



A COMPARITIVE STUDY ON DFMC CHART VERSUS CARDIFF COUNT TEN CHART ON ASSESSMENT OF FETAL MOVEMENTS AMONG ANTENATAL MOTHERS AT COMPREHENSIVE EMERGENCY OBSTETRICAL AND NEONATAL CARE ,MADANAPALLI

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INTRODUCTION:

The predominant goal of ante partum foetal monitoring is to reduce prenatal morbidity and mortality rates. Most of the investigators have reported excellent correlation between mother perceiving foetal motion and movement documented by instrumentation, fetal movement counting is a method by which a woman quantifies of the baby. The purpose is to reduce perinatal mortality by alerting care givers when the baby might has become compromised .The fetal movements can be assessed by DFMC and Cardiff Count Ten Charts.

The counting is done three times a day, that is, morning after breakfast, afternoon after lunch and evening after dinner for 1hr. More than 3 foetal movements per hour or more than 10 foetal movements in 12 hours is considered normal. A pregnant woman usually starts perceiving fetal movements at approximately 20 weeks gestation. A multigravida may perceive movements at an earlier gestational age in the presence of fetal hypoxia and placental dysfunction. The fetus decreases gross body movements to conserve oxygen. Lack of fetal movements may

precede intrauterine fetal death. Early recognition of decreased fetal movements makes it possible to initiate intervention at a stage when the fetus is still compensated, and thus prevent progression of fetal death.⁵

NEED FOR THE STUDY:

Since biblical times foetal movements have been viewed as a reassuring sign of a healthy pregnancy. Foetal movements in utero are a movement's expression of foetal wellbeing. By counting the foetal movements, a mother can therefore, monitor the condition of the foetus. Assessment of foetal movements is a non-invasive method of monitoring the wellbeing of the foetus. 'Quickening' is the first point at which the women experiences foetal movements in early pregnancy. It is a significant point in pregnancy for many women.

In primigravida, it may be felt from 18-22 weeks and in multigravida, from 16-20 weeks. A foetal movement chart records the frequency of foetal movements and thereby assesses the condition of the foetus. It is a simple, valuable, effective, reliable and harmless screening of foetal wellbeing in low and high risk pregnancies.⁶

Decreased fetal movement has been associated with poor pregnancy outcomes including stillbirth about 50% of women with stillbirth, they reported that they felt a gradual decrease of foetal movements before intrauterine death. Maternal perception of decreased foetal movement has been reported in 15% of pregnancy during the third trimester and around 50% of women perceive a gradual reduction of fetal movements before intra uterine death.

(Dr.Arms Grannbarm, 2014)

PROBLEM STATEMENT:

“A Comparative study on DFMC chart versus Cardiff count ten chart on assessment of fetal movements among antenatal mothers at Comprehensive Emergency Obstetrical Neonatal care Centre, Madanapalli”.

Objectives:

- 1.To assess the fetal movements using DFMC chart among antenatal mothers.
- 2.To assess the fetal movements using cardiff count ten chart among antenatal mothers.
- 3.To compare the fetal movements using DFMC versus Cardiff count 10 chart among antenatal mothers.
- 4.To find out the association between fetal movements with the selected demographic variables among antenatal mothers.

DELIMITATIONS:

1. The study was delimited to 100 antenatal mothers attending OPD at CEmONC Centre, Madanapalli.
2. The study participants were antenatal mothers with 32 weeks of gestation till term.

METHODOLOGY:

Research approach:

A quantitative approach was adopted to determine the research study.

Research design

The present study was conducted by using post test design only.

Setting of the study:

The study was conducted in ante natal OPD in CEmONC Centre, Madanapalli. This centre is a 1500 bedded district area hospital. The hospital has all facilities for obstetrical and gynecological services.

Population

The population consisted of all the pregnant mothers who were 32 and above -weeks of gestation..

Sample

Sample is the smaller part of the population selected in such a way that the individual in the sample represents the characteristics of population. The sample of the present study includes antenatal mothers in OPD, CEmONC Centre.

