A Study To Assess The Effectiveness of Structured Teaching Programme on Knowledge Regarding Perinatal Diet Among Antenatal Mothers In Selected Nursing Home At Trichy

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Abstract- *A study to assess the effectiveness of structured teaching programme on knowledge regarding perinatal diet among antenatal mothers. The Research approach used for this study was quantitative approach. The research design for this study is pre experimental research design.The study was conducted at Janet Nursing Home, Trichy. The sample size for the study consist of 30 antenatal mothers, who fulfilled the inclusion criteria are included as sample for the study. Purposive sampling technique was used and the antenatal mothers. Data analyzed by using descriptive and inferential statistics on the basis of objectives and hypothesis of the study. The data was planned to be presented in the form of tables and figures. In present study, show that distribution of sample according to the level of knowledge on perinatal diet among antenatal mothers in the pretest reveals that 21 (70%) of the sample had moderate knowledge 9 (30%) of them had in adequate knowledge. In the present reveals that 17(56.7%) of sample had moderate knowledge and 13(43.3%) of the sample had adequate knowledge. In the present study shows that mean value and standard deviation in Pre and Post test and it's significance. This table reveal that in the pretest mean value is 12.33 with the Standard deviation is 4.33 were as the post test mean value 25 with the Standard deviation of 2.74. There is significance difference between mean value of the pre test and post test level of knowledge.The aim of the study was to find out the level of knowledge on perinatal diet among antenatal mothers and to study the effectiveness of structure teaching programme in improving the level of knowledge and practices.*

Keywords- Assess, effectiveness, perinatal diet, antenatal mothers.

I. INTRODUCTION

Diet and lifestyle are important determinants of health of both mother and offspring, starting from the preconceptional period. In particular, current research underscores that the first 1000 days of life from conception up to two years of life are crucial for the prevention of adulthood diseases and specific maternal condition during the preconceptional period and associated with high birth weight, obesity and alterations in glucose metabolism in children and later in adults. Healthy diet promotes health in lactating mothers, protects menopausal woman from bone fractures, reduces cardio vascular risk and also protects against some type of cancers. Therefore perinatal diet that is after 5th month of conception to till 4th week of postnatal period, it protects and supports female population and in specific population groups.

Health later in life is also affected by the growth rate in the first month of life, when breast milk represents the golden standard for the infant feeding as recognized by WHO. It is a part of the reproductive process with important implications also for the health of lactating mothers ,ranging from reduction of cardiovascular risk and hip fractures in post menopause ,also protection against breast cancer and ovarian cancer. Mother should be advised to have a healthy diet throughout the pregnancy to till the lactation period in order to minimize foetal anomalies, still birth, preterm baby, anemia and miscarriage.

World Health Organization

Aim of perinatal diet is to produce healthy and normal weight infants in minimizing health risk to mother, to determine appropriate weight gain during pregnancy for normal, under and over weight women, to recognize the

additional energy, vitamins and minerals requirement for women during pregnancy, to understand change in nutritional need during pregnancy, labour, postnatal and lactation.
-Dr. M.Swaminathan

There are six main classification of food, they are Carbohydrate (energy giving food) Protein (body building food) Fat (energy provider) Vitamins (protective food) Minerals and Water. Carbohydrates are the cheapest and main source of energy, it supplies 4kcl/g. Carbohydrates are essential for the oxidation of fats and in the synthesis of certain amino acids. If they are taken in excess they are converted into fat. In the body they are absorbed immediately and stored in the form of glycogen. Daily requirement of carbohydrate for the expectant and nursing mother 40-60%.Protein sparing action of carbohydrates help in tissue growth &maintenance. Food sources are cereals, pulses, millets, nuts and oil, roots and tubers.

Proteins are essential for growth and development, they are the chief substance in the cells of the body. Essential in the synthesis of antibodies, enzymes and hormones, important in the coagulation factor. Plays a vital role in bodybuilding especially in infants and children. Daily requirement of protein for the pregnant mother is 78g/day, for the lactating mother is 74g/day. Deficiency in pregnancy causes premature birth, still birth and low birth weight babies. Food sources are animal product like meat, fish, milk and milk products, plant sources like millet, pulses like bengal gram, green gram, red gram and black gram.

