

A STUDY TO ASSESS THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AND COMPLIANCE REGARDING DAILY FETAL MOVEMENT COUNT AMONG ANTENATAL MOTHERS IN SELECTED HOSPITAL AT KOLLAMLaya S.*¹ and Prof. Annal Angeline²¹MSc Nursing Student, Bishop Benziger College of Nursing, Kollam, Kerala, India.²Nursing Professor, Bishop Benziger College of Nursing, Kollam, Kerala, India.

*Corresponding Author: Laya S.

MSc Nursing Student, Bishop Benziger College of Nursing, Kollam, Kerala, India.

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ABSTRACT

A quasi experimental study was conducted to assess the effect of structured teaching programme on knowledge and compliance regarding daily fetal movement count among antenatal mothers. The objectives of the study were to assess the knowledge regarding daily fetal movement count among antenatal mothers, to assess the compliance regarding daily fetal movement count among antenatal mothers, to assess the effectiveness of structured teaching programme on knowledge regarding daily fetal movement count among antenatal mothers, to assess the effectiveness of structured teaching programme on compliance regarding daily fetal movement count among antenatal mothers, to find the association between knowledge regarding Daily Fetal Movement Count among antenatal mothers and demographic variables and to find the association between compliance to Daily Fetal Movement Count among antenatal mothers and demographic variables. The conceptual framework used was Callista Roy's adaptation theory. Pre-test post-test control group design was used in this study. Purposive sampling was used to select 60 samples. Pre-test was conducted by structured knowledge questionnaire and compliance check list. For experimental group, structured teaching programme was given. Control group received routine nursing care. The findings of the study showed that the mean post-test knowledge score of experimental group (18.60 ± 1.38) was higher than the control group (10.57 ± 1.97) and the mean post-test compliance score of experimental group (13.93 ± 1.82) was higher than the control group (7.35 ± 1.66) and it was significant at 0.05 level of significance. The findings of the study shows that there was significant association between the knowledge with occupation and no significant association between compliance with other variables. The study concludes that structured teaching programme was effective in improving knowledge and compliance regarding daily fetal movement count among antenatal mothers.

KEYWORDS: Knowledge, Compliance, Structured Teaching Programme, Daily Fetal Movement Count, Antenatal mothers, Selected hospital.

INTRODUCTION

Pregnancy is considered as a very precious event in every woman's life. It is filled with happiness, joy and surprises. Every parent 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 generation.

Pregnancy is divided into three trimesters, each lasting for approximately 3 months. The first trimester includes conception, which is when the sperm fertilizes the egg. The fertilized egg then travels down the fallopian tube and attaches to the inside of the uterus, where it begins to form the embryo and placenta. During the first trimester, the possibility of miscarriage (natural death of embryo or

fetus) is at its highest. Around the middle of the second trimester, movement of the fetus may be felt. At 28 weeks, more than 90% of babies can survive outside of the uterus if provided with high-quality medical care.

The intrauterine fetal demise is, for a woman and for a couple, always an enormous psycho-affective trauma. The search for the cause is not only a due act, but is fundamental to improve care by acting on prevention measures. Every year worldwide there are about 2.6 million intra uterine fetal death cases at or above 28 gestational weeks, with an incidence ranging from 3.4 per thousand total births in high-income countries to 36 in the Sub-Saharan and Southern Asia regions. In 2015, the stillbirth rate (SBR) was 18.4 per 1000 total births worldwide. The progress in reducing stillbirth since 1990

has been slower than reductions in neonatal and under-five child mortality. Currently, 98% of stillbirths occur in low-to-middle-income countries (LMICs) and India has the highest number of stillbirths, with an estimated 592 100 deaths per year, and a WHO estimated rate of 22 per 1000 total births. The Government of India has developed an Indian New-born Action Plan which include efforts to 'reduce stillbirths to < 10 per 1000 births by 2030'.

During the past decades, there has been significant improvement in obstetrics in achieving the antenatal surveillance of high risk pregnancy. Since more than 75 percent of fetal death occur in the ante partum, it is obvious that limiting fetal surveillance to intrapartum period will not achieve optimal perinatal outcome. To be clinically useful, antepartum 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 fetal well-being by monitoring fetal movement count by antenatal mothers fulfills all the above criteria. Process of birth is the most dangerous journey an individual undertakes. A healthy new born 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 in Orissa. It is higher in rural (54.4) and lower in urban and in Tamilnadu it is 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.

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

Statement of the Problem

A study to assess the effectiveness of structured teaching programme on knowledge and compliance regarding Daily Fetal Movement Count among antenatal mothers in selected hospital at Kollam.

Objectives

The objectives of the study were

1. To assess the knowledge regarding Daily Fetal Movement Count among antenatal mothers in a selected hospital at Kollam.
2. To assess the compliance regarding Daily Fetal Movement Count among antenatal mothers in a selected hospital at Kollam.
3. To assess the effectiveness of structured teaching programme on knowledge regarding Daily Fetal Movement Count among antenatal mothers in a selected hospital at Kollam.

4. To assess the effectiveness of structured teaching programme on compliance regarding Daily Fetal Movement Count among antenatal mothers in a selected hospital at Kollam.
5. To find the association between pretest knowledge regarding Daily Fetal Movement Count among antenatal mothers and demographic variables such as age, education, occupation, parity, type of family, income, available social support system, source of information regarding DFMC and gestational age.
6. To find the association between pretest compliance to Daily Fetal Movement Count among antenatal mothers and demographic variables such as age, education, occupation, parity, type of family, income, available social support system, source of information regarding DFMC and gestational age.

Operational Definitions

Assess: An activity to decide the effectiveness of an intervention.

In this study assess refers to determination of the knowledge and compliance regarding Daily Fetal Movement Count among antenatal mothers.

Effectiveness: A change which is a result or consequence of an action or other cause.

In this study effectiveness refers to the outcome of structured teaching programme on knowledge and compliance regarding Daily Fetal Movement Count among antenatal mothers.

Structured teaching programme

In this study structured teaching programme refers to a systematically developed instructional programme using instructional aids, designed to provide information on the daily fetal movement count and its guidelines.

Knowledge: Facts, information and skills acquired through experience or education; the theoretical or practical understanding of a subject.

In this study knowledge refers to the information acquired and is reflected by the scores obtained by the respondent to the items in the knowledge questionnaire regarding Daily Fetal Movement Count among antenatal mothers.

Compliance: The act of obeying an order, rule or request.

In this study compliance refers to the act of adherence to the rules related to the Daily Fetal Movement Count including maintaining daily diary.

Daily Fetal Movement Count

Fetal movement counting is a method by which a woman quantifies the movements of her baby. Daily fetal movement count (DFMC) chart is a tool which is a

clinically effective means of counting the fetal movements after 28 weeks of gestation. The method involves making the patient lie on her left side for 30 minutes after eating without distractions. Three counts each of one hour duration (morning, noon, evening) are recommended. The total counts are multiplied by 4 gives daily (12 hour) count.^[10]

In this study antenatal mothers refers to the pregnant mothers who have completed a minimum period of 28 weeks of gestation up to admission for delivery.

