



Effectiveness of DFMC chart versus Caardiff Ten Count chart on mother's perception among antenatal mothers

Jagadeeswari J*, Prasanth K

Department of Obstetrics and Gynaecological Nursing, Saveetha College of Nursing, SIMATS, Thandalam, Chennai, Tamil Nadu, India



Article History:

Received on: 23 Apr 2020

Revised on: 28 May 2020

Accepted on: 02 Jun 2020

Keywords:

DFMC,
CARDIFF TEN COUNT
charts,
antenatal and mother's
perception

ABSTRACT

Pregnancy is considered as a very precious event in every women's life. It is filled with happiness, joy and surprises. Every parents hopes for a healthy baby, but may sometimes become sorrowful when danger sets in either to the mother or to the fetus. Pregnancy links mother and fetus together and is the basis for regeneration and the generation. In high-risk pregnancies, the mother may sometimes escape death but fetus and neonates often become the victim so the present study aims to assess the effectiveness of DFMC chart and Cardiff count ten charts on mother's perception among antenatal mothers. A quantitative approach with Pre-Experimental research one-shot case design was adopted to conduct the study among 30 antenatal mothers who were selected by Non- probability convenience sampling technique. The semi-structured interview method was used to collect the demographic data and the level of the mother's perception among antenatal mothers was assessed by a structured questionnaire. The results of the study shows that among 30 samples in the DFMC group, 9(60%) had good perception 5(33.33%) had very good perception and 1(6.7%) had poor perception. Whereas in the Cardiff Ten Count, 10(66.7%) had good perception and 5(33.33%) had very good perception on fetal movement among antenatal mothers. This study proves that DFMC and CARDIFF chart on mother's perception is an effective method to prevent any fetal complication during pregnancy and also it helps the mothers to improve to the knowledge and to provide the better quality of life to maternal.

*Corresponding Author

Name: Jagadeeswari J

Phone: 8056474788

Email: j.jagadeeswari@gmail.com

ISSN: 0975-7538

DOI: <https://doi.org/10.26452/ijrps.v11i4.3183>

Production and Hosted by

IJRPS | www.ijrps.com

© 2020 | All rights reserved.

INTRODUCTION

Pregnancy is considered as a very precious event in every women's life. It is filled with happiness, joy and surprises. Every parents hopes for a healthy baby, but may sometimes become sorrowful when danger sets in either to the mother or to the fetus. Pregnancy links mother and fetus together and is the basis for regeneration and the generation. In high risk pregnancies, the mother may sometimes escape death but fetus and neonates often become the victim (Dutta, 2004; Delaram and Shams, 2016).

During the past decades, there has been significant improvement in obstetrics in achieving the antenatal surveillance of high-risk pregnancy. Since above 75 per cent of fetal death occur in the ante partum, it

is oblivious that limiting foetal surveillance to intrapartum period will not achieve an optimal perinatal outcome. To be clinically useful ante partum test should be readily available, easy to perform, consistently reproducible, cost-effective, easy to interpret and reliable, so that appropriate intervention can be undertaken when necessary. Assessing of foetal wellbeing by monitoring foetal movement count by antenatal mothers fulfils all the above criteria. Process of birth is the most dangerous journey an individual undertakes. A healthy newborn is the goal of every expectant mother and her physician. Yet for every 10000 births, the perinatal mortality is 37.7, varies from 24.8 in Kerala to 75.5/10,000 in Orissa. It is higher in rural (54.4) and lowers in urban and in TamilNadu 37.9/10,000. It is estimated that 7.3 million perinatal deaths occur annually in the world and most of these in the developing countries. In India alone about 8, 90,000 perinatal deaths occur annually (WHO, 2016).

FEMINA (Fetal Movement Intervention Assessment)

Ongoing International research collaboration conducted a study to improve pregnancy outcome. The findings reveal that women still do not get enough information on the importance of the fetal activity to act in such a way to protect their baby. In 2008, Freon reported that 50% of affected mothers waited more than 24 hours without any fetal activity before contacting health professionals; one in three waited more than 48 hours.

