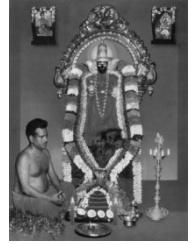




EFFECTIVENESS OF NURSING CARE ON MOTHERS WITH GESTATIONAL DIABETES MELLITUS



By

Ms.K. LAKSHMI

M.Sc. (Nursing) Degree Examination,
Branch – III, Obstetrics and Gynecological Nursing,
Adhiparasakthi College of Nursing,
Melmaruvathur.

**A Dissertation submitted to
THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY,
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**IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE
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Internal Examiner

External Examiner

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CHAPTER- I

INTRODUCTION

Pregnancy and the childbirth are special events in women's lives and in deed in the lives of their families. This can be a time of great hope and joyful anticipation. It can also be the time of fear, suffering and even loss of life. Although pregnancy is not a disease but it is a normal physiological process. It is associated with certain risk to health and survival both for the woman and for the fetus she bears. These risks represents in every society and in every setting.

In developed countries they have been largely overcome, because every pregnant woman has access to special care during pregnancy and child birth. Such is not the case in many developing countries where each pregnancy represents a journey into the unknown region from which too many women never return.

During pregnancy there is a progressive anatomical and physiological change not only in the genital organs but also to all systems of the body.

This is principally a phenomenon of maternal adaptation to the increasing demands of the growing fetus. These functional adjustments in response to the increased physiologic load, in the first week of pregnancy and continue throughout.

The placenta performs the task of supplying the growing fetus with nutrients from the maternal circulation. It also produces a variety of hormones such as thyroid, steroids from adrenals, insulin, chorionic gonadotrophin hormone, placental lactogen which are vital to the preservation of the pregnancy. Some of these hormones may produce insulin resistance leading to hyperglycemia.

Several medical complications may occur during pregnancy such as anemia, heart diseases, sexually transmitted diseases, bacterial, viral and parasitic infections, HIV, epilepsy, asthma, gestational diabetes mellitus, pregnancy induced hypertension and retention of urine. Among these complications gestational diabetes mellitus is the common prevalence in the world.

Gestational diabetes is diabetes that happens for the first time when a woman is pregnant. During pregnancy, the high level of glucose is not good for the fetus. Out of every 100 pregnant women in the United States, between three to eight get gestational diabetes. Gestational diabetes mellitus that happens for the first time when a woman is pregnant.

Pregnancy is perceived as a miracle. Many women feel an inner glow and bond to the growing fetus as they change shape, behavior and attitude. For the sake of the unborn child, women will abstain from alcohol, coffee, and medicine. This response to pregnancy is normal and is consistent with the maternal need to protect her fetus.

Women with Gestational diabetes mellitus are no different from other women in their concern for their fetus. But they need to work even harder. Even minor deviations from normal glucose values may have a major impact on fetal well being. The extra work becomes worth while with the birth of a healthy baby.

Gestational diabetes is the commonest type encountered (50-80%) of all pregnant women. Majority of them are at 20-30yrs. Gestational diabetes mellitus usually develops during second or third trimester. There are standard methods for screening, diagnosing and treating this condition; otherwise which leads to serious maternal and fetal complications.

Gestational diabetes mellitus is a condition that develops during pregnancy, when the body is not able to make enough insulin to overcome the body glucose is resistance to insulin. The lack of insulin causes the woman's blood glucose level to become elevated compared to the usual levels seen during pregnancy.

Gestational diabetes is caused by hormones that are released by the placenta. The hormones require the body to make additional insulin. However in women with Gestational diabetes mellitus the pancreas cannot produce an adequate amount of insulin. It is important for woman with a history of gestational diabetes mellitus to be screened for diabetes after pregnancy due to an increased risk of developing type - II diabetes in the years following delivery.

Gestational diabetes mellitus is a common medical complication of pregnancy. It is increasing in prevalence among all populations in parallel with the global increase in obesity and type-II diabetes mellitus. Although controversy regarding perinatal consequences of gestational diabetes mellitus continues, efforts to identify the security of natural glucose intolerance associated with clinically important adverse outcomes are ongoing medical therapies beyond traditional standard medical nutrition therapy or insulin are being explored.

The prevalence of gestational diabetes mellitus varies in direct proportion with the prevalence of type - II diabetes in a given population ethnic group. Given that the number of people with Gestational diabetes mellitus worldwide is expected to increase at record levels through 2030. This study shows that the prevalence of Gestational diabetes mellitus is increasing in a universally screened multiethnic population.

During pregnancy the fasting blood glucose are lower in non-pregnant women by an average of 10mg percent. The peak levels of

blood glucose after meals are higher, especially in late pregnancy. The tendency to post prandial hyperglycemia occurs in spite of increased insulin production. So that there is decreased sensitivity to insulin.

Persily (2001) Quotes that pregnancies complicated by gestational diabetes mellitus are at increased risk for developing a number of obstetric complication like pregnancy induced hypertension, premature rupture of membrane, bleeding, preterm labour, instrumental delivery, postpartum hemorrhage, Abortion, infections, polyhydramnios and maternal distress. The fetal complications include fetal macrosomia.

World health organization (WHO) reported that glycemic response to a standard oral glucose tolerance test that was intermediate between the normal and diabetic response, with an onset or recognition of the condition during the present pregnancy. World health organization classified any glucose levels above normal as indicative of gestational diabetes mellitus. Pregnancy is greatly increased demand for metabolic fuel that are needed for growth and

development of the fetus. In this condition glucose intolerance develop and recognized during pregnancy and reverts to normal metabolism after the delivery of the fetus.

American diabetic association shows that criteria for diagnosis of impaired glucose tolerance with 75gm oral glucose. The normal glucose tolerance in fasting is 110mg /dl and two hour post prandiol glucose is 140mg/dl. Impaired glucose tolerance in fasting more than 110mg/dl and two hours post glucose more than 140mg/dl.

NEED FOR THE STUDY

The prevalence of gestational diabetes mellitus in developing countries is found that 48.3 in India, 27.3 in China and 21.6 in Japan. Other countries like Vietnam and Korea, it is 19.5 and 16 percentage among all Asian countries, and the prevalence rate of Gestational diabetes mellitus is high in India.

In USA 134,999 per year 11,249 per month, 2,596 per week 369 per day, 15 per hour, pregnant women get the condition every year; three-five percent of pregnant women with gestational diabetes

mellitus world wide are expected to increase at record levels through 2030.

The Australian diabetes in pregnancy society recommends that screening for Gestational diabetes mellitus should be considered in all pregnant women. Women who have diagnosed with Gestational diabetes have an increased risk of developing diabetes mellitus in the future. If they require insulin for their pregnancy, there would be a 50 percent risk of diabetes within five years.

The incidence of Gestational diabetes ranges from 0.15 percent in new castle to 12.3 percent among Americans. Friedman (2006) reported, an incidence of Gestational diabetes mellitus in Tel Aviv was 3.7 percent. In a random survey 16.2 percent of pregnant women were found to have Gestational diabetes mellitus in the Chennai urban population. A total of 4151, 3960 and 3945 pregnant women were screened in urban, semi urban and rural areas respectively. Gestational diabetes mellitus was detected in 739 (17.8 percent) women in urban, 548 (13.8 percent) in semi urban and 392 (9.9 percent) in rural areas. The incidence of Gestational diabetes mellitus

6.2 percent was considerably greater than that reported earlier in Chennai.

A study was performed in the antenatal clinic of Government Maternity Hospital, Chennai, India. The pregnant woman in second or third trimester checks into the antenatal clinic, and was given 50gm oral glucose load and blood sample was collected after one hour. This test was performed on 1251 pregnant women. This study confirms that there is a increased prevalence of gestational diabetes mellitus in our population necessitating universal screening and treatment for glucose intolerance in pregnancy.

Fifth International Workshop – Conference on gestational diabetes mellitus was held in Chicago on November 2008. They recommended that the treatment for Gestational diabetes mellitus was essential to prevent the complications of mother and fetus.

A study was conducted on 35,253 pregnancies at the mercy maternity hospital in Melbourne. The incidence of gestational diabetes mellitus was greater in women born in the Indian sub

continent 15 percent, Africa 9.4 percent, Mediterranean countries 7.3 percent, Egypt & Arabic countries 7.2 percent, United Kingdom 5.2 percent, North America 4.0 percent, and South America 2.2.percent.

The infant malformation rises to 30 percent of cases in pregnant women whose diabetes was poorly controlled and also high blood sugar level in later pregnancy contribute to excessive growth of the baby, resulting in macrosomic infants.

Gestational diabetes mothers have a three fold risk of delivering baby weighing over four kilogram. Those babies, weight more than four kilogram at birth are born prematurely, making them more likely to die.

Buchanam Thomas (2003) Points out that “the complication is essentially the over feeding of a baby. This means babies get fat in the womb, especially around their shoulders and abdomen causing them to get struck during child birth, in turn that raises the risk for birth trauma to the babies from 2.3 percent to 5.6 percent of gestational diabetes mellitus mother.