Fats are concentrated sources of energy, they are insoluble in organic solvents they are include natural oil, wax and steroids. Fats are essential for the transportation and absorption of fat soluble vitamins such as vit. A, D, E and K. Deficiency in pregnancy causes growth retardation of the foetus and scally skin to mother. Daily requirement of fat for the pregnant and lactating mother is 30g/day. Food sources are, animal sources like egg, fish, cheese, ghee and meat. Plant source like vegetable oil (gingili oil, ground nut oil, mustard oil, sunflower oil) except coconut oil , nuts and seeds.

Vitamins are an organic compound occurring in small quantities in different natural food and necessary for protection against diseases . There are two types of vitamins – water soluble (vit.B1,B2,B3,B5,B6,B7 ,B9 ,B12 and C) and fat soluble vitamins (vit.A,D,E and K). Vitamin B1(Thiamine) helps to assist an effective heart function ,muscle development and maintains healthy nerve cell, deficiency leads to Beriberi.Vitamin B2(Riboflavin) helps in activating iron, folic acid, B1 and B3. Also prevents and treat migraine head ache and rheumatoid arthritis, deficiency causes

ariboflavinosis characterised by oral , facial, ocular and vulvar lesions.

VitaminB3 (Niacin) it is also called nicotinic acid. It helps to reduce cholesterol level in the blood, lower the risk of heart disease and also prevents hardening of arteries (atherosclerosis), deficiency causes pellagra. VitaminB5 (Pantothenic acid) it is available in all kind of food, deficiency causes burning foot syndrome. Vitamin B6 (Pyridoxine) it helps in maintaining healthy nerve cell and red blood cell, prevents peripheral neuropathy. Daily requirement of pyridoxine for the pregnant and lactating mother is 2.5 mg/day, deficiency causes microcytic anaemia and neuritis.

Vitamin B7 (Biotin) prevents alopecia and mild depression, daily requirement of biotin for the pregnant and lactating mothers 250nanogram/day.Vitamin B9 (Folic acid) it is essential for the maturation of red blood cells and prevents neural tube malformation(Spina bifida).Daily requirement of folic acid for the pregnant mother is 0.4 g/day, deficiency causes megaloblastic anaemia, recurrent infection and mal absorption syndrome.Vitamin B12 (Cyanocobalamin) it prevents pernicious anaemia ,daily requirement for the pregnant and lactating mother is 2ng/day.

Vitamin C (Ascorbic acid) it is essential for the absorption of iron, formation of bone daily requirement is 80mg/day, deficiency causes scurvy. Vitamin A prevents night blindness, Vitamin D stimulates calcium uptake, Vitamin E strengthen the muscular skeletal system, and Vitamin K is responsible for blood coagulation.
-Dr.Prashad R. Manjeshwar

Intranatal diet is essential for the labour mother she needs to be hydrated with intravenous fluids than the oral feeds. Carbohydrate drink reduces ketosis and more oralfluids leads to hypo natremia to mother and foetus. The postnatal mother needs to be hydrated with oral fluids, protein and calcium rich foods are important for the wound healing and good lactation. Therefore the perinatal diet plays an important role during antenatal period for the purpose of safe delivery , protective motherhood , prevention of diseases and obtaining optimum level of health.

NEED FOR THE STUDY:

The role of maternal health and nutrition has been emphasized by throughout the world, pregnancy and lactation are considered vulnerable periods for both the recognition of the problem of low birth weight which affects some 20 million newborns annually, mainly in developing countries. This is

essentially an end result of interference with fetal growth following inadequate nutrition and infections in pregnant women in these countries. Malnutrition in pregnancy not only has an ill effect on the newborn, but also impairs the mother's own health. When the pregnant woman's diet does not supply the required nutrients for her needs and for those of the fetus, the fetal requirements are met by withdrawing these from the tissues of the pregnant mother.

The tissue depletion weakens the mother and increases the probability of serious complications and the chances of delivering an infant with low birth weight (LBW) who is unlikely to feed adequately early in life. This is why some researchers suggest that improving food intake during pregnancy might reduce LBW. The economic development of the Kingdom of Saudi Arabia has been globally recognized. However, this rapid development and urbanization, coupled with the changing patterns of lifestyle and food habits, has precipitated the various health-related problems besides the nutritional problems already in existence before the nineteen seventies.