Selected hospital at Kollam

In this study selected hospital at Kollam refers to Bishop Benziger Hospital.

Antenatal mothers: Before birth; during or relating to pregnancy.

RESEARCH METHODOLOGY

| | |
|----------------------|--|
| Research Approach | Quantitative research |
| Research design | A quasi experimental, pre-test post-test control group design |
| Variables | <p>Dependent variable Knowledge and compliance of antenatal mothers regarding Daily Fetal Movement Count.</p> <p>Independent variable Structured teaching programme regarding Daily Fetal Movement Count.</p> <p>Demographic variables Age, education, occupation, type of family, parity, income, available social support system, source of information regarding DFMC and gestational age of the mother.</p> |
| Setting of the study | Bishop Benziger Hospital, Kollam |
| Population | Antenatal mothers who have completed 28 weeks of gestation |
| Sample | Antenatal mothers who completed 28 weeks of gestation. |
| Sample size | 60 Antenatal mothers |
| Sampling technique | Purposive sampling technique |

RESULTS AND DISCUSSION

Section A

- Description of demographic variables.

- Percentage distribution of knowledge scores among antenatal mothers regarding DFMC.
- Percentage distribution of compliance scores among antenatal mothers regarding DFMC.

Description of demographic variables. N=60

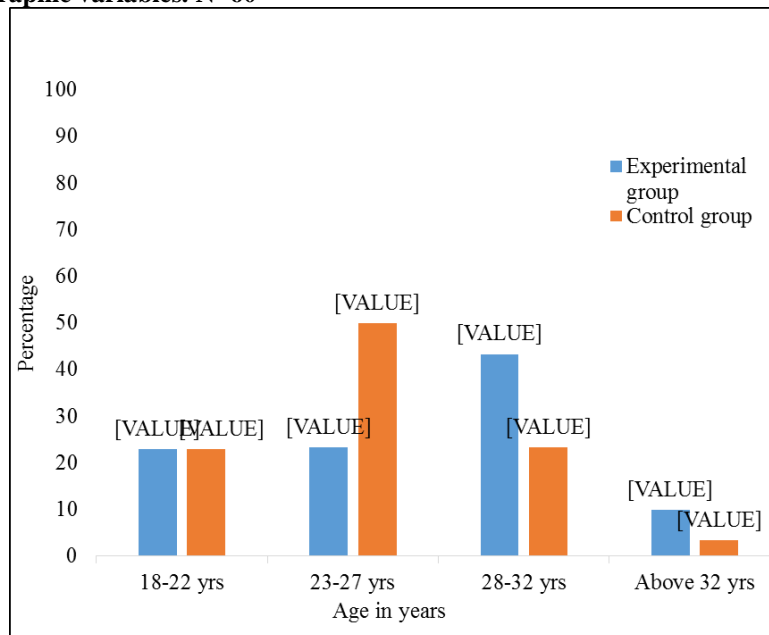


Figure 1: Percentage wise distribution of the sample according to age.

The data in Figure 1 showed that in the experimental group, 23% sample belonged to the age group of 18-22 years, 23.33% sample belonged to the age group of 23-27 years, 43.33% sample belonged to the age group of 28-32 years and 10% sample belonged to above 32 years category. In the control group 23% sample belonged to

the age group of 18-22 years, 50% sample belonged to the age group of 23-27 years, 23.33% sample belonged to the age group of 28-32 years and 3.33% sample belonged to above 32 years category.

N=60

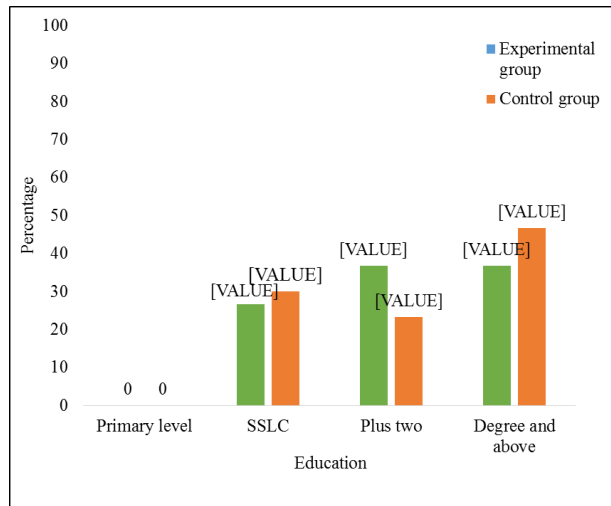


Figure 2: Percentage wise distribution of sample according to education.

The data in Figure 2 showed that in the experimental and control group no sample had primary level education. In experimental group 26.67% sample had secondary level education, 36.67% sample had higher secondary level

education and 46.67% sample were graduates. In the control group 30% sample possessed secondary level education, 23.33% sample had higher secondary education and 23% sample were graduates.

N=60

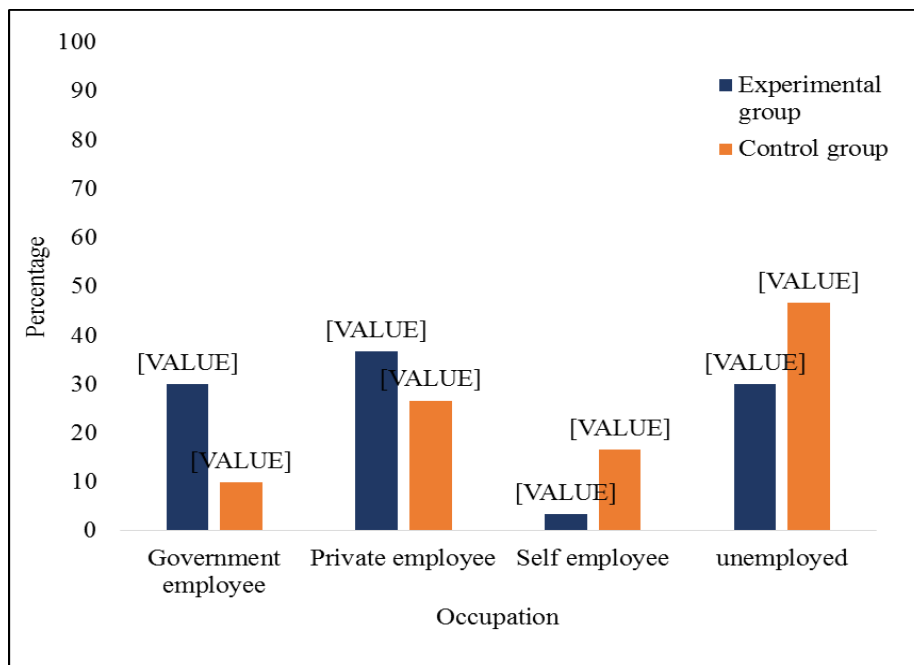


Figure 3: Percentage distribution of the sample according to occupation.

The data in Figure 3 showed that in the experimental group, 30% sample were government employees, 36.67% were private employees, 3.33% were self-employees and remaining 30 % were unemployed. In the

control group 10% sample were government employees, 26.67% were private employees, 16.67% were self-employees and 46.67% were unemployed.