The raised maternal blood sugar level during the first three months of pregnancy leads to formation of congenital malformation to which particularly cause neural tube defects and congenital anomalies.

'O' Sullivan (2000) states that the complications of Gestational diabetes are manageable and preventable. The key factor is prevention and control of blood sugar level as soon as the diagnosis of Gestational diabetes is made. By maintaining normal blood sugar level, it is less likely that a fetus will develop macrosomia, hyperglycemia or other chemical abnormalities. The main rationale for current management of Gestational diabetes mellitus is to reduce the incidence of birth injuries and caesarean section by reducing the incidence of macrosomia.

The incidence of gestational diabetes mellitus increases year by year and more over complication for mothers and fetus is also increasing in number. Approximately seven to nine percent of all pregnancies are complicated by Gestational diabetes mellitus and the prevalence may be ranging from one to fourteen percent. The

investigator's clinical experience with the Gestational diabetes mellitus in mothers found that nursing care for mothers with Gestational diabetes mellitus is essential to control the blood sugar level, and may help to reduce the complications of mother and fetus.

The main complications are premature rupture of membrane, pregnancy induced hypertension, preterm labour, instrumental delivery, polyhydramnios, postpartum hemorrhage, abortion, infections, fetal macrosomia. So the investigator has selected this condition for her research study to maintain blood glucose level within the normal limit and to prevent perinatal complications of mothers with gestational diabetes mellitus.

STATEMENT OF THE PROBLEM

EFFECTIVENESS OF NURSING CARE ON MOTHERS WITH
GESTATIONAL DIABETES MELLITUS

OBJECTIVES

1. to assess the health status on mothers with Gestational Diabetes mellitus.

2. to evaluate the effectiveness of nursing care on mothers with Gestational diabetes mellitus.
3. to correlate the selected demographic variable with effectiveness of nursing care on mothers with Gestational Diabetes Mellitus.

OPERATIONAL DEFINITIONS

Effectiveness

It refers to excellency in nursing care and to promote the health status of mothers with Gestational diabetes mellitus which have been assessed and evaluated by on going assessment tool.

Nursing care

The nursing care includes assessing vital parameters, and providing care such as dietary management, administering insulin injection, monitoring the fetal heart rate, maintaining the kick chart, maintaining intake and output chart ,daily weight checking, abdominal girth ,educating regarding exercise, dietary habits and care of mothers from the time of admission to till discharge.

Mothers

Antenatal mothers in the age group of 18 - 45years, with gestational diabetes mellitus.

Gestational Diabetes Mellitus

Gestational Diabetes mellitus refers to increased blood glucose with onset or first detected during the present pregnancy.

ASSUMPTION

Assessment of the mother's condition enables the nurse to gain thorough knowledge about gestational diabetes mellitus. Individualized quality nursing care will improve the wellbeing of the mother and fetus.

LIMITATION

The study was limited to

- a) A period of six weeks
- b) The sample of 30 pregnant mothers with gestational diabetes mellitus.
- c) The mothers who are in age group of 18 - 45 years including all gestational age of mothers with gestational diabetes mellitus.

PROJECTED OUTCOME

This study will give a clear understanding of gestational diabetes mellitus. It will be very helpful to control the blood glucose level to normal limit and to prevent further complications for mothers and fetus which arise due to gestational diabetes mellitus.

CONCEPTUAL FRAME WORK

A conceptual frame work refers to concepts that structure of offer a framework of prepositions for conducting research. The study design is to elicit the effectiveness of nursing care on mothers with gestational diabetes mellitus. The investigator has applied Lydia hall's theory core, care, cure (1975).

Here the 'core' refers to the person who needs therapeutic nursing care. The 'care' refers to the body intimates bodily care aspect of nursing and 'cure' refers to seeing the antenatal mothers and assessing the effectiveness of nursing care on mothers with gestational diabetes mellitus.

As the study is on the concepts of maintaining the blood glucose level among mothers with gestational diabetes mellitus, the investigator has modified Lydia hall's theory core care, cure, The center functioning concept is that the need for professional nursing care increases also the method of treatment is simple, effective, approachable, Lydia hall presents her theory of nursing with the

interlocked circle, each circle presenting a particular aspect of nursing care.

CORE

It involves the investigator and mothers with gestational diabetes mellitus, where both interact to achieve goal.

CARE

Represents the nurturing component of nursing, care plans to treat mothers with gestational diabetes mellitus.

CURE

Outcome of treatment that is effectiveness of nursing care on mothers with gestational diabetes mellitus.

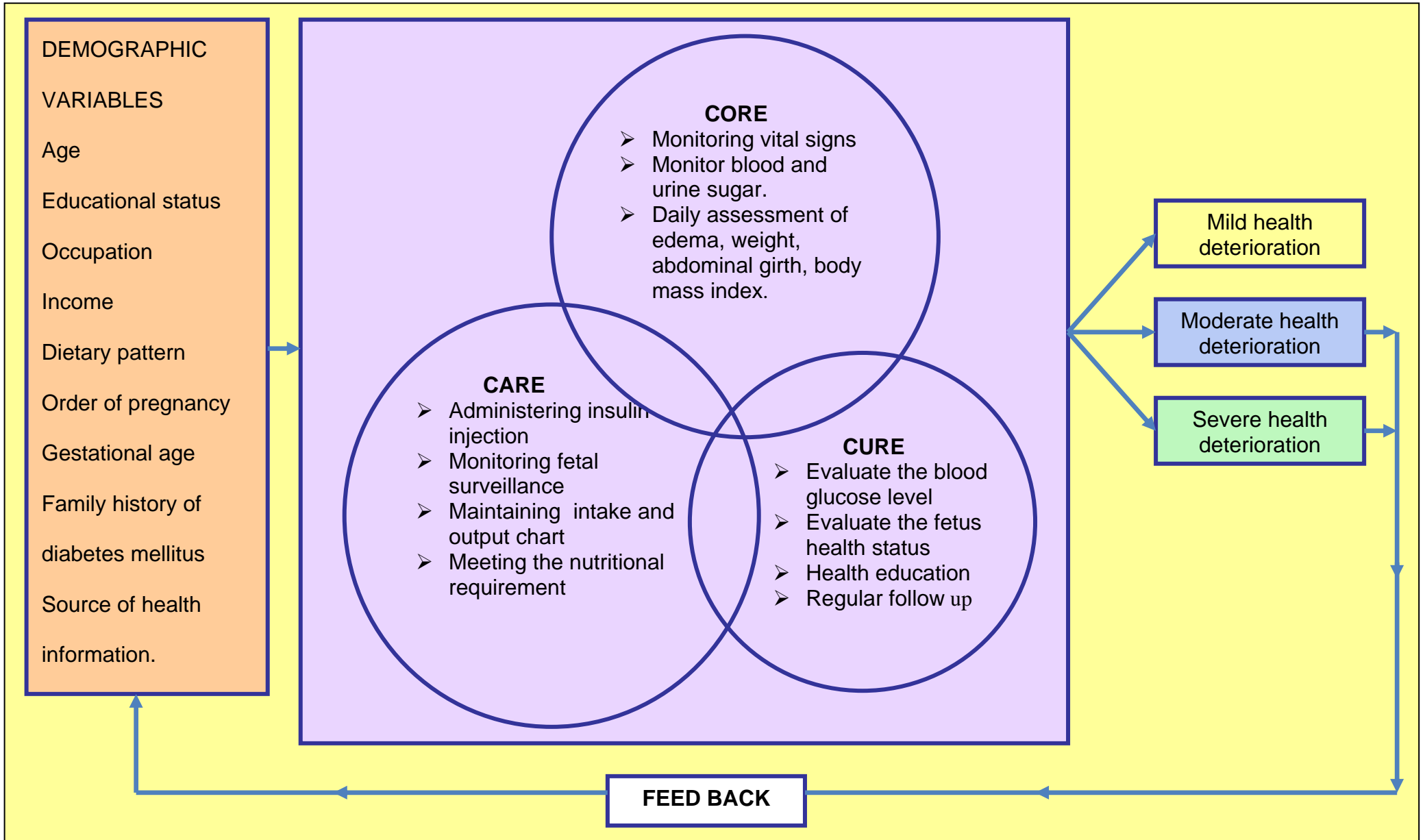


FIGURE 1.1 MODIFIED LYDIA HALL'S THEORY (1975)

CHAPTER – II

REVIEW OF LITERATURE

Every time we read about existing knowledge on a subject, the seed is sown for future research therefore. Review of existing literature is a pre requisite for research. It inspires us with the desire to know more.

Good research generally builds on existing knowledge. The accumulation of scientific knowledge with out supportive literature should be very much analogous to a back of paper with very little applicability unless it is thoroughly reviewed and developed to form a theoretical frame work for further studies. This chapter deals with the selected studies which are related to this study.

- Part - I : Review related to Prevalence of Gestational Diabetes Mellitus.**
- Part - II : Review related to dietary modification.**
- Part - III : Review related to Complications of Gestational Diabetes mellitus.**
- Part - IV : Review related to nursing care on Gestational Diabetes Mellitus.**

PART - I : REVIEW RELATED TO PREVALENCE OF GESTATIONAL DIABETES MELLITUS.