Sample size

The sample size consisted of 100 antenatal mothers who fulfilled the inclusion criteria, as well as the mothers who come for the regular check up at OPD, CEmONC Centre, Madanapalli.

Sampling technique:

Non probability convenient sampling technique was adopted for the selection of sample according to the availability and convenience of the researcher.

Criteria for sampling collection:

The following were the criteria for selection of samples for the study:

Inclusion criteria

- Both primi and multigravida mothers with 32 weeks and above gestational age
- Antenatal mothers attend antenatal OP at CEmONC Centre, Madanapalli.
- Mothers who were willing to participate.

Exclusion criteria

- Antenatal women with high risk pregnancy.
- The antenatal mothers who were not willing to participate in the study.
- Antenatal mothers who were not attend during antenatal visit.

Description of the tool:

The tool consists of three sections:

Section A: Demographic and baseline data of the antenatal mothers. Demographic variables include age, educational status, occupation, income, religion, no of working hours per week the mother works, obstetrical score, LMP, EDD, gestational age, normal or high risk pregnancy, number of antenatal visit, does the mother taught a method to count and keep track of her babies movements in the present pregnancy or previous pregnancies and previous knowledge about foetal monitoring.

Section B: Cardiff count ten chart.

Mothers instructed to record the number of foetal movements for a period of 8-12 hours. It should be at least 10 were foetal movements. Post test was done during their next antenatal visit mothers perception and maternal compliances, were assessed by using the questionnaire.

Score: <2 -poor

>3-good

>5-very good

Section C: DFMC chart.

Mothers were instructed to record the number of foetal movements perceived by the mother one hour after food, each day for a week. (score: <2-poor,>3-good,>5-very good)

DATA ANALYSIS:**Table: 1:Distribution of Sample Respondents of Effectiveness of DFMC chart versus CARDIFF count ten chart in relation to maternal compliance (N=100)**

Effectiveness of DFMC chart	Frequenc y	Percentage	Mean	SD
Poor	21	10.0	2.05	0.687
Good	53	40.0		
Very Good	26	50.0		
Total	100	100		

Table -1 shows that with regard to fetal movements,21(10%)had poor fetal movements, 53(40%)had good fetal movements and 26(50%) had very good fetal movements. The mean and standard deviation for effectiveness of DFMC chart among antenatal mothers was 2.05 with 0.687 SD.

Effectiveness of CARDIFF chart	Frequenc y	Percentage	Mean	SD
Poor	20	20.0	2.05	0.627
Good	55	55.0		
Very Good	25	25.0		
Total	100	100		

Table-2: shows that with regard to fetal movements,20(20%) had poor fetal movements,55(55%) had good fetal movements and 25(25%) had very good fetal movements. The mean and standard deviation for effectiveness of cardiff count ten chart among antenatal mothers was 2.05 with 0.627 standard deviation.

