
Effects of different Maternal Positions on maternal parameters and fetal heart rate among Antenatal Mothers during Non- Stress Test

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Abstract:

*Comfort is a sense of both physical, psychological aspect of individual. It may not be realistic to think that pregnant mothers. Providing proper position to mothers is one of the easiest method for maintain comfort. The objectives were to assess the maternal parameters among antenatal mothers before positioning, to assess the effect of different maternal positions on maternal parameters and fetal heart rate among antenatal mothers during non stress test, to compare the effect of different maternal position on maternal parameters and fetal heart rate among antenatal mothers during non stress test, to find out the association between the selected demographic variables with the maternal parameters and fetal heart rate. Experimental research design was used. The study was conducted in MGMCRI and St. Joseph Hospital, cluney, Puducherry. 60 samples selected based on the simple random technique. **Result:** The study findings revealed that, both maternal back pain and fatigue was reduced in semi fowlers position than left lateral position. It was statistically significant at $p < 0.05$ level.*

Key words: *Evaluate, Antenatal mothers, non stress test, positioning.*

INTRODUCTION

Pregnancy is a very sensitive stage in the life of all women. As the women become pregnant, she needs to take care of herself well. She needs proper medical as well as psychological relief to stay healthy and strong.¹ Comfort and wellness are the state of having met basic human needs for ease and relief. It is very difficult to detect fetal well being because a fetus in utero is separated from the outside world by many layers of tissues and organs. Technology has allowed medicine to penetrate the hidden world of the fetus and diagnose and treat fetal conditions. Advances in perinatal care in the last 25 years have resulted in dramatic decrease in perinatal mortality. These advances include electronic fetal heart rate monitoring, ultrasound

, computerized fetal assessment, better fetal surveillance techniques². Non stress test is basically performed to evaluate on how the baby is inside. Maternal positioning may affect the physiological health of the mother and infant, as well as the psychological well being of the mother also³.

Ely B Nathan, Shoshana Haberman et al (2008) conducted a randomized controlled study on the relationship of maternal position to the result of brief non stress test in Philadelphia. The result showed that semi-fowlers position is the best position for conducting non stress test in a short period⁴.

NEED FOR THE STUDY:

The results showed that in 2004, 89% of pregnancies had electronic fetal monitoring (EFM).

Electronic fetal monitoring by the lower was associated with significantly lower infant mortality, this was mainly driven by the lower risk of early neonatal mortality associated with EFM. In low risk pregnancies, EFM was associated with associated with decreased risk of neonatal seizures. The study demonstrates that the use of EFM decreased early neonatal mortality by 53%⁵. Maternal position is a factor which can affect the NST result. So identifying which position is better for conducting NST is very much necessary for getting accurate result of fetal biophysical parameter in the first time itself. Early identification of complications helps to start management earlier itself for surviving both antenatal mothers and baby⁶.

Nurses are ethically and legally responsible for providing comfort to the patients. Providing proper position to patients is one of the easiest method for maintaining comfort⁷.

OBJECTIVES:

- To assess the maternal parameters among antenatal mothers before positioning.
- To assess the effect of different maternal positions on maternal and fetal parameters among antenatal mothers during non stress test
- To compare the effect of different maternal position on maternal and fetal parameters among antenatal mothers during non stress test.
- To find out the association between the selected demographic variables with the maternal parameters and fetal heart rate.

RESEARCH METHODOLOGY:

Quantitative Research Approach was used and Research design was Experimental Research design. The study was conducted in antenatal ward at MGMCRI and St. Joseph Hospital, Cluney, Puducherry. The Sample size was 60. The samples were selected based on the inclusion criteria, Simple Random Sampling Technique was used to select the samples. 30 samples in each group of left lateral and semi fowlers position. Assessing the maternal parameters include back pain, fatigue by visual analogue test and fetal heart rate before positioning the antenatal mothers in Non stress Test. After that non stress test was started for 20 mts. At the end of the non stress test maternal parameters and fetal heart rate were assessed. The data were analyzed by using descriptive and inferential statistics like frequency, percentage, mean, standard deviation, paired T-Test and Chi-Square test

RESULTS

MAJOR FINDINGS:

With regard to age the highest number of sample 27(45%) belonged to the age group of 20-25 years, most of the antenatal mothers 32(52%) were housewives, majority of the antenatal mothers 25(42%) were coming under 34-36 weeks of gestational age. Out of 60 samples 34(57%) were primi, regarding religion 26(43%) were hindus, out of 60 samples 54(90%) were non vegetarian, most of the antenatal mothers were having weight >65 kg, with regard to height 32(53%) were having 155-160 cm.