N=60

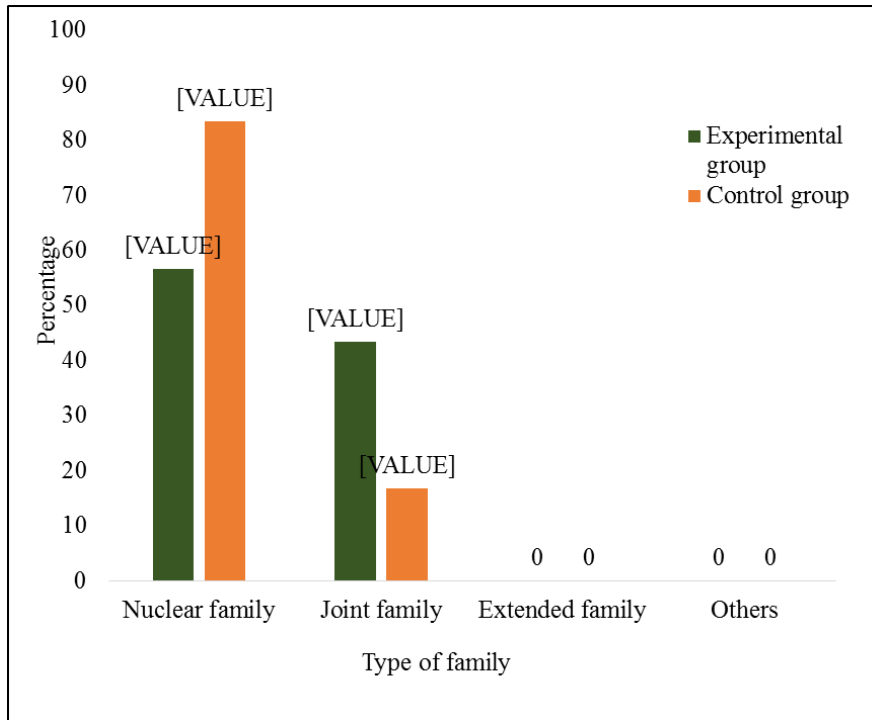


Figure 4: percentage wise distribution of the sample according to type of family.

The data in Figure 4 showed that in the experimental group, 56.67% sample belonged to nuclear family and 43.33% sample belonged to joint family. In control

group 83.33% sample belonged to nuclear family and 16.7% sample belonged to joint family.

N=60

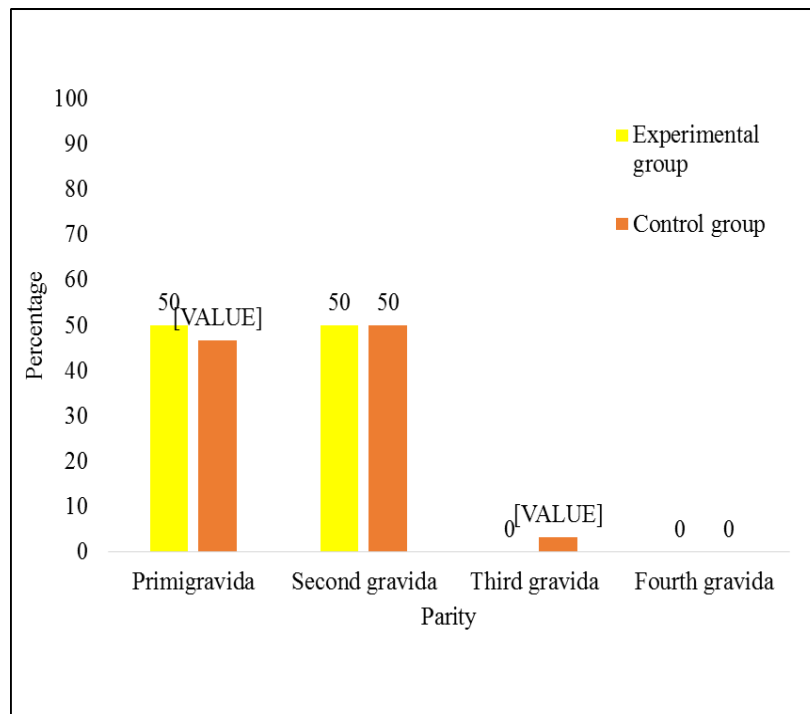


Figure 5: Percentage wise distribution of the sample according to parity.

The data in Figure 5 showed that in the experimental group, 50% each of the sample were primigravida and second gravida mothers. In the control group 46.67%

sample were primigravida mothers, 50% sample were second gravida mothers and 3.33% sample were third gravida mothers.

N=60

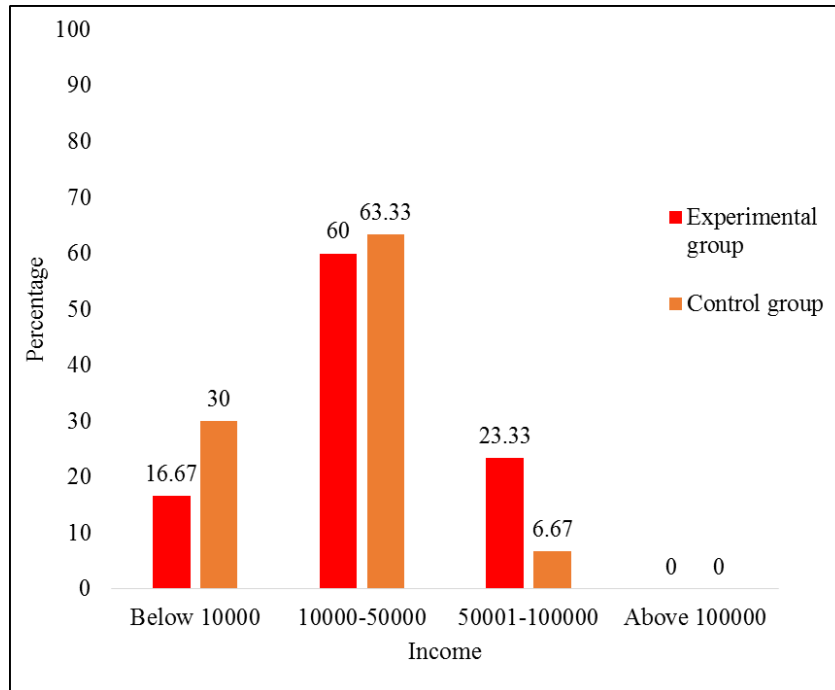


Figure 6: Percentage wise distribution of sample according to family income

The data in Figure 6 showed that in the experimental group, 16.67% sample had an annual income below Rs.10000, 60% sample had an annual income between Rs.10000-50000, 23.33% sample had an annual income between Rs.50001-100000. In the control group 30%

sample had an annual income below Rs.10000, 63.33% sample possess annual income between Rs.10000-50000, and 6.67% sample had an annual income between Rs.50001-100000. No sample possessed annual income above 100000 rupees.