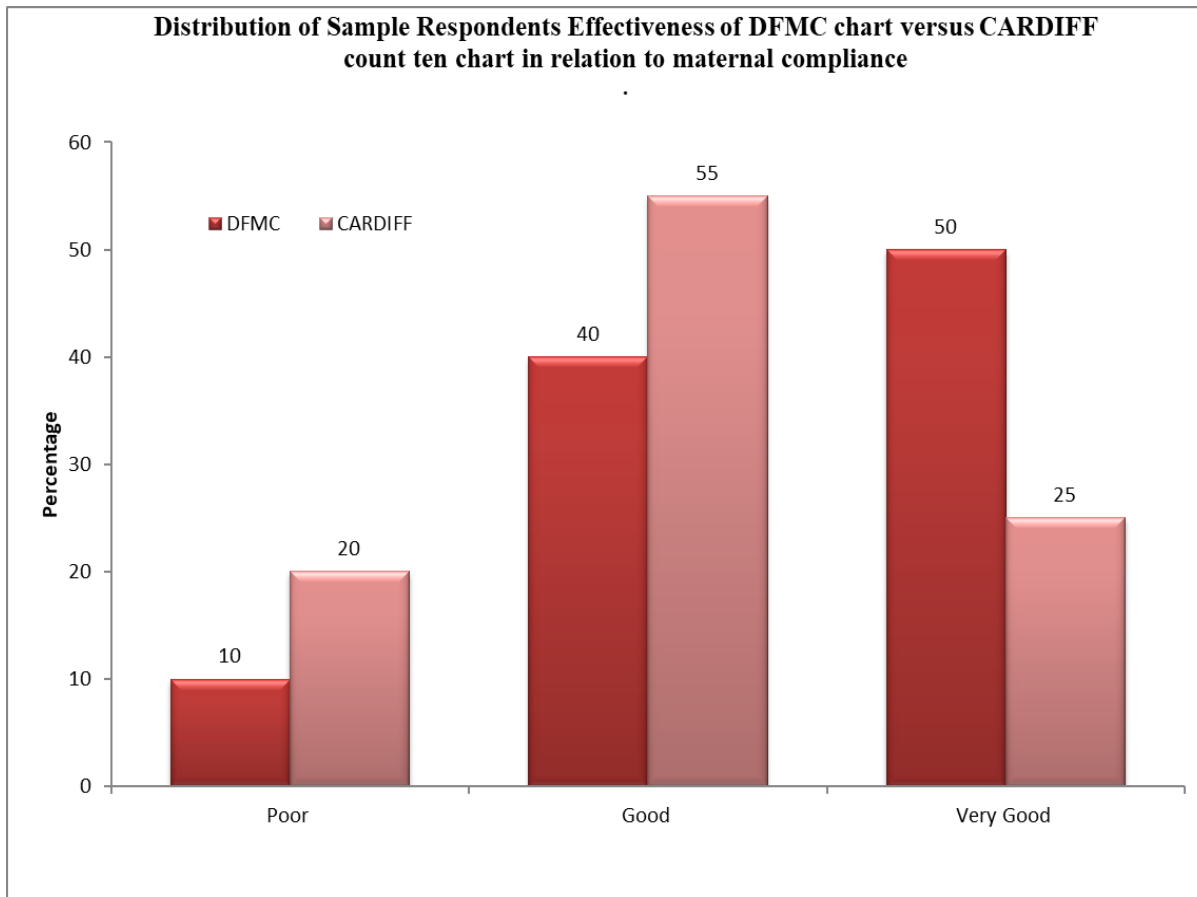


FIG-1: Effectiveness of DFMC Chart and cardiff count ten chart on assessment of fetal movements

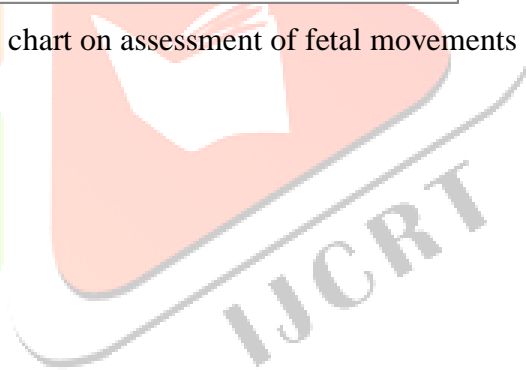
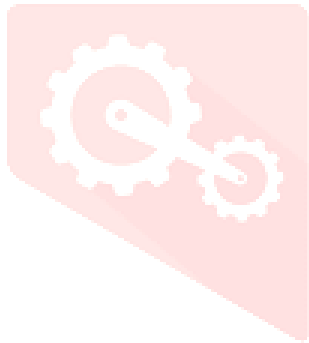


TABLE-2: ASOCIATION BETWEEN DEMOGRAPHIC VARIABLES WITH DFMC CHART VERSUS CARDIFF COUNT TEN CHART

Table 1:

(N=100)