Caroline A. (2008) Reported that perinatal complications was significantly lower among the infants of 490 women in the intervention group than among the infants of 510 women in routine care group.

David Naylor. D, (2007) conducted a study on 3131 pregnant women to detect gestational diabetes after a 50g oral glucose level at 24 to 38weeks of gestation in Canada and found that 8.26% of pregnant mothers were diagnosed as gestational diabetes mellitus.

Public health (2007) found that gestational diabetes mellitus were common in women living in urban areas than in women living in rural areas. The trend toward older maternal age (19), the epidemic of obesity (20), diabetes (21), and the decrease in physical activity (22), the adoption of modern lifestyle in developing countries (23) may all contribute to an increase in the prevalence of gestational diabetes mellitus. Gestational diabetes mellitus with several perinatal complications (3) and women with Gestational diabetes mellitus and

their offspring are also at increased risk of developing diabetes later in life(3).

American Diabetes Association (2006) conducted that all pregnant women who have not been identified with glucose intolerance earlier in pregnancy has screened with 50g of one hour glucose challenge test between 24 and 29weeks of pregnancy. The result shown that increased blood glucose level during the second and third trimester.

Contage daniela siccardi (2006) studied 106 women with on abnormal value of oral Glucose tolerance test to determine the diagnosis of Gestational Diabetes Mellitus, after repeat oral glucose tolerance test and found that 34% were diagnosed with Gestational Diabetes Mellitus and concluded that the importance of repeat testing when only on abnormal value is found. Recent data shows that gestational diabetes mellitus prevalence has increased by 10-100 percentage in several race / ethnicity groups during the past 20 years. A true increase in the prevalence of Gestational diabetes mellitus, from its adverse consequences for infants in the newborn

period, might also reflect or contribute to the current patterns of increasing diabetes and obesity, especially in the offspring.

Medical books online (2005) Gestational diabetes mellitus is a common pregnancy medical complication with increased maternal and prenatal morbidity. However significant long term morbidity also exists for the mother and offspring. Women with previous gestational diabetes mellitus have a very high risk of developing overt diabetes, primarily type II diabetes later in life. Their offspring have an eight-fold risk of diabetes / prediabetes at 19-27 years of age. Thus Gestational diabetes mellitus is part of a vicious circle which increases the development of diabetes in the coming generations.

King (2004) predicted that the prevalence of gestational diabetes mellitus varied in direct proportion to the prevalence of type II diabetes in a given population. The prevalence of diabetes mellitus among Singapore residents was 8.6%.

Davidson Jovanovich - Peterson Radak et.al., (2002) conducted a study to identify the prevalence of gestational diabetes

and found that gestational diabetes mellitus, occurs in two to six percentage of all pregnant women, resulting in 6000 to 10,000 cases each year.

PART - II : REVIEW RELATED TO DIETARY MODIFICATION.

Tepper, (2007) conducted a study on 55 Gestational Diabetes Mellitus mothers to determine the effect of sweet taste perception and intake of sweet foods in normal pregnancy and complicated by Gestational Diabetes Mellitus. The higher preference for the sweet taste of glucose and higher dietary sweet food in takers more prone for Gestational Diabetes Mellitus.

Usha Narayanan (2006) in her case report on dietary management of gestational diabetes emphasized on counter intuitive diet” which includes egg, peanut, butter, dhal, plain fat yogurt, bittergaurd and chapatti, avoid rice and all rice base items and 10 minutes walk after every meal to maintain the blood sugar level within normal limits.

Medical nutritional therapy (2006) Nutritional therapy is very important for both the mothers with gestational diabetes mellitus and her infant. The optimal dietary prescription provides the caloric and nutrient needs to sustain pregnancy but does not cause postprandial hyperglycemia.

One “euglycaemic” diet which has proven to provide the needs of pregnancy and not result in excessive weight gain or hyperglycemia. It should consist of 30kcal/kg of present pregnant weight for normal weight women, 24kca/kg for overweight women and 12 kcal/kg for morbidly obese women. The overall carbohydrate content of this diet is 40percent of total calories, with fat contributing 40 percent and protein 20 percent. When compared with the recommended ADA diet, the “euglycaemic diet” has less carbohydrate and more fat.

Shimron – Nachmias (2006) Gestational diabetes mellitus is the main type of diabetes in pregnancy. It usually appears in the second half of pregnancy and mainly influences fetal growth rate and cause slow systemic development. Most women with gestational

diabetes mellitus are treated with nutritional management alone. The main goals of nutritional management are to maintain balanced glucose level and to provide enough energy and nutrients for all pregnant women, minimizing the risk of hypoglycemia. Health care providers should use the window of opportunity of pregnancy to change dietary patterns and to replace them with a healthy lifestyle for both the mother and her family.

Romon, Homko, Sivan et al., (2005) observed on 80 women with gestational diabetes mellitus to identify the influence of energy and macronutrient intake on infant birth weight and found that higher carbohydrate intake is associated with decreased incidence of macrosomia for women with gestational diabetes undergoing intensive management.

Wang, Storlien et.al., (2005) studied on 56 gestational diabetes mothers, to identify the relationships between dietary macronutrient intakes and glucose tolerance in pregnancy and found that increased poly unsaturated fat intake is associated with reduced incidence of glucose intolerance during pregnancy.

Chris Nolan Dennis Wilson et.al., (2004) in their article on gestational diabetes mellitus, management guidelines was observed that dietary therapy is the primary therapeutic strategy for the achievement of acceptable glycemic control in gestational diabetes mellitus.

Wilkin (2003) conducted a study on 612 gestational diabetes mellitus mothers to determine the effects of primary dietary therapy in fetal growth and neonatal outcomes and concluded that primary dietary therapy is useful in the management of gestational diabetes Mellitus.

Wein, Beischer, Harris et.al., (2002) conducted an experimental study on 200 gestational diabetes mellitus mothers to identify the effect of intensive versus routine dietary advice and concluded that diet and exercise play an important role in the management of gestational diabetes mellitus.

Langer, Langer (2002) conducted a study on 92 gestational diabetic mothers to assess the impact of diet modification in the

management of gestational diabetes and found that reduced operative delivery or caesarean rate to reasonable levels, through minimizing the risk of macrosomia.

Garner (2002) studies 30 pregnant women diagnosed with gestational diabetes mellitus between 24 and 32 weeks of gestation at university of OHAWA to assess the impact of calorie-restricted diet versus routine diet in the management of gestational diabetes and found that treatment group achieved statistically significant improvements in glycemic control compared with the control group.

Jovanovic peterson (2001) in their article on diet for gestational diabetes mellitus mothers and observed that the following diet result in euglycemia:30kcal/kg/24th present pregnant weight for normal - weight women, 24kcal/kg/24th for overweight women (120percent to 150percent ideal body weight) 12 - 15kcal / kg / 24hr for morbidly obese women (750 percent ideal body weight) and 40kcal / kg / 24hr for underweight women (750percent ideal body weight) they recommended that the diet be composed of 40 to 50

percent carbohydrate, 20 percent to 25 percent protein and 30 to 40 percent fat.

PART – III : REVIEW RELATED TO COMPLICATIONS OF GESTATIONAL DIABETES MELLITUS.

a) Maternal complications

Lao (2007) conducted a prospective study on 462 gestational diabetes mellitus mothers to examine the effect of gestational diabetes mellitus in the third trimester on the maternal blood count in non anemic women with singleton pregnancies at university of Hong Kong and was found that the development of gestational diabetes mellitus in the third trimester is associated with significant changes in blood count beyond the effect of advancing gestation.

Carlotti Moquet (2006) studied 200 cases of gestational diabetes mellitus, in Rennes south hospital. To assess the efficacy of a co-program of care in gestational diabetes mellitus and was found that Instrumental extraction and caesarean section were required for 13.5% and 20.5% of the deliveries respectively. Shoulder dystocia

occurred in two percent macrosomia baby, 19.9 and percent 5.3 percent were small for gestational age. Neonatal morbidity required transfer to the pediatric intensive care unit was 2.9 percent and concluded that systemic screening and obstetric and Gynecological care allowed mothers to prevent maternal and fetal complication in gestational diabetes and to initiate hygienic and dietary habits for the prevention of post partum non-insulin dependent-diabetes.

Mores, knights et.al., (2005) conducted a retrospective study on 1032 gestational diabetes mellitus mothers over a nine years period in Australia to determine the rate and indication for caesarean section for women with gestational diabetes mellitus was higher at 19.8percent than 15.6percent for glucose tolerant women.

Fee Rasta (2000) conducted a case control study at the Afghanistan Khan University in Karachi, to identify the risk factors for uterine atony following assisted or unassisted vaginal delivery and concluded that the gestational diabetes mellitus has been identified as an independent risk factor for uterine atony.

b) Fetal complications

London (2005) conducted a study on 86 gestational diabetes mellitus mothers to determine the prenatal diagnosis of macrosomia in pregnancy complicated by diabetes mellitus at Chicago state university college of medicine and public health and concluded that detection of the large fetus through sonographic methods aid in early clinical decision making.