N=60

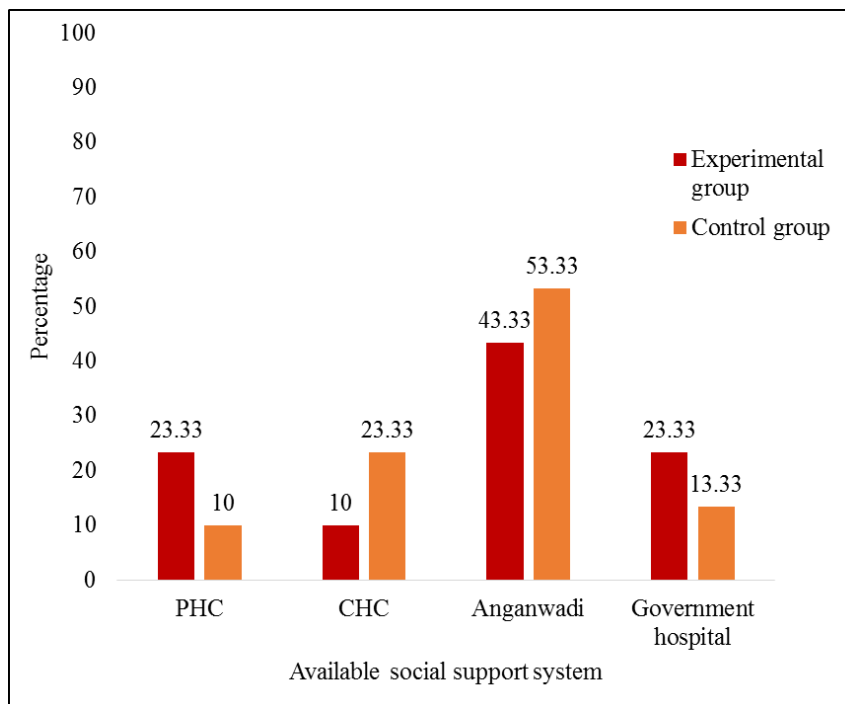


Figure 7: Percentage wise distribution of sample according to available social support system

The data in Figure 7 showed that in the experimental group 23.33% sample got social support from primary health centre, 23.33% sample got social support from

community health centre, 43.33% sample got social support from anganwadi and remaining 23.33% sample got social support from government hospital. In the

control group 10% sample got social support from PHC, 23.33% got social support from CHC, 53.33% sample

got social support from anganwadi and 13.33% sample got social support from government hospital.

N=60

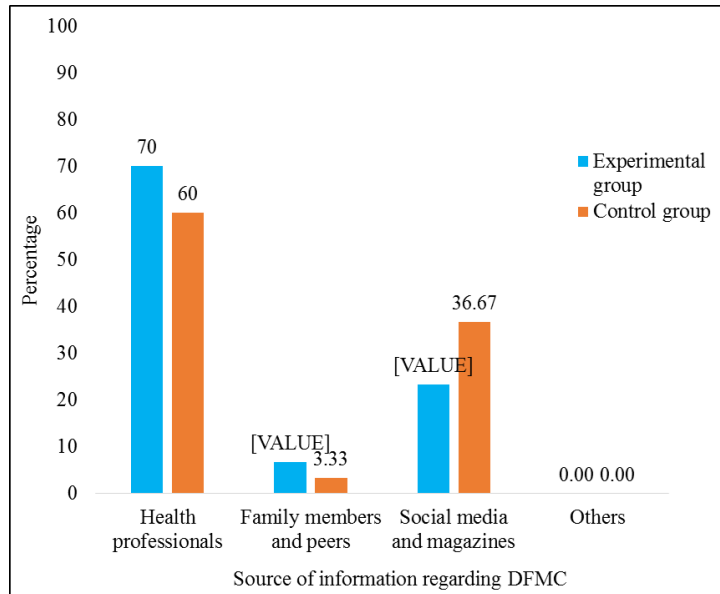


Figure 8: Percentage wise distribution of sample according to source of information regarding DFMC.

The data in Figure 8 showed that in the experimental group, 70% sample got information regarding DFMC from health professionals, 3.33% sample got information regarding DFMC from family members and peers and remaining 23.33% sample got information regarding DFMC from social media and magazines. In the control group

60% sample got information regarding DFMC from health professionals, 3.33% sample got information regarding DFMC from family members and peers and remaining 36.67% sample got information regarding DFMC from social media and magazines.

N=60

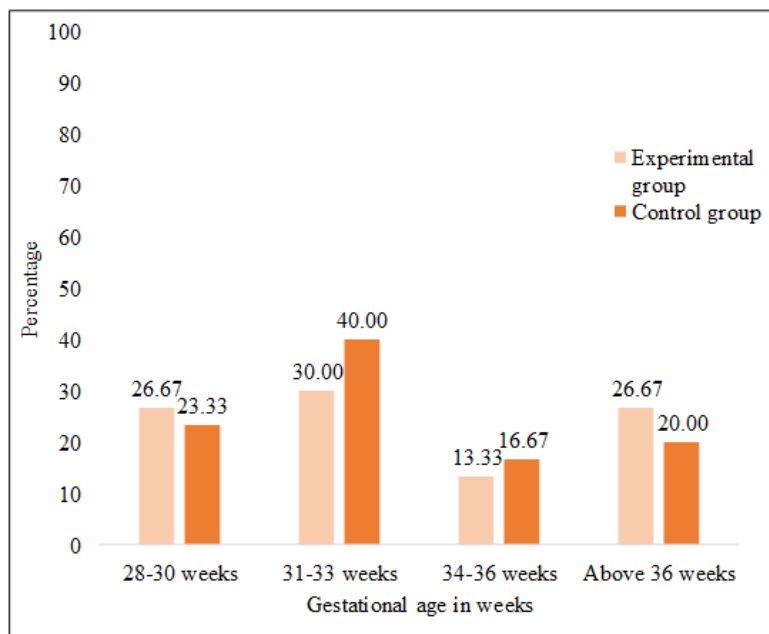


Figure 9: Percentage wise distribution of the sample according to weeks of gestation.

The data in Figure 9 shows that in the experimental group 26.67% sample had 28-30 weeks of gestation, 30% sample had 31-33 weeks of gestation, 13.33% sample had 34-36 weeks of gestation and 26.67% sample

had above 36 weeks of gestation. In the control group 23.33% sample had 28-30 weeks of gestation, 40% sample had 31-33 weeks of gestation, 16.67% sample

had 34-36 weeks of gestation and 20% sample had more than 36 weeks of gestation.

Frequency and percentage distribution of knowledge scores among antenatal mothers.

Table 1: Frequency and percentage distribution of pretest and posttest knowledge score in experimental group n=30.

| Level of knowledge | Pretest | | Posttest | |
|--------------------|-----------|------------|-----------|------------|
| | Frequency | Percentage | Frequency | Percentage |
| Poor | 0 | 0 | 0 | 0 |
| Average | 17 | 56.67 | 0 | 0 |
| Good | 10 | 33.33 | 1 | 3.33 |
| Excellent | 3 | 10 | 29 | 96.67 |

Ata in Table 1 shows that in the experimental group, 56.67% sample possessed average level of knowledge, 33.33% sample possessed good level of knowledge and remaining 10% sample possessed excellent knowledge in

pretest. In the posttest, 3.33% had good level of knowledge and remaining 96.67% had excellent level of knowledge. It revealed that structured teaching programme was effective.