As expected, maternal obesity during pregnancy is also associated with an increased risk of various long-term maternal morbidity. Obesity during pregnancy is an independent risk factor for long-term ophthalmic complications, and specifically diabetic retinopathy, increased BMI at the beginning of pregnancy significantly increased the risk of several diseases later in life. However, a high weight gain during pregnancy was only significant for future overweight and obesity. The good news is that intervention appears to be beneficial in these situations. In 2016 the Action for Health in Diabetes (Look AHEAD) Study Group reported that in overweight/obese individuals with type 2 diabetes, larger weight losses produced greater improvements in HbA1c, systolic blood pressure, HDL cholesterol, and triglycerides at years one and four $(p \leq 0.02)$.

Nutritional requirement increases during pregnancy can influence the growth and development and health of the mother and her newborn. Understanding the perinatal mother's nutrition knowledge is essential to develop an effective strategies to crub a malnutrition, reduces mortality and morbidity rate (MMR :130/100000 population in India and also to encourage healthier dietary behaviours.

STATEMENT OF THE PROBLEM:

A study to assess the effectiveness of structured teaching programme on knowledge regarding perinatal diet among antenatal mothers in selected nursing home at trichy.

II. AIMS & OBJECTIVES

- To assess the pre-test knowledge score regarding perinatal diet among antenatal mothers.
- To assess the post-test knowledge score regarding perinatal diet among antenatal mothers after structured teaching programme.
- To assess the effectiveness of structured teaching programme regarding perinatal diet among antenatal mothers.
- To associate post-test knowledge score regarding perinatal diet among antenatal mothers with their selected demographic variables.

III. RESEARCH METHODOLOGY

Research approach used for this study was quantitative approach. The research design for this study is pre experimental research design.The study was conducted at Janet Nursing Home, Trichy. The nursing home works 24 hours. It is purely obstetrics and gynecology related problems with infertility high risk pregnancy care, also being undertaken. The population of this study included Antenatal mothers. The sample size for the study consist of 30 antenatal mothers, who fulfilled the inclusion criteria are included as sample for the study. Purposive sampling technique was used and the antenatal mothers. All ethical principles were followed in the first day of data collection all the antenatal mothers were comfortably seated and the pre-test was administered. After few minutes the structured teaching programme on perinatal diet among antenatal mothers was given by using A.V aids to same antenatal mothers who had undergone pre-test. During the teaching programme the antenatal mothers were asked many doubts and it was clarified. Once again post-test was administered with the same self-structured questionnaires after 14 days. Data analysis is the systematic organization of research data and finding of the result using these data. Data analyzed by using descriptive and inferential statistics on the basis of objectives and hypothesis of the study. The data was planned to be presented in the form of tables and figures.

IV. DESCRIPTION OF THE TOOL

DEVELOPMENT OF THE TOOL:

The instrument was developed by the investigators which considered of questionnaires with 2 parts.

Part A – Deals with demographic data.

Part B – Deals with multiple choice question related to perinatal diet among antenatal mothers.

DESCRIPTION OF TOOL:

Part A – It consists of age, education, religion, income, occupation, food habits, family type, gestational week, gravida, abortion and number of pregnancy.

Part B – This section consists of the 30 items to assess the knowledge regarding perinatal diet among antenatal mother each items had 4 response with one correct answer and the correct answer is given a score of 1 mark. The total number of items are 30 and the total score is 30.

SCORE INTERPRETATION:

The correct response was given a score of one and the obtained score were converted into percentage.

The result were interpreted as,

KNOWLEDGE SCORE:

SCORE	PERCENTAGE	LEVEL OF KNOWLEDGE
0-10	0-33%	In adequate knowledge
11-20	34-66%	Moderate knowledge
21-30	67-100%	Adequate knowedge

