



A Study to Assess the Knowledge of Staff Nurses Regarding Antenatal Assessment of Fetal Well Being Working in Mahila Chikitsalaya Sanganeri Gate Jaipur Rajasthan

Babu Lal Meena

Lecturer

Department of Medical & Health
GOVT. College of Nursing, Jaipur, Rajasthan, India

Abstract:

Nurses employed in prenatal care setting need to have accurate information they can provide to women so, they understand the benefits and limitations of screening. Timely presentation of information and identification of available information about evolving genetic screening and technology makes accurate information necessary for nurse in many practice setting. Nurses who understand the screening process can help women make informed decisions about participating in screening. They can provide appropriate information and support through the testing process and help to interpret results. Therefore a non experimental quantitative study was conducted to evaluate the knowledge of staff nurses regarding antenatal assessment of fetal well being in Mahila Chikitsalya Sanganeri gate Jaipur (Rajasthan). Where non experimental quantitative research design was used and 60 staff nurses were selected using convenient and purposive sampling. Too consist of 40 items to assess the knowledge. 4 items for general concept of fetal well being, 17 items for clinical methods, 14 for biophysical methods and 5 for biochemical methods. The association between experience of staff nurse and knowledge score was statistically significant ($\chi^2= 4.53$) as established by chi – square test. The mean knowledge score obtained by staff nurses was 23.9 and median score was 26 with standard deviation 7.4257 and the knowledge score were in the range of 9 – 36. Study findings concluded that overall knowledge score is 59.75. The analysis showing that they don't have adequate knowledge about antenatal assessment of fetal well – being. There is a need to determine what form of assistance would best to improve the knowledge of staff nurses regarding antenatal assessment.

BACKGROUND OF THE STUDY

The primary goal of antenatal testing is to identify fetuses at risk of intrauterine neurologic injury or death so that these adverse outcomes can be prevented. Many techniques for assessment of fetal well-being have been introduced into clinical practice, beginning in the 1970s. Despite widespread use of these techniques, there is limited evidence to guide their optimal use or to demonstrate their effectiveness at improving perinatal outcomes.

This topic will provide an overview of fetal assessment. Detailed discussions of the various techniques used and conditions where antenatal assessment is indicated. Pregnancy can be considered as high risk for any of several undesirable outcomes. The fetus usually much greater risks of higher morbidity and mortality, than does the mother. The leading cause of neonatal death is congenital anomalies, disorders related to short gestation, respiratory disorders, low birth weight and the effect of maternal complications. Certain events occurring during antenatal period can have adverse effect on infant in later life.

Although, a number of perinatal problems have benefited from improved treatment, congenital anomalies continue to be leading problems in infant mortality. Increased rate of survival in infant period have resulted largely from the perinatal services including technology of intensive neonatal

care, high quality of perinatal services and the use of obstetrics technology. The primary purpose of antenatal surveillance technique is to detect fetal distress so as to prevent fetal death.

There have been several advances in the aspect of perinatal care in the last 25 years which has dramatically decline in perinatal mortality. These advances have led to the vast realism of revolutionary in modern day medicine the forecast of fetal health. The fetus today has achieved the status equivalent to that of mother and this importance is getting more ground as we progress with ever evolving science of medicine and its synergy with fast developing technology. *As per the Sample Registration System (SRS 2008), the Infant Mortality Rate (IMR) for India has been declining* over the years and has declined from 57 per thousand live births in 2006 to 53 per thousand live births in 2008.

JSY has increased the proportion of pregnant women delivering in a health facility. Since its inception, **Janani Suraksha Yojana** has seen a sharp off take, from 7.04 lakh beneficiaries in 2005-06 to 92.29 lakh beneficiaries in 2009-10. As per the District Level Household Survey (DLHS), Institutional delivery has increased from 40.9% in DLHS -2 (2002 – 2004) to 47% in DLHS-3(2007 – 2008). Increase in institutional deliveries has helped in bringing down

the infant mortality rate as well as the maternal mortality ratio.

JSY has been implemented throughout the country with special focus on low performing States. In these low performing States, financial incentives to mothers who undergo institutional delivery in public facilities or accredited private facilities, is provided at a higher rate in comparison to other States. In these States, the link worker **ASHA** is also given enhanced incentive in the rural areas to provide referral transport to the pregnant women.

