A study to assess the co-relations of bio physical profile on maternal outcome among antenatal and postnatal mothers admitted in NMCH, Nellore

Meera Mary B, Latha P and Dr. Indira Arumugam

Abstract

Background: Newborn health and survival are closely linked to the health of the mother before and during pregnancy, as well as during labor, childbirth and the postpartum period. The biophysical profile, which is noninvasive technique combines an ultrasound evaluation with a non-stress test (NST) and is intended to determine fetal health during the third trimester.

Objectives: 1. To assess the effectiveness of bio physical profile among antenatal and postnatal mothers. 2. To co-relate the biophysical profile on maternal outcome among mothers.

Methods: 30 antenatal and postnatal mothers were selected using co-relational design with purposive sampling technique.

Results: The study concluded that there was no co relation between biophysical profiles on among maternal outcome.

Keywords Co-relation, bio-physical profile, maternal outcome, antenatal, postnatal mothers

Introduction

Newborn health and survival are closely linked to the health of the mother before and during pregnancy, as well as during labor, childbirth and the postpartum period. The biophysical profile, which is noninvasive technique combines an ultrasound evaluation with a non-stress test (NST) and is intended to determine fetal health during the third trimester. The International Society of Ultrasound in Obstetrics and Gynecology (ISUOG) recommends that pregnant women have routine obstetric ultrasounds between 18 weeks and 22 weeks gestational age in order to confirm pregnancy timing, to measure the fetus, so that growth abnormalities can be recognized quickly later in pregnancy, and to assess for congenital malformations and multiple gestations.

Macro pezati (2008) was conducted a co-relational study in Lahore to evaluate fetal Biophysical Profile as an effective technique for the assessment of fetal condition and to improve fetal outcome by early detection of fetal hypoxia. Around 100 patients were selected and their BPP score was recorded and were followed till delivery. 34 patients were primigravidas and 66 were multigravidas. The result is among 100 patients 73 had a BPP score of 9-10/10, 21 patients had a score of 7-8/10 and six patients had 4-6/10. In two patients with 4/10 score emergency caesarean section led to the delivery of neonates with Apgar score of 8 at 5 minutes. Majority of patients with normal BPS of 8-9/10 had good Apgar score of 7-8/10. Only 8 patients having BPP of 9-10/10 had poor Apgar score 6/10 or <6/10. The fetal BPP appears to be an effective technique for assessment of fetal condition.

Need for the study

It is the “Biophysical profile”, that predicts the presence or absence of fetal asphyxia and ultimately the risk of fetal death in the antenatal and intranasal period. There are two main bio physical profile using in pregnancy. That is, ultrasonography and non-stress test. Ultrasonography will help to find out liquor status, Placental location, Lie, presentation and position during first trimester. If the liquor status is too low, the mid wife can correct it with amino well infusion and maintain the liquor.

Globally, approximately 500,000 of the four million births that occur each year are categorized as high risk because of maternal or fetal complications.
The current perinatal mortality and stillbirth rates are 48.5 and 19.2 per 1000 pregnancies respectively. The current neonatal mortality rate is 39 per 1000 live births and accounts for nearly two-thirds of infant mortality and half of under-five mortality rates. About 40% of neonatal deaths occur on the first day of life, almost half within three days and nearly three-fourth in the first week. Perinatal outcome depends on the early recognition and management of problems.

M. Michele et al (2012) conducted a retrospective cohort study at Canada on intrauterine growth restriction over a 7-year period. The objective of this study was undertaken to compare the efficacy of nonstress test, biophysical profile, or abnormal Dopplers in predicting adverse perinatal outcomes in intrauterine growth restriction. The study was done on 151 sample size. The result of this study includes, history of chronic hypertension, corticosteroid administration, and gestational age of delivery were adjusted by using logistic regression. The positive predictive values of abnormal Doppler for respiratory distress syndrome and the composite of adverse outcomes were 36% and 42% respectively. Of the testing modalities compared, only abnormal Doppler significantly predicted respiratory distress syndrome and the composite of adverse outcome.