(Saastad *et al.*, 2010), conducted a study on a multicenter controlled trial on 1,013 woman with a singleton pregnancy were randomly assigned either to perform daily foetal movement counting from pregnancy week 28 or to follow standard Norwegian antenatal care where foetal movement counting is not encouraged. The results of the study are women who performed foetal movement counting in the third trimester reported less concern than those in control group (Saastad *et al.*, 2010).

Within the field of midwifery and obstetric, maternal perception of fetal movement in utero has long been an indicator of fetal well-being. Early textbooks defined maternal recognition of fetal movement as "Quickening," a milestone for dating the pregnancy and a verification of viability. A decrease or cessation of fetal movement was further acknowledgement as a sign of fetal death. In the past 20 years, the assessment has been refined as an accurate and valid tool for fetal surveillance (Olesen and Svare, 2004; Singh and Sidhu, 2008).

Health care providers have made an achievement in decreasing poor outcomes of pregnancy by using

newer technological procedures for the assessment of fetal well-being. The nonstress test, contraction stress test, ultrasound scan, and biophysical profile are accepted screening and diagnostic tools in antenatal care. Yet these procedures are costly, invasive, and carry risks, making them impractical for the use as routine screening tools in low-risk pregnancies (Sergent *et al.*, 2005).

Maternal counting of fetal movement can be used as a screening tool for low and high-risk pregnancies. Few studies have demonstration which method of counting increased has increased compliance. Furthermore, few studies have included maternal variables that may affect compliance. Maternal-fetal attachment may be related to the women's compliance with antenatal screening care such as fetal movement counts (Jon and Ligtte, 2013; Winje, 2011; Victoria, 2010).

However, even fewer studies have evaluated the mother's reaction to be the completion of fetal movement counts. In order to be clinically useful, movements counts must be well accepted by the mother, easy to use, and not cause unnecessary anxiety with her pregnancy. Most of the mothers do not seek immediate medical attention for less fetal movement. This leads to an increasing alarm to teach all mothers about fetal kick count. The researcher has taken a step ahead to create awareness regarding fetal well being and to increase the mother's perception by using DFMC chart and CARDIFF TEN COUNT chart.

The purpose of the study,

1. To assess the fetal movement using the DFMC chart among antenatal mothers.
2. To assess the mother's perception on DFMC and Cardiff count ten charts.
3. To determine the association between fetal movement with the socio-demographic variables among antenatal mothers.

MATERIALS AND METHODS

A quantitative research approach with pre-experimental research design was used to conduct a study in Obstetrics and Gynaecology Department of Thiruvallur District HeadQuarter Government Hospital. 30 samples were selected by using a convenience sampling technique.

The inclusion criteria for samples were all primigravidae and multigravida mothers, all antenatal mothers beyond 28 weeks with a singleton pregnancy and who were willing to participate in

Table 1: Frequency and percentage distribution of level of mother's perception on fetal movement among antenatal mothers in the DFMC and Cardiff Ten Count group. N = 30(15+15)

Group	Poor		Good		Very Good	
	No.	%	No.	%	No.	%
DFMC	1	6.7	9	60.0	5	33.3
Cardiff Ten Count	0	0	10	66.7	5	33.3

Table 2: Comparison of DFMC Chart Versus Cardiff Ten Count Chart on the mother's perception on fetal movement among antenatal mothers'. N = 30(15+15)

Count	Mean	S.D	Student Independent 't' Test Value
DFMC	34.33	4.89	t = 0.232
Cardiff Ten Count	34.73	4.54	p = 0.818 N.S

N.S – Not Significant

this study and can understand Tamil and English. The exclusion criteria for the samples were antenatal mothers with labour pain, mothers with intrauterine fetal death, antepartum haemorrhage and eclampsia.

The data collection period was done with prior permission from the HOD of Obstetrics & Gynaecology department, Thiruvallur District HeadQuarter Government Hospital and ethical clearance was obtained from the institution.

The purpose of the study was explained to the samples and written informed consent was obtained from them. The demographic data were collected using a structured interview questionnaire, and the level of maternal perception regarding DFMC and CARDIFF TEN COUNT chart was assessed using the structured questionnaire.