Alice Di Rad (2004) States that infants of mothers with gestational diabetes are vulnerable to severe chemical imbalances, in general these are two major problems of gestational diabetes mellitus were macrosomia and hypoglycemia.

Balsells, corcoy, (2002) conducted an observational study on 85 gestational diabetes mellitus mothers to determine the impact of maternal glycemia during labour on neonatal hypoglycemia and found that hypoglyamia was more frequent in women receiving insulin during pregnancy.

PART - IV : REVIEW RELATED TO NURSING CARE ON GESTATIONAL DIABETES MELLITUS.

a) Exercise

Cardiol Clin. (2006) Says that gestational diabetes mellitus and obesity continue to increase. Physical activity continues to be a fundamental form of therapy. Exercise influences several aspects, including blood glucose concentrations, insulin action and cardiovascular risk factors. Blood glucose concentrations reflect the balance between skeletal muscle up take and ambient concentrations of both insulin and counter insulin hormones. Exercise behaviors have been repeatedly associated with decreased rates of gestational diabetes mellitus.

Sanaka (2005) in his article on pathogenesis and management of gestational diabetes mellitus and observed that to prevent adverse perinatal outcome, it is important to screen for glucose tolerance as early as possible, to control maternal hyperglycemia intensively, and to reduce the risk of future diabetes in the mother, mother should control weight and increase physical activity.

Brewer pregnancy Hofline (2004) reports that the treatment for gestational diabetes mellitus focuses on keeping blood glucose level in the normal range through special diet, exercise, daily blood glucose monitoring and insulin injection.

Raul artal (2003) reports that the exercise plays a significant role in managing blood glucose levels in women with gestational diabetes because contracting muscles help stimulate glucose transport and control glucose without insulin.

b) Insulin

Bernasko.J (2008) the role of intensive insulin therapy in the reduction of long term diabetic-related complications is well established. Normal blood glucose level prior to and during pregnancy is critical in reducing both short and long term morbidity and mortality in mother and infant. Intensive insulin therapy in pregnancy is necessary to achieve and maintain normal blood glucose level during pregnancy. Current knowledge and recent advances in insulin formulations and delivery systems have improved

our ability to achieve glycemic targets in pregnancy while limiting maternal and fetal morbidity.

London MB (2006) over the past decade, it has been apparent that the degree of glycemic control achieved in the pregnant women with gestational diabetes mellitus significantly lowers perinatal complications while several studies have documented excellent perinatal outcome with good glucose control. Physiologic or “tight” control appears to further reduce the incidence of macrosomia, hypoglycemia, and other indices of neonatal morbidity.

Davison J. Clarke (2005) approximately 15 percent of women with gestational diabetes will require insulin because their blood glucose levels remain elevated despite changes in diet. Insulin is a medication that helps to reduce blood glucose levels and can reduce the risk of gestational diabetes-related complications, especially macrosomia.

Lange (2005) assessed 58 original studies, spanning the past 20 years addressing criteria for insulin management in Gestational

Diabetes mellitus and concluded that mothers with fasting plasma glucose on the oral glucose tolerance test (oral glucose tolerance test) of <95 mg/dl, ideally non obese be assigned to diet therapy, obese women and there with fasting plasma glucose >95mg/dl on the oral glucose tolerance test should be referred to insulin therapy in order to minimize exposure of the fetus to a hyperglycemic environment.

Dennis Wilson, Jeremy et.at., (2004) conducted a study on 108 gestational diabetes mellitus mothers to determine the prevalence rate of macrosomia infants in insulin treated gestational diabetes mellitus mothers and found that insulin treatment was shown to reduce the rate of macrosomia infants to 10.3percentage .

William (2004) conducted a study to determine the effect oxidative metabolism in insulin treated gestational diabetes mellitus mothers and concluded that insulin therapy reduced the potential problem for the fetus.

Vaidyanatha menon (2002) conducted a study on 90 gestational diabetes mellitus mothers to identify the effect on insulin therapy in the management of gestational diabetes mellitus. In India found that regular human insulin controlled the risk of hyperglycemia without increasing the risk of hypoglycemia.

Daponte Gwidozzi, Moisu, et.al., (2002) conducted a retrospective study on 170 gestational diabetes mellitus mothers to identify the effect of insulin regimen and perinatal outcome and found that strict blood glucose control reduced the incidence of macrosomia and ployhydramnios.

Buchanan (2002) Studied 105 gestational diabetes mother's to evaluate the effect of insulin therapy in the third trimester to minimize macrosomia and concluded that insulin reduced large for gestational age rates to 13 % deterioration compared with 45 percentages in the diet group.

c) Psychological support

Manjusree sen (2007) in her case report on good source of information for gestational diabetes mellitus mothers. She concluded that a pregnant women with Gestational Diabetes needs a lot of encouragement and psychological support because stress increases the sugar levels.

Langer, Langer (2006) conducted secondary analysis on 102 gestational diabetes mellitus mothers to compare the pregnancy mood profiles in gestational diabetes and preexisting diabetes and found that mood profile was significantly associated with the level of glycemic control in gestational diabetes mellitus women, customized medical, behavioral goals may be needed to enhance compliance and optimize perinatal outcome.

d) Prevention of complication

Homko sivan Reece (2006) Conducted an experimental study at temple university hospital, Philadelphia on 58 gestational diabetes mellitus mothers to determine the effects of self monitoring of glucose on feeling of self efficacy, dietary compliance and pregnancy outcome

in women with diet controlled gestational diabetes mellitus and was concluded that self monitoring of blood glucose appears to have effect on maternal feeling of self efficacy and dietary compliance.

Di Penny, Volpe Cascaded (2004) conducted retrospective study on 338 gestational diabetes mellitus mothers to identify the universal screening and intensive metabolic management of gestational diabetes cost-effectiveness in Italy and concluded that immediately after the diagnosis of gestational diabetes mellitus, metabolic management with an intensive approach is important to reduce maternal and fetal morbidity.

Bohalico (2001) in his article on diabetes in pregnancy and observed that two to five percentage of pregnancies are complicated by diabetes. Out of which 90% were classified as gestational diabetes mellitus. The management of diabetes before, during and after pregnancy can serve as a model of preventive health care.

CHAPTER-III

METHODOLOGY

This chapter deals with methodology adopted for the study and includes the description of research design, setting of the study, population, sample size, method of sample selection, criteria for the sample selection, instrument and tools for data collection.

RESEARCH DESIGN

In this study, evaluative research design was used. This method is used to evaluate the effectiveness of nursing care by assessing the pregnant mothers' condition and their needs and problem were assessed and nursing interventions were provided.

SETTING OF THE STUDY

The study was conducted in antenatal ward at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research, at Melmaruvathur, kancheepuram district.

POPULATION

The population of the study comprises of all the pregnant mothers with Gestational diabetes mellitus who were admitted in antenatal ward at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research Kancheepuram district during the time of data collection.

SAMPLE SIZE

The total number of sample was 30 pregnant mothers with gestational diabetes mellitus were selected.

SAMPLING TECHNIQUES

A convenient sampling technique was used for sample selection.

CRITERIA FOR SAMPLE SELECTION:-

Inclusion criteria

1. Mothers who could communicate Tamil or English.
2. Mothers who were willing to participate in the study.

Exclusion criteria

1. Mothers with other medical disorders associated with Gestational diabetes mellitus.
2. Pregnant mothers with other obstetrical complications associated with Gestational diabetes mellitus.

INSTRUMENT AND TOOLS FOR DATA COLLECTION

Part- I : Demographic Variables.

Part- II : Observational checklist to assess the vital parameters for Mothers with gestational diabetes mellitus.

Part- III : Observational rating scale for the assessment of mothers With gestational diabetes mellitus.

Part- IV : Observational checklist for nursing care on mothers With gestational diabetes mellitus.

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with description of tool, score interpretation, report of pilot study, validity, reliability, informed consent, data collection procedure, method of data analysis plan results and statistical method.

DESCRIPTION OF TOOL

It consists of four parts

Part- I Demographic variables

Demographic data includes age, educational status, occupation, income, dietary pattern, gestational age, order of pregnancy, family history of diabetes mellitus, and source of health information.

Part- II Rating scale

It is used to assess the health status like blood glucose urine sugar level, intake and output chart, maternal weight,

body mass index, fetal movement, fetal heart rate and modes of treatment of mothers with Gestational diabetes mellitus.

Part- III Observational checklist

It is used to assess the vital parameters on mothers with gestational diabetes mellitus like temperature, pulse, respiration, blood pressure. No score was given.

Part- IV Observational checklist for nursing care on Mothers with Gestational diabetes mellitus.

This part focused on nursing care which was provided to mothers with gestational diabetes mellitus. This part consisting of total number of nursing interventions such as dietary management administering insulin therapy, monitoring Fetal heart rate, maintaining kick chart, education regarding exercise and dietary habits.