ANTENATAL CARE:

By 2005-2006, three-quarters (75%) of all women who recently became pregnant (n=1,402) had received some antenatal care (ANC), a doubling since 1992 but even so, less than half of all such women had three antenatal contacts. The majority (66%) of women started receiving ANC after the first trimester. The NFHS 3 showed that rural women were far less likely to receive three ANC contacts (32%) compared to their urban counterparts (75%). Women with 10 or more years of education were more likely to have had three antenatal care contacts (88%) compared to illiterate women (29%). Government services were the major source of ANC, and nurse- midwives or other health professionals were the primary care providers (39%). The proportion of women receiving two or more tetanus injections has been increasing consistently over the last 15 years—from 29% in 1992-1993 (NFHS 1) to 65% in 2005-2006 (NFHS 3). Supplements of iron and folic acid (IFA) tablets reached 58% of women; however, only 13% consumed IFA tablets for 90 days or more. Although 73% of women had contacts with health professionals during pregnancy, less than half underwent essential examinations, such as blood pressure and blood test for anemia. Less than one-sixth of women received advice about danger-signs or place of delivery. Other surveys revealed a similar picture.

NEED OF THE STUDY

Modern child bearing brought with it new and expending reproductive testing option that provides women with previously available information about their pregnancy. Early booking and early detection of any abnormality during pregnancy through special investigation leads to appropriate treatment of the mother and beneficial effect of the fetus. Nurse may participate in fetal assessment in various ways. This may be involved in planning, implementation, to the testing programme, or may educate mothers, assist and support the pregnant women to undergo regular or through specialized investigation. Nurses employed in prenatal care setting need to have accurate information they can provide to women so, they understand the benefits and limitations of screening. Timely presentation of information and identification of available information about evolving genetic screening and technology makes accurate information necessary for nurse in many practice setting. Nurses who understand the screening process can help women make informed decisions about participating in screening. They can provide appropriate information and support through the testing process and help to interpret results. When results are abnormal or confusing, the nurses can clarify when possible

and identifying resources to manage the stress and anxiety. Unless she has thorough knowledge regarding antenatal assessment of fetal well being, she may not educate the client and family members to undergo regular and specialized antenatal assessment of fetal well-being. Hence the researcher feels that there is a need to assess the knowledge of staff nurse on assessment of fetal assessment of fetal well being regarding antenatal assessment of fetal well-being. Fetal movement counting is by far the simplest of all the fetal assessment technique and it is applicable to the largest group of women. Research has confirmed what mother's and midwives have known for centuries; fetal activities reassuring and a dramatic decrease in fetal activity or cessation of movement is worrisome. The total number of movements made by the fetus may be quiet variable. The most important point is that a marked decrease in movement from a fetus usual pattern is cause for concern and cessation of movement is highly correlated with impending fetal death. Perinatal death from cord accidents, placental abruption and other cause cannot be totally prevented but women should be aware of potential concerns associated with a decrease in fetal movements and be unable to report any concerns in a timely fashion.

A healthy fetus moves with a degree of consistency but a fetus affected by placental insufficiency will greatly decrease movement. Asking the mother to observe and record the number of movements the fetus makes daily offers a gross assessment of fetal well being. Daily fetal movement count is simple to understand, is non invasive, can be done at home does not interfere with most daily routines. In general the presence of fetal movements is a reassuring sign of fetal health, 90percent of gross fetal movements or associated with FHR accelerations. Input from various areas of the brain decrease in the presence of cerebral asphyxia and thus the viability decreases after failure of the fetal hemodynamic compensatory mechanism cerebral oxygenation.

A study was conducted to determine the predictive value of antenatal fetal heart rate Non stress test in high risk pregnancy. For antenatal evaluation of high risk pregnancies the Non stress test was performed in order to predict favorable or adverse fetal outcome. 4078 Non stress tests were performed on 454 women with high risk pregnancies. The Non stress test interpretation indicated that 95% were normal, 4% were slightly pathological and 1% of them were severely pathological. The group of women in whom all Non stress test results were normal gave birth to healthy babies.

STATEMENT OF THE PROBLEM

A study to assess the knowledge of staff nurses regarding antenatal assessment of fetal well- being working in Mahila Chikitsalya Sanganeri gate, Jaipur, Rajasthan.

OBJECTIVES OF THE STUDY

- 1) To assess the knowledge of staff nurses regarding antenatal assessment of fetal well being.
- 2) To determine the association between the selected demographic variables of staff nurses and their knowledge.

RESEARCH HYPOTHESIS

H1: There will be significant association between selected demographic variables such as age, professional qualification, total years of professional experience, total years of experience in gynecological and obstetrics unit, exposure to in-service education and sources of information and knowledge of staff nurses regarding antenatal assessment of fetal well-being.

RESEARCH METHODOLOGY RESEARCH APPROACH

According to **Treece and Treece (1986)** the research approach is the umbrella that covers the basic procedure for conducting research. This study intends to assess the knowledge of staff nurses regarding antenatal assessment of fetal well – being. So the method adopted for this study is the descriptive survey approach.