V. RESULTS

The sample of 1 (3.3 %) were in the age group of 21 – 25 yrs, 24 (76.7%) of antenatal mothers belongs to the age group of 26 – 30 years, 5 (16.7 %) of them were in the age group of above 30 years. The sample of 8 (26. 7 %) were studied 12th standard, 10 (33.3 %) of antenatal mothers were studied bachelor degree, 12 (40 %) of them was studied master degree. The Majority 10 (33.3 %) of the Family had income of above 30,000 Rupees, 9 (30 %) had income of (11,000 – 20,000) Rupees, 7 (23.3 %) had income of rupees (21,000 – 30,000), 4 (13.3 %) had income below 10,000 Rupees. Among 30 samples 27 (90%) belongs to a nuclear family and 3 (10%) belongs to a joint Family. The sample of 13 (43.3%) were House wife, 11. (36.7%) is working in private sector; 4 (13.3 %) is working as a Government employees, and sample 2 (6.7%) were daily wages. Majority of 16 (53.3%) sample belongs to Hindu, 9 (30%) mothers were Christian. Majority of 18 (60%) had mixed diet pattern, and 12 (40%) of them are vegetarian. Majority 17 (56.7%) of antenatal mothers, Gestational age is 28 – 36 weeks, 13 (43.3%) of the antenatal mothers gestational age is 20 – 28 weeks. Majority 19 (63.35) of antenatal mothers are having first time of pregnancy and 11 (36.7%) antenatal mothers are having second time of pregnancy. Among the 30 samples most of 16 (53.3 %) of antenatal mothers does not have history of abortion, 9 (30%) had experienced abortion in one time, 4 (13.3 %) had Abortion in 2 times and 1 (3.3%) had more than 2 Abortions.Among the 30 samples 17 (56.7%) of mothers were delivered a baby at once 18(26.7 %) of mothers delivered a baby more than twice and 2 (6.7 %) of mothers delivered a baby more than twice. Majority 19 (63.3 %) of antenatal mothers have not any complications in the pregnancy period, 7(23.3 %) of antenatal mothers having medical complication in pregnancy and 4 (13.3%) of antenatal mothers having obstetrical complication in pregnancy. Among 18 (60%) of antenatal others got information from their family members about pregnancy, 7 (23.3 %) antenatal mothers got information from their friends about pregnancy and 5 (16.7 %) of antenatal mothers got information from mass media about pregnancy.

TABLE-1: FREQUENCY AND DISTRIBUTION OF SAMPLE ACCORDING TO THE DEMOGRAPHIC VARIABLES

(N=30)

S.NO	DEMOGRAPHIC VARIABLES	FREQUENCY (N)	PERCENTAGE (%)
1.	**AGE**		
	a)Below 20 years	0	0
	b)21-25 years	1	3.3%
	c)26-30 years	24	76.7%
	d)Above 30 years	5	16.7%
2.	**EDUCATION**		
	a)Illiterate	0	0
	b)12th standard	8	26.7%
	c)Bachelor degree	10	33.3%
	d)Master degree	12	40%
3.	**RELIGION**		

No.	Category	Count	Percentage
	a)Christian	9	30%
	b)Hindu	16	53.3%
	c)Muslim	5	16.7%
	d)Any other	0	0
4.	**FAMILY INCOME**		
	a)Below 10,000 rupees	4	13.3%
	b)11,000-20,000 rupees	9	30%
	c)21,000-30,000 rupees	7	23.3%
	d)Above 30,000 rupees	10	33.3%
5.	**OCCUPATION**		
	a)House wife	13	43.3%
	b)Daily wages	2	6.7%
	c)Government employee	4	13.3%
	d)Private employee	11	36.7%
6.	**EATING PATTERN**		
	a)Vegetarian	12	40%
	b)Non-vegetarian	18	60%
7.	**TYPE OF FAMILY**		
	a)Nuclear family	27	90%
	b)Joint family	03	10%
8.	**GESTATIONAL AGE**		
	a)Below 20 weeks	0	0
	b)20-28 weeks	13	43.3%
	c)28-36 weeks	17	56.7%
	d)36-42 weeks	0	0
9.	**NUMBER OF PREGNANCY**		
	a)First time	19	63.3%
	b)Second time	11	36.7%
	c)Third time	0	0
	d)More than 3	0	0
10.	**NUMBER OF ABORTION**		
	a)Once	9	30%
	b)Twice	4	13.35
	c)More than 2	1	3.3%
	d)Never	16	53.3%
11.	**NUMBER OF DELIVERY**		
	a)Once	17	56.7%
	b)Twice	03	10%
	c)More than twice	02	6.7%
	d)None	08	26.7%

12.	COMPLICATION IN THE PREGNANCY		
	a)Medical	07	23.3%
	b)Surgical	0	0
	c)Obstetrical	04	13.3%
	d)None	19	63.3%
13.	FROM WHERE DO YOU GET INFORMATION ABOUT PREGNANCY?		
	a)Family	18	60%
	b)Friends	07	23.3%
	c)Mass media	05	16.7%

TABLE-2: DISTRIBUTION OF SAMPLE ACCORDING TO THE LEVEL OF KNOWLEDGE ON PERINATAL DIET AMONG ANTENATAL MOTHERS IN PRE-TEST.