SCORE INTERPRETATION

The obtained data were interpreted by the following procedure

$$\text{Score interpretation} = \frac{\text{obtained score}}{\text{Total score}} \times 100$$

TABLE – 4.1

Description of health status	Percentage
Mild health deterioration	Below 50%
Moderate health deterioration	51 – 74 %
Severe health deterioration	Above 75 %

REPORT OF PILOT STUDY

The pilot study was conducted at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and research, Melmaruvathur for period of two weeks. The structured assessment tools were prepared by the investigator and used to find out the reliability and validity which was evaluated by the experts of the research committee. The investigator adopted convenient sampling technique to select five samples by using checklist and structured

assessment scale, the health condition of the mothers with gestational diabetes mellitus were assessed.

RELIABILITY

The reliability was checked by interrater method. The reliability was 0.74. After that nursing care was provided, and then sign test was used and found that the nursing intervention was very effective.

VALIDITY

The tools were prepared by the investigator which were assessed, evaluated and accepted by the experts of the research committee. Content validity was obtained from Obstetrics and Gynecological experts.

INFORMED CONSENT

The dissertation committee prior to the pilot study approved the research proposal. Permission was obtained from the head of the obstetric and gynecology department. Permission was obtained from the medical officer and staff nurse in charge. The oral consent

from each mother was obtained before starting the data collection. Assurance was given to the mothers that confidentiality would be maintained.

DATA COLLECTION PROCEDURE

The main study was conducted from 1-07-2009 to 31-07-2009 both prime and multipara mothers of gestational diabetes mellitus who were admitted in the antenatal ward at Melmaruvathur, Adhiparasakthi Institute of Medical Sciences and Research and who met the inclusion criteria were selected by using convenient sampling methods. The duration of interview ranged from 20-30 minutes for each mother with gestational diabetes mellitus. Thus a total of seven-ten mothers were interviewed each week.

The data was collected from antenatal mothers with gestational diabetes mellitus, who were co-operative. Assessment was done with the help of rating scale. Nursing intervention was carried out from 8.00 am – 5.00 pm on all days during the study period, on seventh day the care was evaluated with ongoing assessment tool.

DATA ANALYSIS PLAN AND RESULT

The descriptive and inferential statistical analysis method was used to find out the percentage mean, standard deviation of the score, sign test and correlation were adopted and interpreted with each and every score to assess the effectiveness of nursing care on mothers with gestational diabetes mellitus.

TABLE 4.2 STATISTICAL METHODS

s.no	Date Analysis	Methods	Remarks
1.	Descriptive analysis	Frequency and percentage	To describe the demographic variable of mothers with gestational diabetes mellitus,
2.	Inferential statistical analysis	Sign test Correlation	Analyzing the effectiveness between pre assessments of blood glucose level on mothers with gestational diabetes mellitus. To find out the correlation between the demographic variables and effectiveness of assessment and evaluation on mothers with gestational diabetes mellitus.

Researcher analyzed and interpreted the data under the following sections.

Section:A - Frequency and percentage distribution of demographic variables on mothers with gestational diabetes mellitus.

Section:B - Comparison between assessment and evaluation scores of effectiveness of nursing care on mothers with gestational diabetes mellitus.

Section:C - Comparison between Mean and Standard Deviation of assessment and evaluation score on mothers with gestational diabetes mellitus.

Section:D - Improvement score on mothers with gestational diabetes mellitus.

Section:E - correlation between selected demographic Variables and evaluation score on mothers with gestational diabetes mellitus.

SECTION-A

TABLE – 4.3 FREQUENCY AND PERCENTAGE DISTRIBUTION OF DEMOGRAPHIC VARIABLES ON MOTHERS WITH GESTATIONAL DIABETES MELLITUS

S.no.	Demographic Data	Frequency	Percentage
1.	Age in years		
	a. 18-24 years	9	30.0
	b. 25-31 years	14	46.7
	c. 32-38years	7	24.3
	d. 39 - 45 years	0	0
2.	Educational Status		
	a. Illiterate	14	46.6
	b. school education	11	37.0
	c. college education	5	16.7
3.	Occupation		
	a. Home Maker	13	43.4
	b. Skilled Worker	5	16.7
	c. Unskilled Worker	12	40.0
4.	Family income per month		
	a. Rs up to 2000/	5	16.6
	b. Rs.2,001/-toRs.3,000/-	7	23.3
	c. Rs 3001/ and above	18	60.0
5.	Dietary pattern		
	a. Vegetarian	13	43.4
	b. Non vegetarian	17	56.6

6.	Order of pregnancy a. Primigravida b. Multigravida c. Grand multigravida	17 13 -	56.6 43.4 -
7.	Gestational age a. up to 12 weeks b. 13-28 weeks c. 29-42 weeks	5 10 15	16.7 33.3 50.0
8.	Family history of diabetes mellitus a. Yes b. No	13 17	43.3 56.7
9.	Source of health information a. Mass media b. Health personnel c. Neighbors and friends	15 12 3	50.0 40.0 10.0

Table 4.2 shows the distribution of demographic variables of mothers with gestational diabetes mellitus. The table shows that among 30 samples, regarding age nine (30.0%) mothers were in 18-24 years, 14 (46.6%) were in 25-31years,seven (23.3%) were in 32-38 years, no mothers was in 39-45 years. Out of 30 mothers, the average of 14 (46.6%) mothers was in the age group of 25-31 years.

Regarding educational status 14 (46.6%) were illiterate, 11 (37.0%) had school education, five (16.7%) had college education. In educational status, the highest levels of 14 (46.6%) mothers were illiterate.

In occupation, 13 (43.3%) were homemaker, five (16.6%) were skilled workers, 12 (40.0%) were unskilled workers. Out of 30 mothers the highest levels of occupation 13 (43.3%) mothers were homemaker.

On the basis of family income per month, five (16.6%) were in the group of up to Rs. 2000/-, seven (23.3%) were in the group of Rs. 2001/- to 3000/-, 18 (60.0%) were in the group of Rs. 3001/- and above. The highest level income 18 (60.0%) mothers were in group of Rs. 3001/- and above.

In dietary pattern, 13 (43.4%) were belonged to vegetarian, 17(56.6 %) were non vegetarian,. Out of 30 mothers, highest level of diet pattern mothers was non vegetarian.

Regarding order of pregnancy, 17 (56.6%) were primigravida, 13(43.3%) were multigravida, no mother was in grand multi gravida. The highest levels of 17 (56.6%) mothers were Primi.

Gestational age, five (16.6%) were up to 12 weeks, 10 (33.4%) were 13-28 weeks, 15 (50.0%) were 29-42 weeks. The average of 15 (50.0%) mothers falls in the gestational age of 29-42 weeks.

On account of family history of diabetes mellitus 13 (43.3%) were having diabetes mellitus, 17 (57.0%) were not having the family history of diabetes mellitus. The highest of 17 (57.0%). mothers were not having the family history of diabetes mellitus.

Source of health information, 15 (50.0%) through mass media, 12 (40.0%) through Health personnel, three (10.0%) through friends, family members and neighbours. The highest of 15 (50%) mothers had got the information from health personnel.

SECTION - B

TABLE– 4.4 COMPARISON BETWEEN ASSESSMENT AND EVALUATION SCORE OF EFFECTIVENESS OF NURSING CARE ON MOTHERS WITH GESTATIONAL DIABETES MELLITUS

N=30

S.no	Health Status	Assessment		Evaluation	
		No	%	NO	%
1.	Mild health deterioration	-	-	26	86.6%
2.	Moderate health deterioration	13	43.4%	4	13.4%
3.	Severe health deterioration	17	56.6%	-	-
Total		30	100%	30	100%

Table – 4.3 Shows that comparison between assessment and evaluation scores of effectiveness of nursing care on mothers with gestational diabetes mellitus. This table reveals that frequency and percentage distribution of nursing care of mothers with gestational diabetes mellitus. During assessment phase 17(56.6%) mothers were in severe health deterioration, 13 (43.3%) mothers were in moderate health deterioration. During evaluation phase four (13.3%) mothers were in moderate health deterioration, 26(86.6%) were mild health deterioration.

SECTION – C

TABLE – 4.5 COMPARISON BETWEEN MEAN AND STANDARD DEVIATION OF ASSESMENT AND EVALUATION ON MOTHERS WITH GESTATIONAL DIABETES MELLITUS

S.no	Health Status	Mean	S.D	Confidence Interval
1.	Assessment	30.3	3.06	29.07-31.53
2.	Evaluation	16.06	2.44	15.06-17.05

Table 4.4 shows comparison between mean and standard deviation of assessment and evaluation of mothers with gestational diabetes mellitus. This table shows that during the assessment mean was 30.3 with the standard deviation of 3.06 and on evaluation the mean was 16.06 with the standard deviation of 2.44. The confidence interval for assessment score was 29.07 -31.53 and for evaluation score was 15.06 – 17.05.

SECTION – D

TABLE- 4.6 IMPROVEMENT SCORE OF MEAN AND STANDARD DEVIATION OF FOR MOTHERS WITH GESTATIONAL DIABETES MELLITUS

S.no	Health Status	Mean	S.D	K value	Sign Value
1.	Improvement score	14.24	0.62	9.14	4

* $p < 0.01$ level of significance

Table 4.5 shows the mean and standard deviation of improvement score for effectiveness of nursing care on mother with gestational diabetes mellitus. The improvement score of mean value is 14.24 and standard deviation is 0.62 and the sign(s) value is four. The table value (k) was 9.14 $S < K$ i.e. $4 < 9.14$. So it was concluded that the nursing care on mother with gestational diabetes mellitus is highly effective. This implies that nursing care was very highly effective.