Frequency and percentage wise distribution of compliance scores among antenatal mothers

Table 2: Frequency and percentage distribution of pretest and posttest compliance score in experimental group. n=30.

| Level of compliance | Pretest | | Posttest | |
|---------------------|-----------|------------|-----------|------------|
| | Frequency | Percentage | Frequency | Percentage |
| Low | 9 | 30 | 0 | 0 |
| Moderate | 19 | 63.66 | 2 | 6.67 |
| High | 2 | 6.67 | 28 | 93.33 |

Data in Table 2 shows that in the experimental group, 30% sample possessed low level of compliance, 63.33% sample possessed moderate level of compliance and remaining 6.67% sample possessed high level of compliance in pretest. In the posttest, 6.67% sample had moderate compliance and remaining 93.33% sample had high level of compliance. It revealed that structured teaching programme was effective.

daily fetal movement count among antenatal mothers. Inferential statistics was used to determine effect of structured teaching programme on knowledge and compliance regarding DFMC among antenatal mothers. Paired t test and unpaired t test were used to determine effect of structured teaching programme on knowledge and compliance regarding DFMC among antenatal mothers. The details of analysis are given below.

Section B

Evaluation of effectiveness of structured teaching programme on knowledge and compliance regarding DFMC among antenatal mothers

This section describes the effect of structured teaching programme on knowledge and compliance regarding

Comparison of mean pretest knowledge scores among antenatal mothers in experimental and control group N=60

Table value $t(58) = 1.67$ NS- Non significant at 0.05 level of significance.

| Group | Mean | SD | t value | Significance |
|--------------|-------|------|---------|--------------|
| Experimental | 10.83 | 3.36 | 0.83 | NS |
| Control | 10.20 | 2.44 | | |

Data in Table 3 shows that calculated 't' value 0.83 is less than table t value (1.67) at 0.05 level of significance, so there was no significant difference in pretest knowledge score between experimental and control group. Hence it is concluded that antenatal mothers selected in experimental and control group had homogeneity in terms of their pretest knowledge score.

Comparison of mean pretest compliance scores among antenatal mothers in experimental and control group N=60.

Table value $t(58) = 1.67$ NS- Non significant at 0.05 level of significance.

| Pretest | Mean | SD | t value | Significance |
|--------------------|------|------|---------|--------------|
| Experimental group | 6.66 | 2.04 | 1.57 | NS |
| Control group | 7.33 | 1.51 | | |

Data in Table 4 shows that calculated 'value is 1.57 is less than table t value (1.67) at 0.05 level of significance, so there was no significant difference in compliance score between experimental and control group. Hence it can be concluded that antenatal mothers selected in experimental and control group had homogeneity in terms of their pretest compliance score.

Comparison of mean pretest and posttest scores of knowledge regarding DFMC among antenatal mothers in experimental group

To find out the significant difference between the pretest and posttest knowledge scores in experimental group, paired t test was computed.

N=30

| Experimental Group | Mean | SD | t value | Significance |
|--------------------|-------|------|---------|--------------|
| Pretest | 10.83 | 3.36 | 15.71 | S |
| Posttest | 18.60 | 1.38 | | |

$t(29) = 1.69$, significant at 0.05 level of significance

Data in the table 5 shows the mean, standard deviation and paired t value of pretest and posttest knowledge score in experimental group. Since the calculated t value (15.71) is higher than the table value (1.69), there was significant difference between pretest and posttest knowledge scores in experimental group at 0.05 level of significance. Hence hypothesis H_1 which states that there will be significant difference between the pretest and posttest knowledge scores regarding daily fetal

movement count among antenatal mothers in experimental group was accepted.

Comparison of mean pretest and posttest scores of compliance regarding DFMC among antenatal mothers in experimental group

To find out the significant difference between the pretest and posttest scores of knowledge scores of experimental groups, paired t test was used.

N=30

| Test | Mean | SD | t value | Significance |
|--------------------|-------|------|---------|--------------|
| Experimental Group | | | 16.75 | S |
| Pretest | 6.66 | 2.04 | | |
| Posttest | 13.93 | 1.82 | | |

$t(29) = 1.69$, significant at 0.05 level of significance

Data in the table 6 shows the mean, standard deviation and paired t value of pretest and posttest compliance score in experimental group. Since the calculated t value (16.75) is higher than the table value (1.69), there was significant difference between pretest and posttest compliance scores in experimental group at 0.05 level of significance. Hence hypotheses H_2 which states that there will be significant difference between pretest and

posttest compliance scores regarding daily fetal movement count among antenatal mothers in experimental group was accepted.

Comparison of posttest scores of knowledge among antenatal mothers in experimental and control group

To test the statistical difference between posttest scores of knowledge in experimental and control group unpaired t test was used.

N=60

| Posttest | Mean | SD | t value | Significance |
|--------------------|-------|------|---------|--------------|
| Experimental Group | 18.60 | 1.38 | 18.25 | S |
| Control group | 10.57 | 1.97 | | |

$t(58) = 1.67$, significant at 0.05 level of significance

Data in the table 7 shows the mean, standard deviation and unpaired t value of posttest knowledge score in experimental and control group. Since the calculated t value (18.25) is more than the table value (1.69), there was significant difference between posttest knowledge scores in experimental and control group at 0.05 level of

significance, hence the hypotheses H_3 which states that there will be significant difference between the posttest knowledge scores regarding daily fetal movement count among antenatal mothers in experimental and control group was accepted.

Comparison of posttest scores of compliance among antenatal mothers in experimental and control group

To test the statistical difference between posttest scores of compliance in experimental and control group unpaired t test was used.

N=60

| Posttest | Mean | SD | t value | Significance |
|--------------------|-------|------|---------|--------------|
| Experimental Group | 13.93 | 1.82 | 14.32 | S |
| Control group | 7.35 | 1.66 | | |

t(29)=1.69, significant at 0.05 level of significance

Data in the table 8 shows the mean, standard deviation and unpaired t value of posttest compliance score in experimental and control group. Since the calculated t value (14.32) is higher than the table value (1.69), there was significant difference between posttest compliance

scores in experimental and control group at 0.05 level of significance, hence the hypotheses H_4 which states that there will be significant difference between the posttest compliance scores regarding daily fetal movement count among antenatal mothers in experimental and control group was accepted.