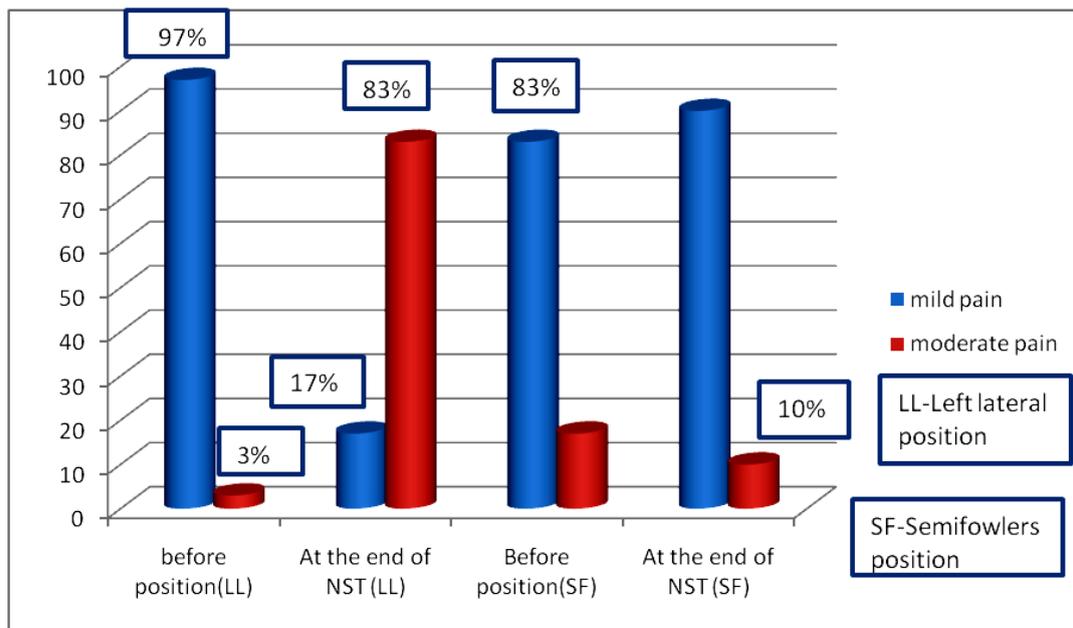


Figure 1 Comparison of maternal back pain in left lateral and semi fowlers position

Figure 1 depicts the Comparison of maternal back pain in left lateral and semi fowlers position . In left lateral position before positioning, 22(97%) had mild back pain and one (3%) had moderate back pain . At the end of the NST ,five (17%) had mild back pain and 26(87%) had moderate back pain. In semi fowlers position 25(83%) had mild back pain and 7(23%) had moderate back pain. At the end of the NST , 27 (90%) had mild back pain and 2(7%) had moderate back pain. It was inferred that semi fowlers position gives more comfort than left lateral positioning during non stress test.

Comparison of maternal fatigue in left lateral and semi fowlers position . In left lateral position before positioning, 25(83%) had mild fatigue and 5(17%) had moderate fatigue. At the end of the NST ,four (13%) had mild fatigue and 26(87%) had moderate fatigue. In semi fowlers position 23(77%) had mild fatigue and 7(23%) had moderate fatigue. At the end of the NST , 28 (93%)

had mild fatigue and 2(7%) had moderate fatigue. It was inferred that semi fowlers position gives more comfort than left lateral positioning during non stress test.

Comparison of fetal heart rate in left lateral position and semi fowlers position . In left lateral position 26(87%) antenatal mothers had reactive non stress test and four (13%) had non reactive non stress test. In semi fowlers position all 30 (100%) antenatal mothers had reactive non stress test.

The mean maternal back pain level 2.67 and SD of 0.310 for semi fowlers position was significantly differ from the mean maternal back pain level 4.89 and SD OF 0.916 at the end of the NST. The t value was 36.442 which is less than the p value at 0.05 level. There was significant different in the semi fowlers position and left lateral position in reducing the back pain.

The mean maternal fatigue level 2.12 and SD of 0.134 for semi fowlers position was significantly different from the mean maternal fatigue 4.66 and SD of 0.902 at the end of the NST. The t value was 35.162 which is less than the

Tabulated p value at 0.05 level. There was significant difference in the semi fowlers position and left lateral position in reducing the fatigue.

The mean fetal heart level 0.89 and SD of 0.11 for left lateral position was significantly differ from the mean fetal heart rate 1.00 and SD of 1.63 at the end of the NST. The t value was 34.763 which is less than the tabulated p value at 0.05 level. There was significant difference in the fetal heart rate in semi fowlers position and left lateral position.

In this study there was no significant association between selected demographic variables with maternal parameters (back pain and fatigue) and fetal heart rate.

Discussion:

Comparison of fetal heart rate in left lateral position and semi fowlers position . In left lateral position 26(87%) antenatal mothers had reactive non stress test and four (13%) had non reactive non stress test. In semi fowlers position all 30 (100%) antenatal mothers had reactive non stress test.

The study findings was supported by Cavicchioli Chiara (2009), conducted an experimental study with control group on maternal position during non stress test and fetal heart rate pattern in Los Angles . He has done the study in supine ,sitting and left lateral position. The study concluded that sitting position was more comfortable⁸.

RECOMMENDATIONS:

- The study can be replicated with large sample size.
- A similar study can be conducted to assess the knowledge and attitude and practice among staff nurses regarding non stress test.
- A similar study can be conducted in different maternal position like supine, sitting etc.

CONCLUSION:

Non stress test is basically performed to evaluate the condition of baby inutero. Maternal position is also affect the maternal parameters .Nurses responsibility is to provide comfort during NST. ² The overall finding of the study revealed that Semi Fowlers position gives more comfort than the left lateral position.

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