(N=30)

S.NO	LEVEL OF KNOWLEDGE	FREQUENCY	PERCENTAGE
1.	Inadequate knowledge	9	30%
2.	Moderate knowledge	21	70%
3.	Adequate knowledge	0	0

TABLE -3: DISTRIBUTION OF THE SAMPLES ACCORDING TO THE LEVEL OF KNOWLEDGE ON PERINATAL DIET AMONG ANTENATAL MOTHERS IN POST-TEST.

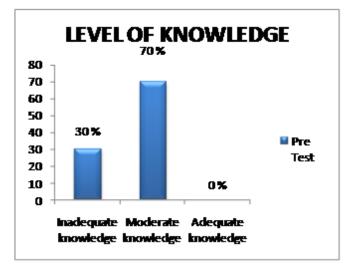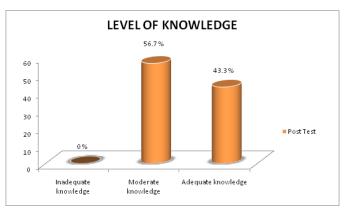| S.NO	LEVEL OF KNOWLEDGE	FREQUENCY	PERCENTAGE
1.	Inadequate knowledge	0	0
2.	Moderate knowledge	17	56.7%
3.	Adequate knowledge	13	43.4%

Figure 1: Distribution of sample according to the level of knowledge on perinatal diet among antenatal mothers in pre-test.

Figure 1 shows the distribution of sample according to the level of knowledge on perinatal diet among antenatal mothers in the pre-test.it reveals that 21(70%) of the samples had moderate knowledge and 9(30%) of them had inadequate knowledge.

Figure 2: Distribution of the samples according to the level of knowledge on perinatal diet among antenatal mothers in post-test
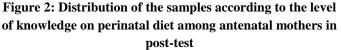
Figure 2 shows that distribution of samples according to the level of knowledge on perinatal diet among antenatal mothers in the post-test. It reveals that 17(56.7%) of the sample had moderate knowledge and 13(43.3%) of the sample had adequate knowledge

TABLE-4:ANALYSIS OF EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE AMONG ANTENATAL MOTHERS BETWEEN PRE AND POST TEST.

(N=30)

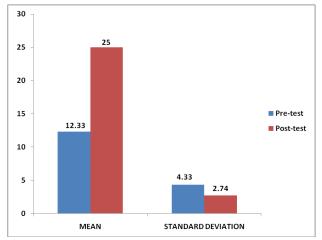| LEVEL OF KNIOWLEDGE	MEAN	STANDARD DEVIATION	'T' VALUE	'P' VALUE
Pre-test	12.33	4.33	23.93	2.05
Post-test	25	2.74		

*Significant p<0.05

Figure 3.Analysis of effectiveness of structured teaching programme on knowledge among antenatal mothers between pre and post test.

Figure 3 shows that mean value and standard deviation in pre-test and post-test of knowledge and its significance.

This table reveals that in the pre-test mean value is 12.33 with the standard deviation 4.33 where as in the post test the mean value is 25 with the standard deviation 2.74. There is significance difference between the mean value of the pre-test and post-test level of knowledge. The't' value is 23.93 and 'p' value is 2.05 and it is significant or <0.05 level.

TABLE-5: ASSOCIATION OF LEVEL OF KNOWLEDGE WITH THE DEMOGRAPHIC VARIABLES IN THE POST-TEST.   (N=30)

S. NO	DEMOGRAPHIC VARIABLES	LEVEL OF KNOWLEDGE						"x^2" value	"p" value
		Inadequate		Moderate		Adequate			
		N	%	n	%	N	%		
1.	**AGE**								
	a)below 20 years	0	0	0	0	0	0		
	b)21-25 years	4	13.3%	7	23.3%	0	0	40.62	12.59
	c)26-30 years	5	16.7%	13	43.3%	0	0		(s)
	d)above 30 years	0	0	1	3.3%	0	0		
2.	**EDUCATION**								
	a)illiterate	0	0	0	0	0	0		
	b)12th standard	6	20%	2	6.7%	0	0	0.18	12.59
	c)bachelor degree	2	6.7%	6	20%	2	6.7%		(NS)
	d)master degree	1	3.3%	3	10%	8	26.7%		