		DFC						CARDFF						Chi-square	
		Poor		Good		Very Good		Poor		Good		Very Good	DFC		CARD
		F	%	F	%	F	%	F	%	F	%	F	%		
Age	Below 20 Years	0	0.0	8	15.1	0	0.0	0	0.0	4	8.5	4	11.4	0.01	0.017 Significant
	21- 25 Years	11	52.4	28	52.8	21	80.8	8	44.4	28	59.6	24	68.6	9	
	26 - 30 Years	8	38.1	14	26.4	2	7.7	10	55.6	9	19.1	5	14.3	11	
	Above 30 Years	2	9.5	3	5.7	3	11.5	0	0.0	6	12.8	2	5.7	12	
	Total	21	100	53	100	26	100	18	100	47	100	35	100	10	
Religion	Hindu	14	66.7	40	75.5	19	73.1	14	77.8	35	74.5	24	68.6	0.36	0.439 NS
	Muslim	6	28.6	12	22.6	4	15.4	4	22.2	8	17.0	10	28.6	0	
	Christian	1	4.8	1	1.9	3	11.5	0	0.0	4	8.5	1	2.9	6	
	Total	21	100	53	100	26	100	18	100	47	100	35	100	10	
Education	Illiterate	2	9.5	14	26.4	11	42.3	1	5.6	14	29.8	12	34.3	0.04	0.016 Significant
	Primary	3	14.3	16	30.2	5	19.2	2	11.1	10	21.3	12	34.3	6	
	Secondary	6	28.6	7	13.2	3	11.5	4	22.2	8	17.0	4	11.4	11	
	Higher Secondary	2	9.5	6	11.3	5	19.2	3	16.7	9	19.1	1	2.9	12	
	Graduate	8	38.1	10	18.9	2	7.7	8	44.4	6	12.8	6	17.1	13	
	PG	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	14	

	Total	21	10	53	10	26	10	18	10	47	10	35	10		
Education Of Husband	Illiterate		14.		11.		38.		16.		19.		20.	0. 02 5 Si gn ifi ca nt	0.919 NS
		3	3	6	3	10	5	3	7	9	1	7	0		
	Primary				17.		11.		11.		10.		17.		
		1	4.8	9	0	3	5	2	1	5	6	6	1		
	Secondary		47.		28.		11.		27.		27.		28.		
		10	6	15	3	3	5	5	8	13	7	10	6		
	Higher Secondary				17.				11.		17.				
	2	9.5	9	0	1	3.8	2	1	8	0	2	5.7			
Graduate		23.		26.		34.		33.		25.		28.			
	5	8	14	4	9	6	6	3	12	5	10	6			
PG		0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0		
	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0			
	Total	21	10	53	10	26	10	18	10	47	10	35	10		
			0		0		0		0		0		0		
Occupation Mother	Home Maker		66.		83.		69.		61.		78.		80.	0. 74 8 NS	0.017 Significant
		14	7	44	0	18	2	11	1	37	7	28	0		
	Labourer		4.8		1.9		3.8		5.6		2.1		2.9		
		1	4.8	2	3.8	2	7.7	0	0.0	3	6.4	2	5.7		
	Business employee		23.		11.		19.		33.		12.		11.		
	5	8	6	3	5	2	6	3	6	8	4	4			
	Total	21	10	53	10	26	10	18	10	47	10	35	10		
			0		0		0		0		0		0		