Section C

Description of the association between pretest scores of knowledge regarding DFMC among antenatal mothers and selected demographic variables

Table 8: Association between pretest scores of knowledge and selected demographic variables such as age, education, occupation, parity, income, type of family, available support system, source of information regarding DFMC and gestational age.

| Demographic Variables | Knowledge | | | | df | Chi square | table value | Significance |
|-----------------------|-----------|---------|------|-----------|----|------------|-------------|--------------|
| | Poor | Average | Good | Excellent | | | | |
| Age | | | | | | | | |
| 18-22 years | 1 | 8 | 5 | 0 | 9 | 10.27 | 16.91 | NS |
| 23-27 years | 0 | 13 | 9 | 0 | | | | |
| 28-32 years | 0 | 10 | 8 | 2 | | | | |
| Above 32years | 0 | 1 | 2 | 1 | | | | |
| Education | | | | | | | | |
| Primary level | 0 | 0 | 0 | 0 | 6 | 11.33 | 12.59 | NS |
| SSLC | 1 | 11 | 5 | 0 | | | | |
| Plus two | 0 | 15 | 10 | 0 | | | | |
| Degree and above | 0 | 7 | 8 | 3 | | | | |
| Occupation | | | | | | | | |
| Govt employee | 0 | 2 | 8 | 2 | 9 | 21.12 | 16.91 | S |
| Pvt Employee | 0 | 13 | 4 | 2 | | | | |
| Self-employee | 1 | 3 | 2 | 0 | | | | |
| Unemployment | 0 | 13 | 10 | 0 | | | | |
| Type of family | | | | | | | | |
| Nuclear | 1 | 21 | 18 | 2 | 3 | 1.83 | 2.36 | NS |
| Joint | 0 | 12 | 5 | 1 | | | | |
| Extended | 0 | 0 | 0 | 0 | | | | |
| Others | 0 | 0 | 0 | 0 | | | | |
| Parity | | | | | | | | |
| Primigravida | 1 | 15 | 11 | 12 | 6 | 2.34 | 12.59 | NS |
| Secondgravida | 0 | 17 | 12 | 1 | | | | |
| Thirdgravida | 0 | 1 | 0 | 0 | | | | |
| Fourthgravida | 0 | 0 | 0 | 0 | | | | |
| Income | | | | | | | | |
| Below 10000 | 1 | 6 | 7 | 0 | 6 | 11.48 | 12.59 | NS |
| 10000-50000 | 0 | 25 | 10 | 2 | | | | |
| 51000-100000 | 0 | 2 | 6 | 1 | | | | |
| Above 100000 | 0 | 0 | 0 | 0 | | | | |
| Social support | | | | | | | | |
| PHC | 0 | 7 | 2 | 1 | 9 | 10.46 | 16.92 | NS |

| Demographic Variables | Knowledge | | | | df | Chi square | table value | Significance |
|------------------------------|-----------|---------|------|-----------|----|------------|-------------|--------------|
| | Poor | Average | Good | Excellent | | | | |
| CHC | 0 | 4 | 6 | 0 | | | | |
| Anganwadi | 0 | 16 | 11 | 1 | | | | |
| Govt hospital | 1 | 5 | 4 | 2 | | | | |
| Source of Information | | | | | | | | |
| Health professionals | 1 | 25 | 12 | 2 | 6 | 3.41 | 12.59 | NS |
| Family members and peers | 0 | 2 | 1 | 0 | | | | |
| Social media | 0 | 7 | 9 | 1 | | | | |
| Others | 0 | 0 | 0 | 0 | | | | |
| Gestational age | | | | | | | | |
| 28-30 weeks | 0 | 7 | 8 | 0 | 9 | 11.42 | 16.91 | NS |
| 31-33 weeks | 0 | 9 | 11 | 1 | | | | |
| 34-36 weeks | 0 | 6 | 2 | 1 | | | | |
| Above 36 weeks | 0 | 11 | 2 | 1 | | | | |

0.05 level of significance NS – Non significant S- Significant

The data in table 9 shows the association between pretest scores of knowledge regarding DFMC and selected demographic variables such as age, education, occupation, type of family, parity, income, available social support system, source of information regarding DFMC and gestational age. All the calculated values were less than the table value except for occupation, therefore there was significant association between knowledge of antenatal mothers and demographic

variable 'occupation'. No association was found between knowledge and demographic variables such as age, education, type of family, parity, income, available social support system, source of information regarding DFMC and gestational age. Hence the hypotheses H₅ which states that there will be significant association between knowledge regarding DFMC and selected demographic variables was partially accepted.

Description of the association between pretest scores of compliance regarding DFMC among antenatal mothers and selected demographic variables

Table: Association between pretest scores of compliance and selected demographic variables such as age, education, occupation, parity, income, type of family, available support system, source of information regarding DFMC and gestational age.

| Demographic Variables | Compliance | | | df | Chisquare value | Table value | Significance |
|-----------------------|------------|----------|------|----|-----------------|-------------|--------------|
| | Low | Moderate | High | | | | |
| Age in years | | | | | | | |
| 18-22 years | 1 | 13 | 0 | 6 | 11.04 | 12.59 | NS |
| 23-27 years | 4 | 18 | 0 | | | | |
| 28-32 years | 6 | 13 | 1 | | | | |
| Above 32 years | 0 | 3 | 1 | | | | |
| Education | | | | | | | |
| Primary level | 0 | 0 | 0 | 4 | 2.02 | 9.48 | NS |
| SSLC | 4 | 12 | 1 | | | | |
| Plus two | 4 | 21 | 0 | | | | |
| Degree and above | 3 | 14 | 1 | | | | |
| Occupation | | | | | | | |
| Government Employee | 2 | 10 | 0 | 6 | 6.35 | 12.59 | NS |
| Private employee | 4 | 14 | 1 | | | | |
| Self-employee | 3 | 3 | 0 | | | | |
| Unemployment | 2 | 20 | 1 | | | | |
| Type of family | | | | | | | |
| Nuclear | 7 | 33 | 2 | 2 | 1.07 | 5.99 | NS |
| Joint | 4 | 14 | 0 | | | | |
| Extended | 0 | 0 | 0 | | | | |
| Others | 0 | 0 | 0 | | | | |
| Parity | | | | | | | |
| Primi gravida | 2 | 25 | 2 | 4 | 7.17 | 9.48 | NS |
| Second gravida | 9 | 21 | 0 | | | | |

| Demographic Variables | Compliance | | | df | Chisquare value | Table value | Significance |
|---------------------------------|------------|----------|------|----|-----------------|-------------|--------------|
| | Low | Moderate | High | | | | |
| Third gravida | 0 | 1 | 0 | | | | |
| Fourth gravida | 0 | 0 | 0 | | | | |
| Income | | | | | | | |
| Below 10000 | 3 | 11 | 0 | 4 | 1.74 | 9.48 | NS |
| 10000-50000 | 7 | 28 | 2 | | | | |
| 51000-100000 | 1 | 8 | 0 | | | | |
| Above 100000 | 0 | 0 | 0 | | | | |
| Available social support | | | | | | | |
| PHC | 1 | 8 | 1 | 6 | 7.21 | 12.59 | NS |
| CHC | 0 | 10 | 0 | | | | |
| Anganwadi | 6 | 22 | 1 | | | | |
| Govt hospital | 4 | 7 | 0 | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Source of information | | | | | | | |
| Health professionals | 5 | 12 | 2 | 4 | 4.41 | 9.48 | NS |
| Family members and peers | 1 | 2 | 0 | | | | |
| Social media and magazines | 2 | 16 | 0 | | | | |
| Others | 0 | 0 | 0 | | | | |
| Gestational age | | | | | | | |
| 28-30 weeks | 2 | 12 | 1 | 6 | 5.50 | 12.59 | NS |
| 31-33 weeks | 4 | 18 | 0 | | | | |
| 34-36 weeks | 3 | 5 | 1 | | | | |
| Above 36 weeks | 2 | 12 | 0 | | | | |

0.05 level of significance NS – Non significant S- Significant

The data in table 10 shows the association between pretest scores of compliance regarding DFMC and selected demographic variables such as age, education, occupation, type of family, parity, income, available social support system, source of information regarding DFMC and gestational age. Since all the calculated values were less than the table value. There was no significant association between the pretest compliance scores and selected demographic variables such as age, education, occupation, type of family, parity, income, available social support system, source of information regarding DFMC and gestational age. Hence the research hypotheses H_6 - there will be significant association between compliance regarding DFMC and selected demographic variables was rejected.