SECTION - E

TABLE- 4.7 CORRELATION BETWEEN DEMOGRAPHIC VARIABLES AND EVALUATION SCORE OF HEALTH STATUS OF MOTHERS WITH GESTATIONAL DIABETES MELLITUS

N=30

s.n	Demographic Variable	Assessment				Evaluation				r
		severe > 75%		Moderate 51-75%		Moderate 51-75%		Mild >75%		
		No	%	No	%	No	%	No	%	
1.	Age in years									
	a.18-24 Years	5	16.6	4	13.3	2	3.3	8	26.6	0.75*
	b. 25-31 Years	8	26.6	6	20.0	1	3.3	13	43.3	
	c. 32-38 Years	4	13.3	3	10.0	1	6.6	5	16.6	
	d.39-45 Years	0	0	0	0	0	0	0	0	
2.	Educational Status									
	a. Illiterate	8	26.7	6	20	2	6.7	12	40	0.34
	b.School Education	8	26.7	3	10	1	3.3	10	33.4	
	c.College Education	1	3.3	4	13.3	1	3.3	4	13.3	
3.	Occupation									
	a.Homemaker	7	23.3	6	20	2	6.7	11	36.7	0.45*
	b.Skilled worker	1	3.3	4	13.4	1	3.3	4	13.3	
	c.Unskilled worker	9	30.0	3	10	1	3.3	11	36.7	
4.	Family Income per month									
	a.Rs. Up to 2000	3	10	2	6.7	2	6.7	3	10	0.92*
	b.Rs. 2001 – 3000/-	5	16.7	2	6.7	1	3.3	6	20	
	c.Rs. 3001 and above	9	30.0	9	30	1	3.3	17	56.7	

5.	Dietary pattern									
	a. Vegetarian	8	26.6	5	16.6	2	6.7	11	36.7	0.82*
	b.Non vegetarian	9	30	8	26.6	2	6.7	15	50	
6.	Order of pregnancy									
	a.Primi gravida	10	33.3	7	23.4	3	10	14	46.7	
	b.Multi gravida	7	23.3	6	20	1	3.3	12	40	0.13
	c.Grand multi gravida	0	0	0	0	0	0	0	0	
7.	Gestational age									
	a.Up to 12 Weeks)	3	10	2	6.7	1	3.3	4	13.3	
	b.13-28 Weeks	7	23.3	3	10	2	6.7	8	26.7	0.63*
	c.29-42 Weeks	7	23.3	8	26.7	1	3.3	14	46.7	
8.	Family History of diabetes mellitus									
	a.Yes	8	26.6	5	16.7	2	6.7	11	36.7	0.82*
	b.No	9	30	8	26.7	2	6.7	15	50	
9.	Source of Information									
	a. Mass media	10	33.3	5	16.7	2	6.7	13	43.3	
	b. Health personnel	5	16.7	7	23.3	1	3.3	11	36.7	0.22
	c .Friends, neighbours and family members	2	6.7	1	3.3	1	3.3	2	6.7	

* Significant

On correlating, the evaluation score and the selected demographic variables, some of the variables like age in years, occupation, income, dietary pattern, gestational age, family history of diabetes mellitus are significant positively correlated with evaluation score.