RESEARCH DESIGN

Research design is the researcher's overall plan for obtaining answers to the research questions. In this study the research design is the quantitative non – experimental research design. The investigator selects this design to assess the knowledge of staff nurses regarding antenatal assessment of fetal well – being.

VARIABLES UNDER THE STUDY

Variables are qualities, properties or characteristics of persons, things or situations that change or vary. (**Polit and Hungler-1999**)

Independent variables: Aspects of antenatal assessment of fetal well being.

Dependent variables: Knowledge of staff nurses regarding antenatal assessment of fetal well- being.

SETTING OF THE STUDY: The present study is conducted at Mahila Chikitsalya Sanganeri gate, Jaipur, Rajasthan.

POPULATION: Population of the study comprises of staff nurses working in Mahila Chikitsalya Sanganeri gate Jaipur.

SAMPLE: Sample consists of the subset of the population selected to participate in a research study. (**Polit and Hungler-1999**)

SAMPLE SIZE: The sample for this study consists of 60 staff nurses working in Mahila Chikitsalya Sanganeri gate, Jaipur (Rajasthan).

SAMPLING TECHNIQUE: In this study a non probability method namely; convenient & purposive sampling technique is used to select the sample.

RESEARCH TOOL

A structured questionnaire was prepared as tool. Multiple choice questions were included in the tool. Review of Literature, opinion from experts in the area, investigator's knowledge and discussion with peer group were helpful in preparing the tool. Before preparing the questionnaire, a blue print of the items in objective wise is pertaining to the three aspects of cognitive domain knowledge, understanding and application. 30 % questions from knowledge, 32.50 % from understanding and 37.50 % from application part.

CONTENT VALIDITY: - The content validity of the tool has been evaluated by seven experts including six experts from nursing faculty and three from obstetric and gynecological doctors.

RELIABILITY OF THE TOOL: - The tool was administered to 10 staff nurses and using the split half method and Spearman's Brown Prophecy formula the reliability of the tool was established. Co – efficient of correlation of knowledge test was found to be 0.9. Since the tool was found to be reliable.

ETHICAL CONSIDERATIONS:

Written permission was obtained from the concerned authorities. Written consent was obtained from all the study participants. Participants will be assured that confidentiality and anonymity will be maintained and efforts will be made for the same. Privacy will be maintained. Convenience of study participants will be considered.

Data collection procedure: - Tools (self structured scales) were developed by the researcher (assessor) to fulfill the objectives of the study. The structured questionnaires consist of two sections. The tool consists of 40 items. The total score was 40. It consist of 4 point rating scale as very relevant, relevant, need modification and not relevant. Time taken for responding to questionnaire was 45 minutes to 1 hour.

ORGANIZATION OF THE FINDINGS:-

Section I: Description of sample characteristics according to their demographic variables.

Table: 1
Distribution of subject according to age

n=60

S. No.	Age group in years	Frequency	Percentage
1.	20-30	20	33.33%
2.	31-40	23	38.33%
3.	Above 40	17	28.33%
Total		60	100

The above figure shows that most of the subjects 23 are coming in the age group of 31 – 40 years and minimum number of subjects 17 was found in the age group of more than 40 years.

Table: 2
Distribution of participants according to professional qualification

n = 60

S. No.	Professional qualification	Frequency	Percentage
1.	GNM	34	56.66%
2.	B. SC. and above	26	43.33%
Total		60	100

The above figure depicts that majority of staff had GNM qualification and another with B.Sc. Nursing and above.

Table: 3
Distribution of participants according to total years of professional experience

n = 60

S. No.	Total years of experience	Frequency	Percentage
1.	Up to 5 years	14	23.33%
2.	6-10 years	26	43.33%
3.	Above 10 years	20	33.33%
Total		60	100

The above figure depicts that majority of participants 26 had 6-10 years experience and minimum 14 had up to 5 years experience.

Table: 4
Distribution of participants according to years of experience in obstetrics and gynecological unit.

n = 60

S. No.	Total experience in obstetrics and gynecology	Frequency	Percentage
1.	Up to 5 years	12	20%
2.	6-10 years	22	36.66%
3.	Above 10 years	26	43.33%
Total		60	100

The above figure depicts that majority 26 of participants were in the age group >10 years of experience and minimum 12 were in the group of up to 5 years of experience.

Table: 5
Distribution of participants according to in-service education attended

n = 60

S. No.	In –service education	Frequency	Percentage
1.	Yes	23	38.33%
2.	No	37	61.66%
Total		60	100

The above figure depicts that majority of participants (37) had not attended in-service education programme.

Table: 6
Distribution of participants according to sources of information

n = 60			
S. No.	Source of information	Frequency	Percentage
1.	Co-workers	17	28.33%
2.	Books and journals	23	38.33%
3.	In –service education	20	33.33%
Total		60	100

The above figure depicts that majority of participants (23) had information from nursing books and journals, 20 had information from in-service education, 17 had from co-workers.