**Statement of the Problem**

A study to assess the co-relation of the bio physical profile on maternal outcome among mothers admitted in NMCH at Nellore.

**Objectives of the study**

- To assess the effectiveness of bio physical profile among antenatal and postnatal mothers.
- To co-relate the biophysical profile on maternal outcome among mothers.

**Hypothesis**

- There will be no statistically significant relationship between bio physical profile and maternal outcome antenatal and postnatal mothers.

**Delimitations**

The study is delimited to;

- Antenatal and postnatal mothers.
- Admitted in NMCH, Nellore.
- A sample size of 30

**Materials and Methods**

Research Approach Quantitative Research Approach

Research Design Co-relational research design.

**Setting of the Study:** The study was conducted in postnatal ward, Narayana Medical College Hospital, Nellore.

**Population**

The population for the present study includes of antenatal and postnatal mothers.

**Target Population**

All antenatal and postnatal mothers

**Accessible Population**

All antenatal and postnatal mothers are Narayana Medical College Hospital, Nellore.

**Sampling Technique**

The purposive sampling technique was adopted to select subjects.

**Sample Size:** The sample size of the study was 30 antenatal and postnatal mothers.

**Criteria for Sample Selection**

**Inclusion Criteria**

- Both antenatal and postnatal mothers
- Antenatal mothers those who are admitted in antenatal and postnatal ward.

**Exclusion Criteria**

- Mothers with any complications

**Variables**

- Independent variable: Bio physical profile ie, non-stress test and ultrasonography.
- Dependent variable: Maternal outcome.

**Description of the Tool**

**Part 1:** It consist of demographic data of mothers, which includes Age of mother, Education, Occupation, Income, Place of residence, Family status

**Part 2:** It consists of observational check list to assess the maternal outcome.

**Results and Discussion**

**Table 1:** Frequency and percentage distribution of assessment of bio physical profile among antenatal mothers.

<table>
<thead>
<tr>
<th>S. No</th>
<th>Criteria</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Normal</td>
<td>30</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table-1 reveals that, the assessment of bio physical profile among antenatal mothers, 30(100%) are normal.

![Fig 1: Frequency and percentage distribution of assessment of bio physical profile among antenatal mothers.](image)

**Table 2:** Frequency and percentage distribution of assessment of bio physical profile among postnatal mothers.

<table>
<thead>
<tr>
<th>S. NO.</th>
<th>Bio-physical profile</th>
<th>Frequency (f)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Good</td>
<td>16</td>
<td>53%</td>
</tr>
<tr>
<td>2.</td>
<td>Fair</td>
<td>14</td>
<td>47%</td>
</tr>
<tr>
<td>3.</td>
<td>Excellent</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4.</td>
<td>Poor</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Table 3:** Mean and Standard deviation of biophysical profile on maternal outcome among mothers.

<table>
<thead>
<tr>
<th>S. No</th>
<th>Criteria</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Antenatal out come</td>
<td>28.21</td>
<td>5.75</td>
</tr>
<tr>
<td>2.</td>
<td>Postnatal out come</td>
<td>29.3</td>
<td>4.51</td>
</tr>
</tbody>
</table>

**Major findings of the study**

- Among 30 samples, 30(100%) are normal in biophysical profile on antenatal outcome.
• The mean for antenatal outcome is 28.21 and standard deviation is 5.75 and mean of postnatal mothers, is 29.3 and standard deviation is 4.51.
• Co efficient correlation was = -0.188. The ‘r’ value is -0.188. So, there was no co-relation between the biophysical profile and maternal outcome.

Conclusion
The study concluded that there was no co relation between biophysical profiles on among maternal outcome.

References
2. Latha P. Effectiveness of STP on newborn care among primi mothers at Govt. Hospital, Bhadrachalam, Telangana, Narayana Nursing Journal. 2015; 4(4), 24-27.