DISCUSSION

The present study was conducted to evaluate the effectiveness of structured teaching programme on knowledge and compliance regarding DFMC among antenatal mothers in a selected hospital at Kollam. In order to achieve the objectives of the study, quasi experimental pre-test post-test control group design was adopted. The subjects were selected by purposive sampling method. The findings of the study are discussed in relation to the objectives and findings of other similar studies.

The objectives of the study were

- To assess the knowledge regarding Daily Fetal Movement Count among antenatal mothers in a selected hospital at Kollam.
- To assess the compliance regarding Daily Fetal Movement Count among antenatal mothers in a selected hospital at Kollam.
- To assess the effectiveness of structured teaching programme on knowledge regarding Daily Fetal Movement Count among antenatal mothers in a selected hospital at Kollam.
- To assess the effectiveness of structured teaching programme on compliance to Daily Fetal Movement Count regarding among antenatal mothers in a selected hospital at Kollam.
- To find the association between pretest knowledge regarding Daily Fetal Movement Count among antenatal mothers and demographic variables such as age, education, occupation, parity, income of family, type of family, available support system, source of information regarding DFMC and gestational age.
- To find the association between pretest compliance to Daily Fetal Movement Count among antenatal mothers and demographic variables such as age, education, occupation, parity, income of family, type of family, available support system, source of information regarding DFMC and gestational age.

To assess the knowledge regarding Daily Fetal Movement Count among antenatal mothers in a selected hospital at Kollam

The finding of the present study revealed that in experimental group the mean pre-test scores of knowledge regarding DFMC was (10.83±3.36) and in control group the mean pre-test scores of knowledge regarding DFMC was (10.20±2.44).

The finding of the present study was supported by a similar study done to assess the Knowledge and Practice of Observing Daily Fetal Movement among Primigravid Women in Kellambakkam, Kanchipuram District, Tamil Nadu, India. In the present study the researcher used a quasi-experimental research design, while in the referent study the researcher adopted descriptive research design. In the referent study non-probability convenience sampling was used and in the present study purposive sampling technique was used. In the referent study the sample size was 53 Primigravid women between 30-39 weeks of gestation, attending to Antenatal OPD, whereas in the present study the sample size was 60 antenatal mothers who completed 28 weeks of gestation, attending antenatal OPD of Bishop Benziger Hospital, Kollam. In the referent study the data were collected by structured knowledge questionnaire and descriptive and inferential statistical methods were used for analysis. The study showed that 18(33.96%) primigravid women had moderate knowledge, 32(60.37%) primigravid women had inadequate knowledge and 3 (5.6%) primigravid women had adequate knowledge. The fact that 60.37% of primigravid women had inadequate knowledge raises the risk of intrauterine death. Thus there was a need of assessment of knowledge of daily fetal movement among primigravid women. In the present study, the data were collected by structured knowledge questionnaire and the collected data was tabulated and analysed by descriptive and inferential statistical methods. The study result showed that in the experimental group 17 (56.67%) antenatal mothers had average knowledge, 10 (33.33%) had good knowledge, 10(3%) had excellent knowledge and in the control group 17 (56.67%) antenatal mothers had average knowledge 12(40%) had good knowledge, 1(3.33%) had poor knowledge.

The findings of the present study is consistent with above mentioned studies and highlighted the need to assess the knowledge of DFMC among antenatal mothers.

To assess the compliance regarding Daily Fetal Movement Count among antenatal mothers in a selected hospital at Kollam

The finding of the present study revealed that the pretest compliance score was not satisfactory in both experimental and control group. In the experimental group, 66.33% sample had moderate level of compliance towards DFMC and in the control group 93.33% of sample had moderate level of compliance towards DFMC.

The finding of the present study was supported by a quantitative study done to assess the daily fetal movement monitoring chart to detect the fetus at risk for Intra Uterine Death. In the referent study a prospective case control method was used. 1000 booked antenatal mothers having a normal USG study at 24 weeks gestation was selected for the study. The case group consisted of 500 consecutively booked mothers who were given specially designed DFMC charts for FM recording at home. Similarly, the control group was comprised of 500 consecutively booked mothers who were not given the DFMC charts but were advised orally to report the diminution of fetal movements. In the present study the researcher selected 60 antenatal mothers who completed 28 weeks of gestation, 30 in experimental and 30 in control group. In the referent study women were advised to record FMs for an hour after breakfast, after lunch, and after dinner. If the FMs felt were less than five in the first hour, they were advised to continue recording the movements in the subsequent hours. In the present study pre-test was conducted for both experimental and control group using structured knowledge questionnaire. STP was conducted and a daily diary was given to each patient in the experimental group for recording the fetal movements. Seven days later, post-test was conducted to both the experimental and control group. In the referent study the result showed that the number of mothers who reported diminished FM in cases was 39 (7.8%) and in controls was 15 (3%). The number of IUFDs in cases were 2 (0.4%) and in controls were 9 (1.8%). The number of fetuses with abnormal CTG and BPP in cases was 15 (3%) and in controls was 3 (0.6%). The number of foetuses with meconium-stained liquor in subgroup of women with abnormal CTG and BPP in cases was 11 (73%) and in controls was 3 (100%). Statistically significant differences were observed between cases and controls with $P < 0.005$, favouring the use of new DFMC charts. In the referent study the researcher concluded that fetal monitoring with the new DFMC charts by every mother from 24 weeks onward improved maternal awareness about FMs and helped detect fetuses at risk for IUD, leading to reduction in stillbirths. In the present study also revealed that the use of DFMC charts improves the maternal compliance.

To assess the effectiveness of structured teaching programme on knowledge regarding DFMC among antenatal mothers.

The finding of the present study revealed that the mean post-test scores of knowledge (18.60±1.38) of experimental group was higher than the mean pre-test scores of knowledge (10.83±3.36) regarding DFMC. The mean post-test scores of knowledge of experimental group (18.60±1.38) was higher than the mean post-test scores of knowledge of control group (10.57±1.97) and the calculated 't' value 0.83 is less than table t value (1.67) at 0.05 level of significance, so there was no significant difference in pretest knowledge score between experimental and control group. This result

indicated that the structured teaching programme regarding DFMC was effective in improving the knowledge regarding DFMC among antenatal mothers.