Section II

Knowledge level of staff nurses regarding antenatal assessment of fetal well – being:

This section deals with the distribution of knowledge score of staff nurses regarding antenatal assessment of fetal well – being in terms of range, mean, mean percentage, and standard deviation.

Table: 7
Distribution of knowledge score of staff nurses in terms of range, mean, mean percentage, and standard deviation.

Content	Maximum score	Range	Mean (x)	Mean %	Median	Standard deviation
Antenatal assessment of fetal well-being	40	9-36	23.9	59.75%	26	7.4257

Data in the above table depicts that the knowledge score obtained by the staff nurses was in the range of 9-36 with the mean of 23.9 based on the above mean percentage in score (59.75%) which was found during analysis is the indication for the development of nursing staff.

Table: 8
Distribution of knowledge level of participant according to mean

n: 60			
S. No.	Knowledge level	Frequency	Percentage
1.	Inadequate	26	43.34%
2.	Adequate	34	56.66%
Total		60	100%

The above table shows that 26 participants are below the mean so has inadequate knowledge and 34 are above the mean so has adequate knowledge according. Mean in this study is 23.9 depicted in table in table No: 7.

Table: 9
Area wise analysis of staff nurses knowledge regarding antenatal assessment of fetal well – being.

S. No.	Areas	No. Of statements	Maximum score	Mean	Mean %	Standard deviation
1.	General concepts of fetal well-being	4	40	23.75	59.37	3.5939
2.	Methods of fetal well-being assessment	17	40	24.29	60.72	8.2017
	• clinical					
	• biophysical	14	40	23.47	58.67	7.2078
	• biochemical	5	40	24.8	62	10.0846
Overall		40				

SECTION - III

ASSOCIATION OF KNOWLEDGE LEVEL WITH THE SELECTED DEMOGRAPHIC VARIABLES

There is no significant association between the knowledge of staff nurses and selected demographic variables like, age ($\chi^2 = 0.8944$), professional qualification ($\chi^2 = 0.0194$, total years of professional experience ($\chi^2 = 0.8913$), in-service education ($\chi^2 = 0.3850$) and source of information ($\chi^2 = 2.6406$). Hence the null hypothesis was accepted at 0.05 levels of significance and research hypothesis was rejected.

There is significant association between the knowledge of staff nurses and demographic variables like years of experience in obstetrics and gynecology ($\chi^2 = 8.2099$), hence the research hypothesis was accepted at 0.05 level of significance and null hypothesis was rejected.

DISCUSSION

Learning measures can be adopted by large number of pregnant women who falls in to the risk category based on socioeconomic factors and they suggest the need for importance to health education by professionals or health personals, thereby reducing the risk of pregnant women and also reducing infant mortality and morbidity.

The findings of the present study have implications in the field of nursing education, nursing practice, nursing administration and nursing research.

NURSING PRACTICE

The study shows varied degrees of knowledge deficit among staff nurses regarding antenatal assessment of fetal well – being. The study reveals the need for correction of the deficiency as an ongoing process. Nurse's awareness is an important factor to avoid complication to the fetus. This study reveals the importance of giving education to the nurses to improve the knowledge.

It also highlights the need to develop audio visual tools and guidelines for imparting knowledge.

NURSING EDUCATION

The present study reveals the need for nurse educators in the nursing field. Nursing education emphasizes that health care system should pay more attention on training the nursing students. So that they will become knowledgeable can be of help to their own selves as well as to others by imparting education by using various methods of educational technology.

NURSING ADMINISTRATION

Findings of the study highlights on the need of nurse educators in rendering the educational programmes to nurses. The concept of extended and expanded role of nurse offers many opportunities for a nurse administrator to improve the quality of care provided by each nurse. Administrators should organize in – service education programme, refresher courses and workshop for nurses and encourage them to participate in these activities. The nurse administrator should make arrangements to see that sufficient manpower, money, and materials are available for disseminating the information.

NURSING RESEARCH

One of the main aims of the nursing research is to contribute knowledge to the body of nursing to expand and broaden the scope of nursing. This is possible only if nurses are taking initiative to conduct the research.

CONCLUSION

Study findings revealed that overall knowledge score is 59.75. The analysis showing that they don't have adequate knowledge about antenatal assessment of fetal well – being. Nurses have a major role to prevent the complication for the fetus and mother during pregnancy. Nurses coming in contact with the antenatal mothers should take initiative to provide necessary information to the women and relatives on different methods used for the assessment of fetal well – being. So as to improve the quality of life amongst pregnant women. For that they should have adequate knowledge about all the aspects of fetal well – being. So that they can prevent the complication.

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