CORRELATIONAL STUDY OF PLACENTAL CHARACTERISTICS WITH SELECTED NEWBORN CHARACTERISTICS

Mrs. A. Jabila Gnana Thiah *| Dr. S. Rajina Rani **

** Research Scholar in Himalayan University, Itanagar in Arunachal Pradesh, India*

*** Principal of RASS Academy College of Nursing, Poovanthi, Sivagangai in Tamil Nadu, India*

ABSTRACT

Placenta the wonderful organ developed as a part of conceptus is unique for its multiplicity of functions in spite of simplicity in structure and brevity of life span. It grows along with foetus to maintain adequate channels of oxygen, nutrition and protects the foetus from noxious agent. The research approach for the study was Qualitative descriptive approach. The research design adopted for the study was descriptive correlation study design. In this study, 50 term mothers who had undergone normal vaginal delivery were selected by convenient sampling method. The population in this study comprised term-mothers who had undergone normal vaginal delivery, admitted to the labour room in the selected maternity hospital during the data collection period 2016-2017. The researcher introduced herself; confidentiality was assured to all the subjects and informed consent was obtained on admission for labour. Term mothers who met the inclusive criteria were selected by using convenience sampling method. The examination of placenta and new-born characteristics were done. A simple descriptive statistics was used to describe the characteristics of the study variables using counts and percentages for the categorical and nominal variables. Karl Pearson correlation co-efficient was adopted to co-relate the placenta and new-born characteristics.

About Authors

Author Mrs. A.Jabila Gnana Thiahis a Research Scholar in Himalayan University, Itanagar in Arunachal Pradesh, India. She has attended various Seminars and conferences.

Author Dr S. Rajina Rani is an active researcher with many publications in her name. She has attended and organised various National and International conferences and has given extensive lectures. At present she is the Principal of RASS Academy College of Nursing, Poovanthi, Sivagangai in Tamil Nadu, India..

INTRODUCTION

Child birth is an intense and exhausting physiological and emotional experience for mothers and new-borns. It is an irrevocable event that forever changes women and a family. As a nurse those who are working in labour room have their responsibility to examine the placenta for any abnormality, and new-born for any distress and congenital deformity.

A well-developed healthy placenta ensures "to a large extent a healthy foetus and behind every healthy baby is a healthy placenta."

Placenta the wonderful organ developed as a part of conceptus is unique for its multiplicity of functions in spite of simplicity in structure and brevity of life span. It grows along with foetus to maintain adequate channels of oxygen, nutrition and protects the foetus from noxious agent.

The metabolic functions of the placenta are respiration, nutrition, excretion storage and protection. Oxygen diffuses from the maternal blood across the placental membrane in to the foetal blood; Co2 diffuses in the opposite direction.

Carbohydrate, proteins, calcium and iron are stored in the placenta for ready access to meet foetal needs. Metabolic waste products of the foetus cross the placental membrane from the foetal blood into the maternal blood, and the maternal kidneys then excrete them. Many bacteria, viruses and protozoa can cross the placenta and infect the foetus.

Placenta is a foetal organ whose normal and abnormal appearance can have antenatal significance. The placenta is the most accurate of the infant parental experiences. The average term new-born is at birth weighs about 3000- 3600 gms depending upon race and parental economic status of the mother. Generally, greater the socio economic deprivation, slower is the rate of late foetal growth.

Foetal malnutrition has been associated with maturational defect in cell metabolism. The study suggested that foetal malnutrition may be reflected in the placental tissue.

MATERIALS AND METHODS

Study Design and Population:

The research approach for the study was Qualitative descriptive approach. The research design adopted for the study was descriptive correlational study design. In this study, 50 term mothers who had undergone normal vaginal delivery were selected by convenient sampling method.

The population in this study comprised term-mothers who had undergone normal vaginal delivery, admitted to the labour room in the selected maternity hospital during the data collection period 2016-2017.

Data Collection:

The researcher introduced herself; confidentiality was assured to all the subjects and informed consent was obtained on admission for labour. Term mothers who met the inclusive criteria were selected by using convenience sampling method. The examination of placenta and new-born characteristics were done.

Study Outcomes and Variables:

The investigator measured the placental and new-born characteristics by using Biophysical measures like weight, length of placenta, weight of the new-born, height of the new-born, the head circumference, chest circumference and making use of observational checklist for placental and new-born characteristics. The researcher also observed the key variables in the research problem like age, education, occupation, family income, type of family and gestational age

Data Analysis:

A simple descriptive statistics was used to describe the characteristics of the study variables using counts and percentages for the categorical and nominal variables. Karl Pearson correlation co-efficient was adopted to co-relate the placenta and new-born characteristics.

RESULTS

The majority of term-mothers [38%] were in the age group between 23- 27 yrs. The weeks of gestation showed that majority of mothers [36%] were between 37- 38 weeks of gestation. Majority of mothers [40%] had spaced childbirth between 1-2 years and 62% mothers were primi. Majority of mothers [32%] had systemic disease condition.

To correlate the placental characteristics with selected newborn characteristics:

With the Karl Pearson correlation co-efficient value being r=0.89 (r>1), the result showed that there was a positive correlation of the placental characteristics with selected newborn characteristics.

To correlate the placental measurement with selected newborn measurement

N=50

Rating scale	Mean	Correlation
Placental measurement	**6.8**	**0.9**
With selected new-born measurement	**42.8**	

The correlation co-efficient value was r=0.9 (r>1). It shows that there is a positive correlation between the placental measurements with selected newborn measurement.

To correlate the placental observation with selected newborn observation

The mean scores of placental observation and selected newborn observations were 9.4 and 31.2 respectively. The Karl Pearson correlation co-efficient value was r=0.9 (r>1). The result shows that, there is a positive correlation between the placental observations with selected newborn observation.

To correlate the placental measurement with selected newborn observation

N=50

Rating scale	Mean	Correlation
Placental measurement	**6.8**	**0.94**
With selected new-born measurement	**29.6**	

This shows that the mean scores of placental measurement and selected newborn observation values were 6.8 and 29.6 respectively. The correlation value was r=0.94 (r>1). This result shows that, there is a positive correlation between the placental measurement and selected newborn observation.

To correlate the placental observation with selected newborn measurement:

The mean scores of placental observation and newborn measurement was 9.6 and 8.8 respectively .The correlation value was r = 0.98 (r>1). The placental observation was highly correlated with newborn observation.

Association between placental & newborn characteristics with selected demographic variable:

There is a significant association of placental characteristics with gestational age and specific disease condition. In regard to new born characteristics, significant associations with gestational age, birth spacing and specific disease condition were noticed.

CONCLUSION

The study reveals that there is a positive correlation between the placental characteristics with new born characteristics.

The calculated chi-square values were higher than the table value for gestational age, specific disease condition and birth spacing in respect of selected new born characteristics.

REFERENCES

1. Bennet Ruth & Brown, K. Linda (2000), Myles textbook of midwifery (13th Edition), Churchill Livingstone publications.
2. Antoszewska, A. (1992) Newborn their families and duration of pregnancies, journal of Obstetrics & Gynaecology 10(1), 5-22.
3. Godfrey, K.M. (1989) Effect of early maternal iron stores on placental weight and structure. American journal of Obstetrics & Gynecology 20(1),100-105.
4. Kabir M.L, Placenta & Newborn weight Journal of anatomical society of India, 43(2),180-188.
5. Oliver C., Correlation of fetal placental weight, journal of obstetrics & gynecology 60 (3, 10- 60)