After collecting the baseline data from 15 mothers, DFMC chart given and instructed to record the number of fetal movement perceived by the mother one hour after food (breakfast, lunch, and dinner) and 15 mothers were given to Cardiff count ten charts and instructed to record the fetal for a period of 8-12 hours.

Both charts were collected the next day and mothers were asked to fill up the questionnaire regarding her perception about the fetal movement chart.

Pearson's correlation coefficient was used to assess the effectiveness of DFMC and CARDIFF TEN COUNT chart on mother's perception among antenatal mother. Chi-square was used to an association of level of mother's perception of fetal movement (DFMC and CARDIFF TEN COUNT) with their selected demographic variables.

RESULTS AND DISCUSSION

Section A: Sample characteristics

Among 30 samples, 15 belongs to DFMC group, most of them 9(60%) were in the age group of 20 – 30 years, 8(53.3%) had secondary level of education, 11(73.3%) were Hindus, 11(73.3%) were homemakers, 7(46.7%) had a monthly income of 10,000 to 15,000, 12(80%) were non-vegetarian, 12(80%) had a non-consanguineous marriage, 10(66.7%) belonged to a nuclear family, 6(40%) were located in rural and suburban area respectively, 10(66.7%) had a gestational week of 32 to 37 weeks, 8(53.3%) were primi gravida, 12(80%) were on the third trimester and 9(60%) had no history of risk during the current pregnancy. Among 30 samples, 15 belongs to Cardiff Ten Count group, most of them 6(40%) were in the age group of below 20 years and 20 – 30 years respectively, 5(33.4%) were undergraduates, 10(70%) were Hindus, 8(53.3%) were homemakers, 8(53.3%) had a monthly income of below 10,000, 12(80%) were non-vegetarian, 10(66.7%) had a non-consanguineous marriage, 6(40%) belonged to a nuclear family, 8(53.3%) were located in an urban area, 6(40%) had a gestational week of above 37 weeks, 9(60%) were primi gravida, 8(53.3%) were on the third trimester and 8(53.3%) had no history of risk during the current pregnancy.

Section B: Level of mother's perception of fetal movement among antenatal mothers

DFMC group, 9(60%) had a good perception of 5(33.33%) had very good perception and 1(6.7%) had poor perception. Whereas in the Cardiff Ten Count, 10(66.7%) had good perception and 5(33.33%) had very good perception on fetal move-

ment among antenatal mothers. (Table 1)

Section C: Effectiveness of DFMC chart versus CARDIFF TEN COUNT chart on mother's perception on fetal movement among antenatal mothers

The present study reveals that the mean score of DFMC on mother's perception on fetal movement was 34.33 ± 4.89 and the mean score of Cardiff Ten Count was 34.73 ± 4.54 . The calculated student independent 't' test value of $t = 0.232$ was not found to be statistically significant. The above finding clearly infers that there was no significant difference in the mother's perception on fetal movement between DFMC and Cardiff Ten Count. There will be a significant association in knowledge and perception regarding DFMC and CARDIFF TEN COUNT chart. (Table 2)

The present study is supported by (Jose and Sreerenjini, 2017) conducted a study on the DFMC Chart Versus Cardiff Count Ten Chart in Relation to Maternal Compliance and Mothers Perception on Self-Assessment of Foetal Wellbeing. Two main protocols used to assess the foetal wellbeing are Cardiff count of ten charts and DFMC chart. On comparison of the DFMC chart and count ten charts, there was a statistically significant difference observed at $p < 0.05$ level, showing DFMC chart was effective for the self-assessment of fetal wellbeing by antenatal mothers and in relation to maternal compliance. Hence both the hypothesis is proved for the present study.

Section D: Association of the level of mother's perception on fetal movement (DFMC and CARDIFF TEN COUNT) with selected demographic variable

The demographic variables religion, composition of the family had shown statistically significant association with the level of mother's perception on fetal movement (DFMC) at $p < 0.01$ level respectively. The demographic variable history of risk during current pregnancy had shown statistically significant association with the level of mother's perception on fetal movement (DFMC) at $p < 0.05$ Whereas in CARDIFF TEN COUNT shown none of the demographic variables had shown statistically significant association with the level of mother's perception on fetal movement (Cardiff Ten Count) among antenatal mothers.