		DFC					CARDFF						Chi-square	
		Poor	Good		Very Good	Poor		Good		Very Good	DFC		CARD	
			F	%		F	%	F	%		F	%		F
Occupation of Spouse	Koolie	5	23.8	7	13.2	1	13.2	3	16.7	7	14.9	3	8.6	0.904 NS
	Farmer	1	4.8	2	3.8	4	3.8	2	11.1	3	6.4	2	5.7	
	Private employee	5	23.8	18	34.0	9	34.0	6	33.3	14	29.8	12	34.3	
	Self employee	6	28.6	23	43.4	5	43.4	5	27.8	18	38.3	11	31.4	
	Govt. employee	4	19.0	3	5.7	7	5.7	2	11.1	5	10.6	7	20.0	
	Total	21	100	53	100	26	100	18	100	47	100	35	100	
Type of Family	Nuclear	16	76.2	42	79.2	20	76.9	10	55.6	36	76.6	32	91.4	0.011 Significant
	Joint	5	23.8	11	20.8	6	23.1	8	44.4	11	23.4	3	8.6	
	Extended	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	
	Total	21	100	53	100	26	100	18	100	47	100	35	100	
Income of Family	10000 - 15000	9	42.9	26	49.1	13	50.0	9	50.0	26	55.3	13	37.1	0.477 NS
	15001 - 20000	6	28.6	25	47.2	9	34.6	8	44.4	15	31.9	17	48.6	
	20001 - 25000	2	9.5	2	3.8	4	15.4	0	0.0	5	10.6	3	8.6	
	25001 - 30000	4	19.0	0	0.0	0	0.0	1	5.6	1	2.1	2	5.7	
	Total	21	100	53	100	26	100	18	100	47	100	35	100	
Gravida	Primi	12	57.1	19	35.8	5	19.2	9	50.0	13	27.7	14	40.0	0.004 Significant

	Multi	9	42.9	34	64.2	21	80.8	9	50.0	34	72.3	21	60.0	0.27	Significant
	Total	21	100	53	100	26	100	18	100	47	100	35	100	10	
GestationI	Below 36	17	81.0	39	73.6	15	57.7	7	38.9	35	74.5	29	82.9	0.18	0.003 Significant
	Above 36	4	19.0	14	26.4	11	42.3	11	61.1	12	25.5	6	17.1	1	
	Total	21	100	53	100	26	100	18	100	47	100	35	100	10	
Source of Information	Mass Media	17	81.0	36	67.9	18	69.2	12	66.7	34	72.3	25	71.4	0.50	0.478 NS
	Family Members	3	14.3	6	11.3	5	19.2	4	22.2	6	12.8	4	11.4	5	
	Health personnel	1	4.8	7	13.2	1	3.8	1	5.6	5	10.6	3	8.6	5	
	Friends & Neighbours	0	0.0	4	7.5	2	7.7	1	5.6	2	4.3	3	8.6	5	
	Total	21	100	53	100	26	100	18	100	47	100	35	100	10	

**significant at 0.01 level

The data represents in the above table 4 shows that there was significant association between the demographic variables age in years of the respondents, religion, Education of the respondents, Education of the spouse, occupation of the respondents, occupation of the spouse, Type of family income of the family per month in rupees and Gravida where as no significant association only with gestational age in weeks, source of information.

MAJORITY OF THE STUDY: Regard to fetal movements based on DFMC, 21(10%) had poor fetal movements, 53(40%) had good fetal movements and 26 (50%) had very good Fetal movements. Regard to fetal movements based on Cardiff count, 20(20%) had poor fetal movements, 55(55%) had good fetal movements and 25(25%) had very good fetal movements. Antenatal mothers DFMC chart Mean scores were 18.78 with standard deviation 3.096. And the Cardiff count ten mean scores were 49.80 with standard deviation 5.510. Regarding association between DFMC chart and demographic variables, age, type of family, obstetrical score and source of information had significant association at $P < 0.001$ level. Regarding association between Cardiff count ten chart and demographic variables, obstetrical score and source of information had significant association at $P < 0.001$ level. There was no significant relationship between the effectiveness of DFMC Chart and Cardiff count ten chart with their religion and type of family.

CONCLUSION

In this study, two main protocols were used to assess the foetal movements as Cardiff count ten chart and DFMC chart. The past researches have shown that maternal monitoring of foetal movements can lead to lower incidence of stillbirth. While comparing the DFMC chart and Cardiff count ten chart there was an effectiveness of using DFMC chart for the self assessment of fetal movements by antenatal mothers in relation to maternal compliance.

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