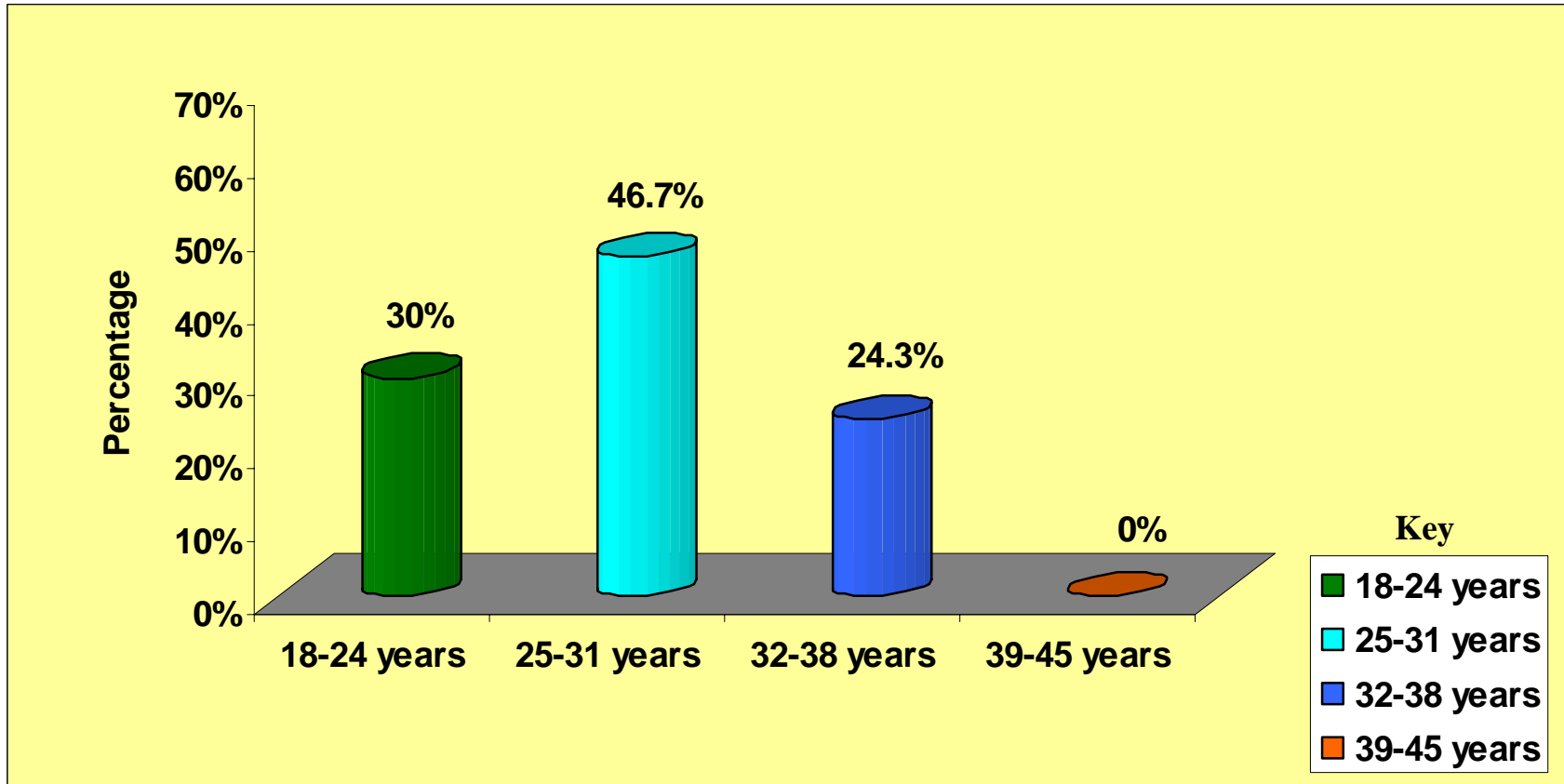


Figure: 4.1 Percentage Distribution of demographic variables based on Age Group

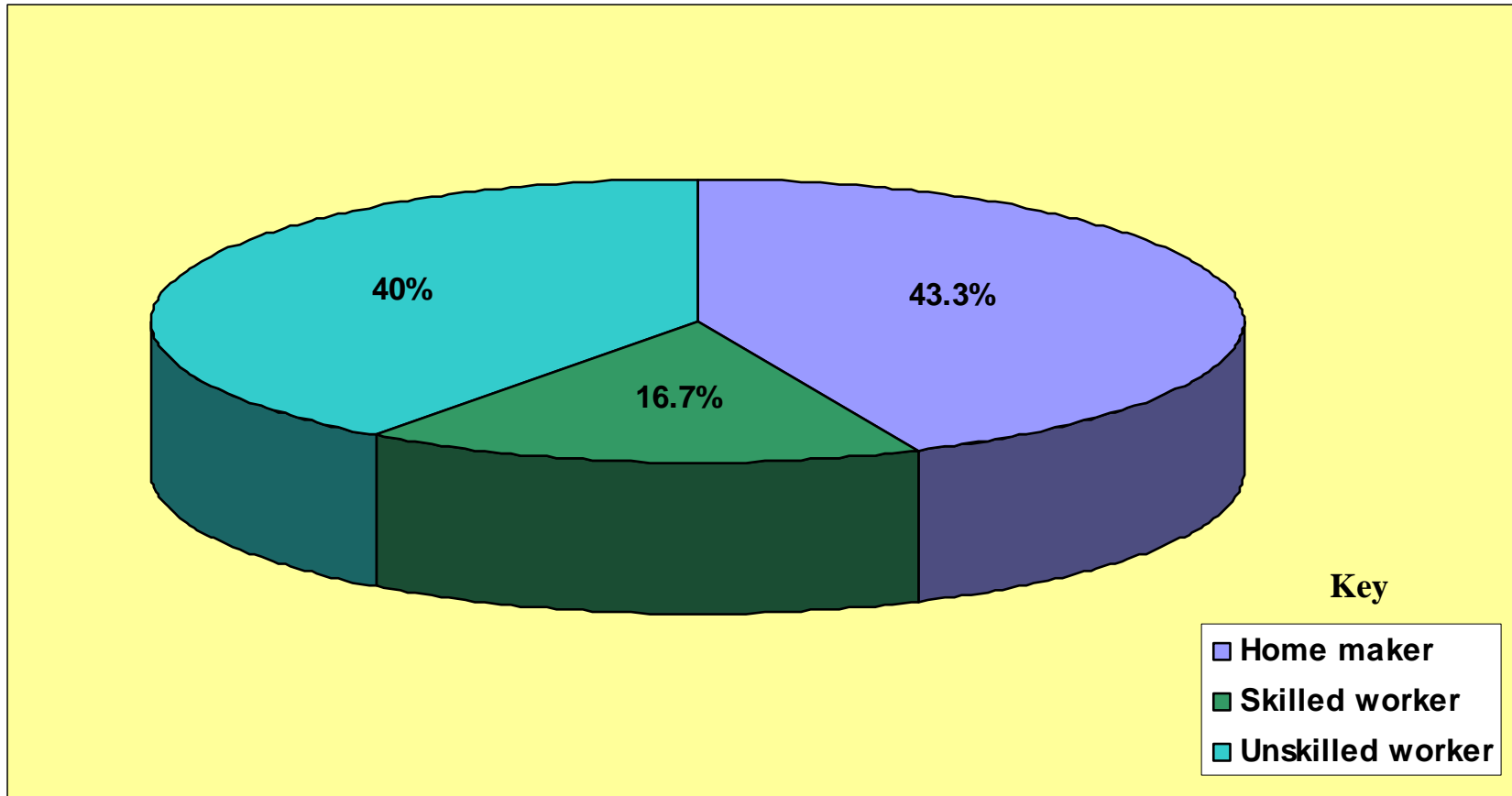


Figure: 4.2 Percentage Distribution of demographic variables based on Occupation

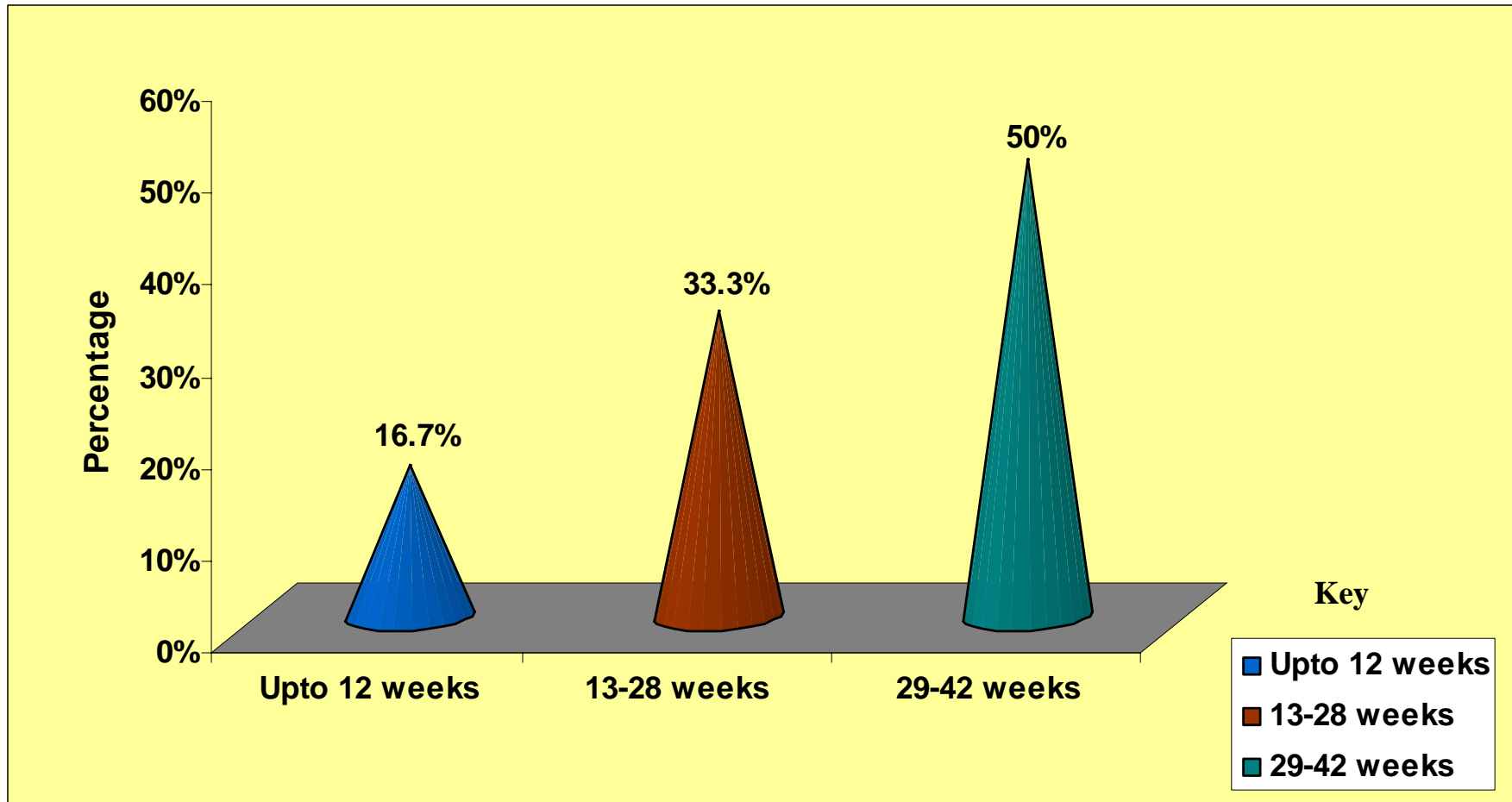


Figure: 4.3 Percentage Distribution of demographic variables based on Gestational age

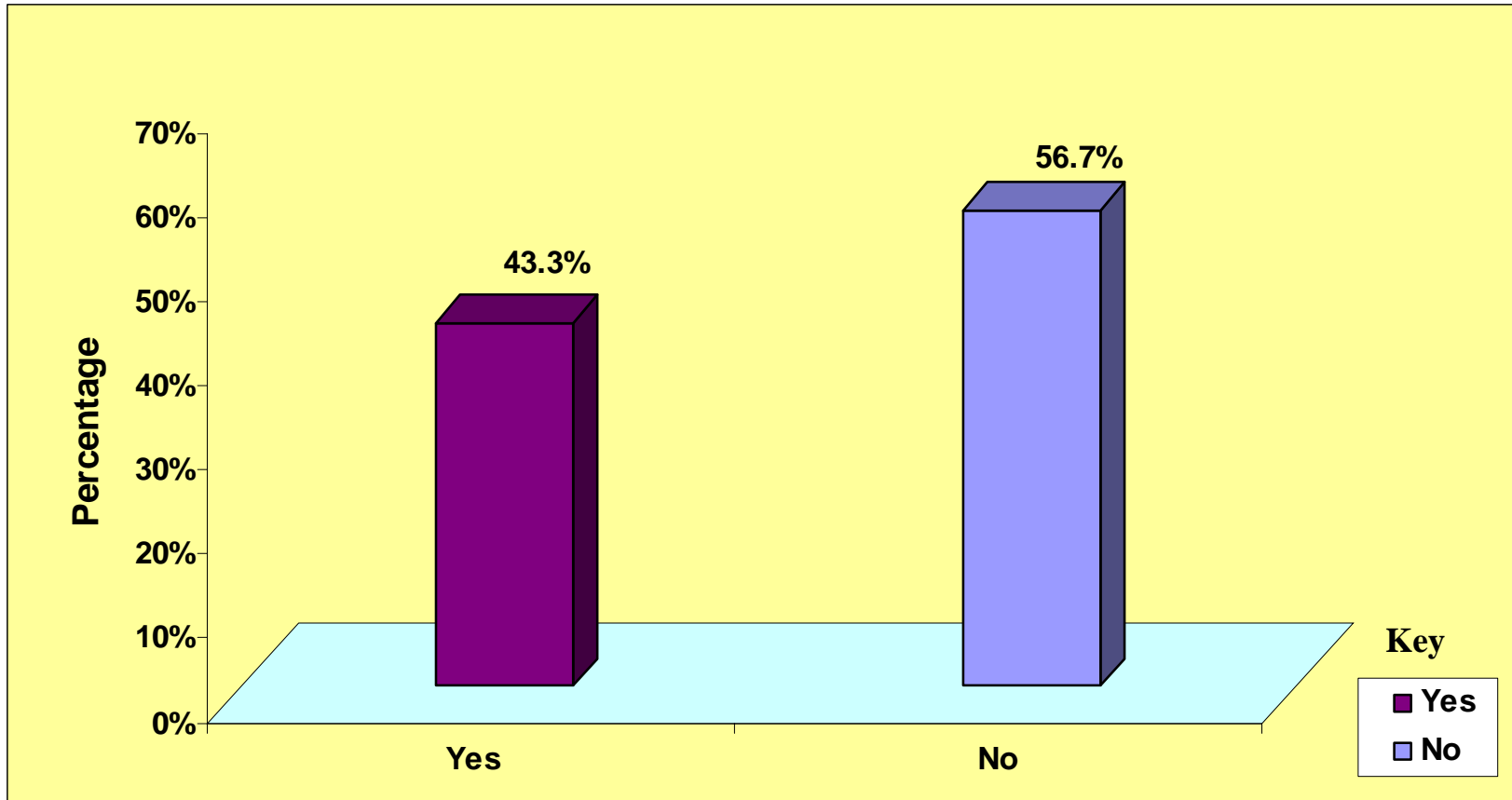


Figure: 4.4 Percentage Distribution of demographic variables based on Family History of Diabetes Mellitus