The present study was supported by (Kanakalakshmi et al., 2018) who conducted a Comparative study on DFMC chart vs Cardiff count ten chart on an assessment of fetal movement among antenatal mothers at NMCH, Nellore. The results of the study are among 100 antenatal mothers regarding

the association between DFMC count and demographic variables, age, type of family, obstetrical score and source of information had significant association at $P < 0.05$ level. Regarding the association between Cardiff count and demographic variables, religion, obstetrical score and source of information had significant association at $P < 0.05$ level. Hence the hypothesis is proved for the present study (Kanakalakshmi et al., 2018).

CONCLUSIONS

This study proves that DFMC and CARDIFF chart on mother's perception is an effective method to prevent any fetal complication during pregnancy and also it helps the mothers to improve to the knowledge and to provide the better quality of life to maternal.

ACKNOWLEDGEMENT

We would like to extend our gratitude to the authorities of Saveetha College of Nursing and Thiruvallur District HeadQuarter Government Hospital.

Author's contribution

All the authors actively participated in the work of the study. All authors read and approved the final manuscript.

Conflicts of interest

The authors declare that they have no conflict of interest for this study.

Funding Support

The authors declare that they have no funding support for this study.

REFERENCES

- Delaram, M., Shams, S. 2016. The effect of foetal movement counting on maternal anxiety: A randomised, controlled trial. *Journal of Obstetrics and Gynaecology*, 36(1):39-43.
- Dutta, D. C. 2004. Textbook of Obstetrics including Perinatology and Contraception. Calcutta; New Central Book Agency.
- Jon, A., Ligtte 2013. A cross-sectional study of maternal perception of fetal movements and antenatal advice in a general pregnant population using a qualitative framework. *Journal of pregnancy and childbirth*, 13:13-32.
- Jose, A., Sreerenjini 2017. DFMC chart versus CARDIFF TEN COUNT chart in relation to maternal compliance and mothers perception on self-assessment of foetal wellbeing. *TNNMC Journal*

- of Obstetrics and Gynaecological Nursing*, 5(1):10-14.
- Kanakalakshmi, R., Kantha, Latha, P., Arumugam, I. 2018. Comparative study on DFMC chart vs Cardiff count ten chart on an assessment of fetal movement among antenatal mothers at NMCH. *Nellore. International Journal of Midwifery and Nursing Practice*, 1(2):18-21.
- Olesen, A. G., Svare, J. A. 2004. Decreased fetal movements: background, assessment, and clinical management. *Acta Obstetrica et Gynecologica Scandinavica*, 83(9):818-826.
- Saastad, E., Tveit, J., Flenady, V., Stray-Pedersen, B., Fretts, R. C., Børndahl, P. E., Frøen, J. F. 2010. Implementation of uniform information on fetal movement in a Norwegian population reduced delayed reporting of decreased fetal movement and stillbirths in primiparous women - a clinical quality improvement. *BMC Research Notes*, 3(1):2.
- Sergent, F., Lefevre, A., Verspyck, E., Marpeau, L. 2005. Decreased fetal movements in the third trimester: what to do? *Gynecol Obstet Fertil*, 33:861-869.
- Singh, G., Sidhu, K. 2008. Daily Fetal Movement Count Chart: Reducing Perinatal Mortality in Low Risk Pregnancy. *Medical Journal Armed Forces India*, 64(3):212-213.
- Victoria, J. 2010. Reduction of stillbirth with the introduction of fetal movement-a clinical quality improvement. *Journal of pregnancy and childbirth*, 9:9-32.
- WHO 2016. WHO recommendation on daily fetal movement counting. The WHO Reproductive Health Library. Geneva. World Health Organization.
- Winje, B. 2011. Analysis of 'count-to-ten' fetal movement charts: A prospective cohort study. *BJOG: An international journal of obstetrics and gynaecology*, 118:1229-1267.