3.	**RELIGION**								
	a)Christian	1	3.3%	4	13.3%	4	13.3%		
	b)hindu	6	20%	7	23.3%	3	10%	0.02	12.59
	c)muslim	1	3.3%	2	6.7%	2	6.7%		(NS)
	d)any other	0	0	0	0	0	0		
4.	**FAMILY INCOME**								
	a)below 10,000 rupees	3	10%	1	3.3%	0	0	1.24	12.59
	b)11,000-20,000 rupees	4	13.3%	2	6.7%	3	10%		(NS)
	c)21,000-30,000 rupees	1	3.3%	1	3.3%	5	16.7%		
	d)above 30,000 rupees	2	6.7%	1	3.3%	8	26.6%		
5.	**OCCUPATION**								
	a)house wife	2	6.7%	4	13.3%	7	23.3%		
	b)daily wages	2	6.7%	0	0	0	0		
	c)government employee	1	3.3%	2	6.7%	2	6.7%	0.22	12.59 (NS)
	d)private employee	5	16.7%	3	10%	3	10%		
6.	**EATING PATTERN**								
	a)vegetarian	2	6.7%	4	13.3%	6	20	0.34	5.99
	b)non-vegetarian	4	13.3%	8	26.6%	6	20		(NS)
7.	**TYPE OF FAMILY**								
	a)nuclear family	12	40%	6	20%	9	30		5.99
	b)joint family	1	3.3%	1	3.3%	1	3.3%	0.2	(NS)

8.	**GESTATIONAL AGE**								
	a)below 20 weeks	0	0	0	0	0	0		
	b)20-28 weeks	4	13.3%	8	26.6%	1	3.3%	0.21	12.59
	c)28-36 weeks	6	20%	4	13.3%	7	23.3%		(NS)
	d)36-42 weeks	0	0	0	0	0	0		
9.	**NUMBER OF PREGNANCY**								
	a)first time	6	20%	7	23.3%	6	20%		
	b)second time	2	6.6%	6	20%	3	10%	0.27	12.59
	c)third time	0	0	0	0	0	0		(NS)
	d)more than 3	0	0	0	0	0	0		
10.	**NUMBER OF ABORTION**								
	a)once	2	6.6%	4	13.3%	7	23.3%		
	b)twice	2	6.6%	2	6.6%	1	3.3%	4.56	12.59
	c)more than 2	0	0	0	0	0	0		(NS)
	d)never	5	16.6%	3	10%	4	13.3%		
11.	**NUMBER OF DELIVERY**								
	a)once	9	30%	5	16.6%	3	10%	0.4	12.59
	b)twice	2	6.6%	1	3.3%	0	0		(NS)
	c)more than twice	1	3.3%	1	3.3%	0	0		
	d)none	3	10%	2	6.6%	3	10%		
12.	**COMPLICATION IN THE PREGNANCY**								
	a)medical	2	6.6%	3	10%	2	6.6%		
	b)surgical	0	0	0	0	0	0	0.68	12.59
	c)obstetrical	1	3.3%	2	6.6%	1	3.3%		(NS)
	d)none	8	26.6%	6	20%	5	16.6%		

13.	FROM WHERE DO YOU GET INFORMATION ABOUT PREGNANCY						49.98	9.49 (S)
	a)family	6	20%	7	23.3%	5	16.6%	
	b)friends	2	6.6%	3	10%	2	6.6%	
	c)mass media	3	10%	1	3.3%	1	3.3%	

*S-SIGNIFICANT, NS-NON SIGNIFICANT

Table-5 shows that association of level of knowledge with the demographic variables in the pre-test. The chi-square value shows that there is significant association exists between the level of knowledge and demographic variables of Education, Occupation and number of abortion.

VI. DISCUSSION

In present study, show that distribution of sample according to the level of knowledge on perinatal diet among antenatal mothers in the pretest reveals that 21 (70%) of the sample had moderate knowledge 9 (30%) of them had in adequate knowledge. In the present reveals that 17(56.7%) of sample had moderate knowledge and 13(43.3%) of the sample had adequate knowledge.In the present study shows that mean value and standard deviation in Pre and Post testand it's significance. This table reveal that in the pretest mean value is 12.33 with the Standard deviation is 4.33 were as the post test mean value 25 with the Standard deviation of 2.74. There is significance difference between mean value of the pre test and post test level of knowledge. The " t " values less than the " P " value, hence the hypothesis Ho$_1$, is rejected.

VII. CONCLUSION

The aim of the study was to find out the level of knowledge on perinatal diet among antenatal mothers and to study the effectiveness of structure teaching programme in improving the level of knowledge and practices.

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