feet, convulsions, bleeding per vagina and blurring of visions require hospitalisation. About 89.4% of students respond correctly.

Folic acid tablets are required to be given to pregnant women before conception to prevent neural tube defect in fetus. The knowledge score for folic acid tablet supplementation before conception to prevent neural tube defect in fetus is 97.11% among medical students.

Mild exercise is needed by the pregnant women to prevent preeclampsia and better fetal and maternal outcome.. The knowledge score for mild exercise is necessary during pregnancy is 99.03% among medical students.

Table 1: Response to the questions by the medical students in percentages.

Questions	Option 1	Option 2	Option 3	Option 4
Ideal numbers of antenatal visit to be done by a pregnant woman to the health facility	10	12	13 (Correct response)	14
Response of Students	44 (42.3%)	37 (35.%)	18 (17.3%)	05 (4.8%)
Minimum numbers of antenatal visit should be done by the pregnant women to the health facility.	1	2	3	4 (Correct response)
Response of Students	0 (0%)	0 (0%)	9 (8.6%)	95(91.3 %)
Which immunisation is necessary during pregnancy ?	BCG	TT (Correct response)	MMR	Yellow fever
Response of Students	02 (1.9 %)	100 (96.1 %)	01 (0.96%)	01 (0.96%)
How much extra calorie require during pregnancy ?	200 kcal	250 kcal	350 kcal (Correct response)	400 kcal
Response of Students	0 (0%)	0 (0%)	94 (90.38%)	10(9.61 %)
During pregnancy Iron and Folic acid supplementation Tablets are given to pregnant women free of cost.	Yes (Correct response)	No		
Response of Students	104 (100%)	0 (0%)		

Table 2: Knowledge score of the Antenatal Care Component-I by the Medical Students.

Question on Antenatal care components	Numbers of Correct response by students (Knowledge score)	Number of incorrect response by students
Ideal numbers of antenatal visit to be done by a pregnant woman to the health facility	18 (17.3%)	86 (82.6 %)
Minimum number of visit should be done by the pregnant women to the health facility.	95 (91.3%)	9 (8.6%)
Which immunisation is necessary during pregnancy ?	100 (96.1%)	04 (3.84%)
How much extra calorie require during pregnancy ?	94 (90.38%)	10 (9.61%)
During pregnancy Iron and Folic acid supplementation Tablets are given to pregnant women free of cost.	104 (100%)	0 (0%)

Figure 1: Knowledge score or Correct response by medical students

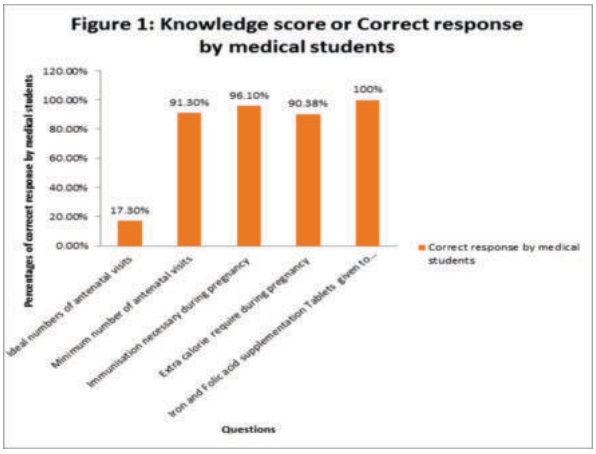


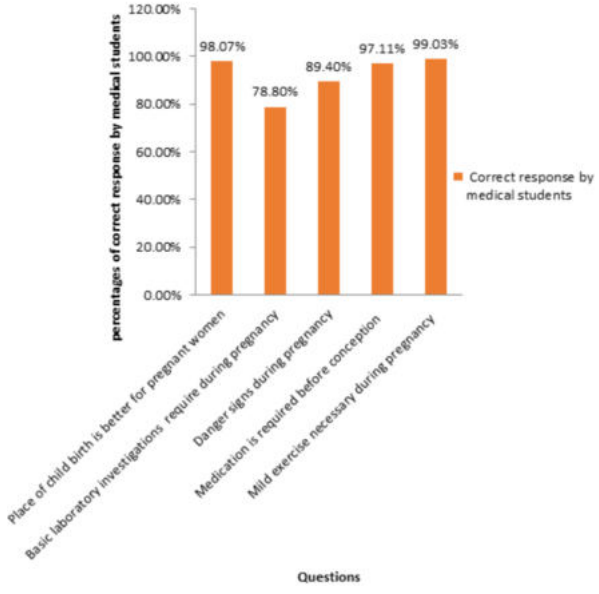
Table 3: Response to the questions by the medical students in percentages.

Questions	Option 1	Option 2	Option 3	Option 4
Which place of child birth is better for pregnant women?	Home delivery	Hospital delivery (Correct response)		
Responses of Students	02 (1.92%)	102 (98.07%)		
which basic laboratory investigations are require during pregnancy except	Haemoglobin	Urinary protein	VDRL	Abdominal X-ray (Correct response)
Responses of Students	0 (0%)	03 (2.88%)	19 (18.2%)	82 (78.8%)
What are the danger signs during pregnancy require hospitalisation except	Severe headache and blurring of vision	Swelling of feet and convulsions	Bleeding per vagina	Normal weight gain (Correct response)
Responses of Students	0 (0%)	10 (9.61%)	01 (0.96%)	93 (89.4%)
Medication is required before conception to prevent neural tube defect in fetus.	Folic acid tablets (Correct response)	Vitamin B tablet	Vitamin C tablet	Iron tablet
Responses of Students	101 (97.11%)	01 (0.96%)	0 (0%)	02 (1.92%))
Mild exercise during pregnancy is necessary	True (Correct response)	False		
Responses of Students	103 (99.03%)	01 (0.96%)		

Table 4: Knowledge score of the Antenatal Care Component-II by the Medical Students.