The finding of the present study was supported by a similar quantitative study conducted to evaluate the effect of structured teaching programme on knowledge regarding self-assessment of daily fetal movement count, among primigravida mothers at Red Cross Hospital, Bhopal, Madhya Pradesh. In both the studies researcher's adopted a quasi-experimental research design. In the referent study the researcher selected 60 primigravida mothers, 30 in control group and 30 in highrisk group attending out-patient department in Red Cross Hospital, Bhopal, M.P. In the present study the researcher selected 60 antenatal mothers, 30 in experimental and 30 in control group. Both used purposive sampling technique to select samples. In the referent study the independent variable was structured teaching programme regarding self-assessment of Daily Fetal Movement Count and the dependent variable was knowledge regarding self-assessment of daily fetal movement count among primigravida mothers. In the present study the independent variable was structured teaching programme and dependent variables were knowledge and compliance among antenatal mothers regarding Daily Fetal Movement Count. In the referent study only primigravida mothers were selected as sample while in the present study all antenatal mothers were selected irrespective of their parity. In the referent study pre-test was conducted using a structured interview schedule. Structured Teaching Programme (STP) was conducted and a DFMC chart and a pamphlet were given to each patient following the STP. Seven days later post test was conducted using the same structured interview schedule, while in the present study the pre-test was conducted to both experimental and control group using structured knowledge questionnaire. STP was conducted and a daily diary was given to each patient in the experimental group. Seven days later post-test was conducted to both the experimental and control group. In both the studies data collected was analysed using descriptive and inferential statistics. The referent study revealed that both groups were receptive to the structured teaching programme almost equally. This represents that the structured teaching programme was effective in increasing the knowledge of normal and high risk primigravida mothers. The result of the present study also showed that structured teaching programme regarding DFMC was effective in enhancing knowledge of antenatal mothers.

The findings of the present study is consistent with above mentioned study and proved that structured teaching programme regarding DFMC was effective in improving knowledge of antenatal mothers to count fetal movements.

To assess the effectiveness of structured teaching programme on compliance regarding DFMC among antenatal mothers

The findings of the study revealed that the mean post-test compliance score of experimental group (13.93 ± 1.82) was higher than the mean pre-test compliance score (6.66 ± 2.04) and the mean post-test compliance score of experimental group (13.93 ± 1.82) was higher than the mean post-test compliance score of control group (7.35 ± 1.66). So the present study showed that structured teaching programme was effective in improving compliance of antenatal mothers regarding DFMC.

The findings of the present study was supported by a study conducted to assess the maternal compliance to Fetal Movement Measurement and Technology. In the referent study a quantitative research approach was adopted at the urban PHC, Nerkundram using a Post-test only design with a sample of 40 mothers selected by non-probability convenient sampling technique. 20 sample for Cardiff count to ten chart and 20 sample for DFMC chart. In the present study a quantitative approach was used using a pre-test post-test control group design with the control group, 60 samples were selected by purposive sampling technique. In the referent study a self-assessment of fetal wellbeing by using Cardiff count to ten chart and DFMC chart was done, while in the present study the pre-test was conducted to both experimental and control group using structured knowledge questionnaire. STP was conducted and a daily diary was given to each patient in the experimental group. Seven days later, post-test was conducted to both the experimental and control group. In the referent study among the 40 antenatal mothers, 9(45%) had noncompliance, and 11(55%) had compliance towards DFMC chart and In Cardiff count to ten chart non-compliance was 6(30%), and compliance was 14(70%). Findings of the study revealed that assessment methods such as maternal involvement, clinician involvement, technology-assisted, and automated technology helps for better maternal compliance. The present study found that teaching programmes can improve the maternal compliance to DFMC.

The findings of the present study and above mentioned study revealed that DFMC was effective in reducing fetal adverse effects and structured teaching programme was effective in improving maternal compliance to DFMC.

To find the association between knowledge among antenatal mothers and selected demographic variables

The findings of the study revealed that there was a significant association between antenatal mother's knowledge and their occupation at 0.05 level of significance. No significant association exist between

The findings of the present study was supported by an another study conducted to assess the knowledge of Daily Fetal Monitoring Chart among antenatal Women.

In the referent study a quantitative descriptive survey method was adopted to collect data from 60 antenatal women visiting the selected hospital who were selected by non-probability convenient sampling technique. Self-administered structured knowledge questionnaire ($r'=0.84$) was used for the same. The chi square value of selected demographic variables like age, education, occupation, parity, weeks of gestation and previous source of information was calculated. In the referant study the findings revealed that there was a significant association between the knowledge scores with parity, and education at 0.05 level, whereas no association was computed between knowledge scores with age, occupation, weeks of gestation and previous source of information. In the present study the selected demographic variables were age, education, occupation, type of family, parity, family income, available social support system, source of information regarding DFMC and gestational age. The result showed a significant association between knowledge and occupation of the antenatal mother. All other selected demographic variables were not found significant at 0.05 level of significance.

To find the association between compliance to Daily Fetal Movement Count among antenatal mothers and demographic variables

The findings of the study revealed that there was no significant association among antenatal mother's compliance and selected demographic variables such as age, education, occupation, type of family, parity, family income, available social support system, source of information regarding DFMC and gestational age at 0.05 level of significance.

The findings of the present study was supported by an another study conducted on the effectiveness of dfmc chart versus Cardiff count ten chart in relation to maternal compliance and mothers perception on self assessment of fetal wellbeing. In the present study a quantitative approach was used. A pre-test post-test control group design was used with, 60 samples selected by purposive sampling technique. The chi square values of selected demographic variable like age, education, occupation, parity, weeks of gestation and previous source of information was calculated. The findings revealed that there was no significant association between the compliance scores with selected demographic variables at 0.05 level. In the referent study the research design adopted was post test only design with comparison group. Non probability convenient sampling technique was used. Sample size was 40. DFMC chart given to one group and assessed their perception on the next visit. The referent study result revealed that there was no significant difference in maternal compliance between Cardiff count ten chart and DFMC chart ($t=0.221$, $p<0.05$) and there is no association between age, education, pregnancy category. Both studies revealed that the use of DFMC chart is an

effective measure to assess the fetal wellbeing by antenatal mother in relation to maternal compliance.

CONCLUSION

The finding of the present study revealed that the mean post-test scores of knowledge (18.60 ± 1.38) of experimental group was higher than the mean pre-test scores of knowledge (10.83 ± 3.36) regarding DFMC and the mean post-test scores of knowledge of experimental group (18.60 ± 1.38) was higher than the mean post-test scores of knowledge of control group (10.57 ± 1.97) and the calculated 't' value 0.83 is less than table t value (1.67) at 0.05 level of significance, so there was no significant difference in pretest knowledge score between experimental and control group. This result indicated that the structured teaching programme regarding DFMC was effective in improving the knowledge regarding DFMC among antenatal mothers.

The findings of the study revealed that the mean post-test compliance score of experimental group (13.93 ± 1.82) was higher than the mean pre-test compliance score (6.66 ± 2.04) and the mean post-test compliance score of experimental group (13.93 ± 1.82) was higher than the mean post-test compliance score of control group (7.35 ± 1.66) and the calculated 't' value is 1.57 is less than table t value (1.67) at 0.05 level of significance, so there was no significant difference in compliance score between experimental and control group. So the present study shows that structured teaching programme was effective in improving compliance of antenatal mothers regarding DFMC.

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