Questions on Antenatal Care Components	Numbers of Correct response by students (Knowledge score)	Number of incorrect response by students
Which place of child birth is better for pregnant women?	102 (98.07%)	02 (1.92%)
which basic laboratory investigations are require during pregnancy.	82 (78.8%)	22 (21.15%)
What are the danger signs during pregnancy require hospitalisation.	93 (89.4%)	11 (10.57%)
Medication is required before conception to prevent neural tube defect in fetus.	101 (97.11%)	03 (2.88)
Mild exercise during pregnancy is necessary.	103 (99.03%)	01 (0.96%)

Figure 2: Knowledge score or Correct response by medical students



DISCUSSION:

AY Alam et al found in his study that lesser prevalence of anaemia and better tetanus toxoid coverage was seen among women attending antenatal facilities. Identification of danger signals in pregnancy and recognition of nutritional demands of pregnancy are better understood by women utilizing antenatal facilities.[4] In our study also found that 100% of students give the response that iron folic acid tablets are given free of cost to all the pregnant women by the Government health facility. TT immunisation is required during pregnancy response given by 96.1% of medical students. The recognition of danger signs during pregnancy required hospitalisation response given by 89.4% of medical students.

In a study of Hala K et al, 85.3% of pregnant female had a high knowledge score regarding ANC (antenatal care).[5] The knowledge providers to pregnant women are health professionals. In this study, the knowledge score for antenatal care are more than 80% for most of the antenatal care components of the medical students.

Jibril N. Umar found in his study that health education intervention has positive impact on knowledge and willingness of pregnant women to access antenatal care services and health education intervention has sustained to improve the pregnant women's health seeking behaviours about antenatal care.[6] In this study the knowledge score for antenatal care is adequate among medical students. So that when these students become doctors they can guide and give health education to the pregnant women which increases the awareness about their self care during pregnancy and health seeking behaviour.

Jain Pragya et al found in her study that 58% had knowledge about Tetanus Toxoid immunization, 13.8% were aware of HIV screening, majority (87.2%) preferred hospital as a place of delivery,62.4% visited ANC clinic for fetal reason, 81.4% had no knowledge about danger signs of pregnancy. Proper utilization of ANC care reduces both maternal and neonatal morbidity and mortality.[7] In this Jain Pragya study the health education component may be lacking, for that reason the knowledge score about antenatal care is less. In our study the knowledge score of antenatal care components is adequate among medical students. So that they can give the better health education session for pregnant women.

Patel Barun Bhai et al found that 58% of women had adequate knowledge about ANC.[8] In our study the participants are medical students and they have adequate knowledge score.

Gupta Rajiv Kumar et al reveal in his study that the mothers have adequate knowledge about ANC except for minimum ANC visit. Maternal literacy remains a key factor in the better utilization of antenatal services.[9] In this study the knowledge about minimum antenatal visit is adequate and it is 91.3%.

Sharma Binod Bindu et al found in his study that the use of songs by pass the limitations of literacy in communicating health messages that are key to improving maternal care in low literacy rural setting within a developing country. It improves maternal health knowledge and behaviour change in low resource and limited literacy setting that may lead to reductions in maternal mortality.[10] In this study also the knowledge score of the medical students are adequate, So, in low literacy state of pregnant women they can use song and folk drama to educate the pregnant women and their relatives about antenatal care. Medical Students may be more involved in street plays and Focussed Group Discussion to make them more knowledgeable about Antenatal Care.

John A et al found in his study that 59% of pregnant women do not visit and unaware of number of visits in maternity clinics. Forty (40) % of the women were unaware about blood pressure maintenance in antenatal care. 52% women did not know about blood and urine tests performed during pregnancy. 54% of women unaware about TT vaccination during pregnancy.[11] The study by John A et al the knowledge score is very less among pregnant women. But in our study the knowledge score for antenatal care is adequate among medical students except for ideal numbers of antenatal visits by pregnant women and basic laboratory investigations require during pregnancy.

R.S. Omotayo et al found that majority of respondents that is 94.3% and 85.8% were aware about investigations of HIV and Hepatitis B respectively. 78.9% knew that high blood pressure of pregnant mother can affect the Fetus.[12] In our study also found that medical students (89.4%) responds that after recognition of danger signs during pregnancy require hospitalisation.

Kalayou K Berhe et al found that nonattendance of pregnant women to the hospital is due to poor knowledge about ANC.[13] If the knowledge is less among pregnant women about antenatal care the attendance to the health facility will be less. In our study the knowledge score among medical student is adequate. So that they can give better health education to the pregnant women so that the attendance to the health facility will be more. Gregory Edie Halle Ekane Edie found in his study that the knowledge about ANC care varied and majority of respondents (96.4%) were satisfied with the antenatal services received. [14] In our study the knowledge about antenatal care (ANC) is adequate (above 80%) among medical students.

Limitation of the study:

The antenatal care components are many. Only basic antenatal care components are included. The study is a single centre survey.

Key messages :

There is scope to explore effect of other strategies like Street Play and Focussed Group Discussion etc. followed by assessment for retention of gained knowledge among Medical Students. Medical Students may also be more involved in competitive learning like Poster making and Quizes.

CONCLUSION:

Knowledge about Antenatal Care of the pregnant women to the Medical Students were imparted by Obstetrics & Gynaecology and Community Medicine departments through both Lectures, Clinical

Postings and Family Visit. The assessment of knowledge about Antenatal Care among Medical Students revealed that the majority of the students (more than 80%) were aware of the major components of Antenatal Care except ideal numbers of visits by pregnant women to the health facility and laboratory investigations required during pregnancy.

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