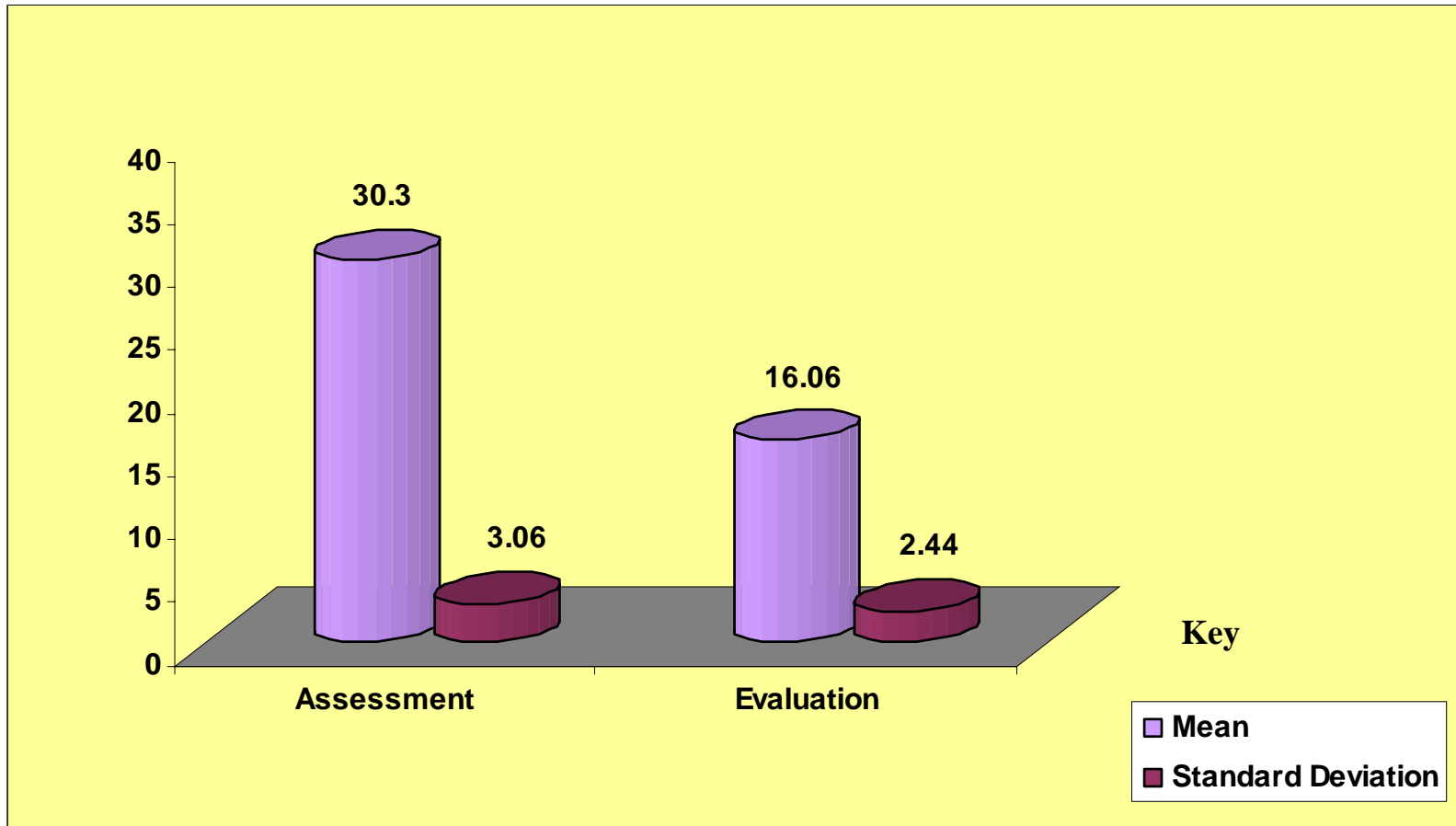


Figure: 4.5 Comparison between Mean and Standard deviation of Assessment and Evaluation on mothers with gestational diabetes mellitus.

CHAPTER - V

RESULTS AND DISCUSSION

The aim of present study was to control the blood glucose level through the nursing care on mothers with gestational diabetes mellitus and to assess the effectiveness of nursing care on mothers with gestational diabetes mellitus. A total number of 30 samples were selected for the study. Assessment was done by using assessment tool. According to blood glucose level, care was planned and followed by the researcher. The evaluation was carried out with the same tool; blood glucose level was assessed and marked the improvement score.

The result of the study had been discussed in relation to effectiveness of nursing care on mothers with gestational diabetes mellitus, according to the objective of the study, conceptual frame work, related literature and methodology.

The first objective was to assess the health status of mothers with gestational diabetes mellitus.

This study was carried out in antenatal ward in Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research Melmaruvathur. The mother with gestational diabetes mellitus who met the inclusion criteria was included in the study. Each mother was observed and rated by using rating scale. In assessment 17 mothers were in severe health deterioration with mean 30.3 and standard deviation of 3.06. Conceptual frame work used for this study was Modified Lydia Hall's core, care, and cure theory.

The second objective was to evaluate the effectiveness on nursing care on mothers with gestational diabetes mellitus

The procedure was carried out in the antenatal ward at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research Melmaruvathur. The mothers with gestational diabetes mellitus was assessed before the treatment and was observed during and after treatment of mothers with gestational diabetes mellitus. This was rated and assessed by use of assessment tool.

Comparison of assessment mean level of 30.3 and evaluation mean 16.06 shows the improvement mean was 16.06 with standard deviation of 2.44. The effectiveness of nursing care on mothers with gestational diabetes mellitus was tested by the non parametric sign test. Statistically there was significant improvement in mothers with gestational diabetes mellitus at the level of $P < 0.01$ which was highly significant.

The third objective was to correlate the selected demographic variables with the effectiveness of nursing care on mothers with gestational diabetes mellitus.

There was a significant correlation between the demographic variables and blood Glucose level of mothers. From the statistical analysis there is a significant difference between before and after nursing care on mothers with gestational diabetes mellitus.

CHAPTER – VI

SUMMARY AND CONCLUSION

Evaluative research design was adapted to evaluate the nursing care on mothers with gestational diabetes mellitus. Individualized nursing care was provided to mothers those who met the inclusion criteria. The study was conducted at Melmaruvathur Adhiparasakthi Institute of Medical Sciences and Research. The convenient sampling technique was used and sample size was thirty.

Ongoing assessment was done with the rating scale, to analyze the health status on mothers with gestational diabetes mellitus and the nursing care plan was prepared to render care like monitoring vital sign, daily assessment of blood glucose level, urine sugar, weight monitoring, abdominal girth measurement, body mass index, maintaining intake and output chart, administering insulin injection and health education.

NURSING IMPLICATIONS

Nursing Practice

This study would provide knowledge among the nurses to follow a newer treatment for gestational diabetes mellitus. This study also meets the challenges among nurses for growing autonomy in decision making and capacity to render priority based care to mothers with gestational diabetes mellitus.

The protocol also provides a standard of care for clinical guidelines which can be still be individualized for a special client depending on how an institution recommends protocol implementations.

Nursing Education

Interpretation of theory and practice will be a vital need and it should be important in nursing education now. This study will emphasize among learner to develop observational skills and knowledge about the gestational diabetes mellitus. The student should be provided with adequate opportunities to develop skills in nursing care on mothers with gestational diabetes mellitus.

Nursing Administration

The administrator should guide the nurse to treat the mothers with gestational diabetes mellitus through nursing abilities in the health care agency. The nurse leaders in nursing care should be confronted to undertake the health needs in an effective organization and management.

The nursing administrator should give due attention in the proper selection, placement and effective utilization of the nurses to access within the available resources giving importance for their creativity, internal ability in education and to provide care to the antenatal mothers with gestational diabetes mellitus.

The administrator should provide adequate in-service education programmes on newer management strategies in the treatment of gestational diabetes mellitus and handling of advanced technologies would motivate nurses to carry out nursing intervention and improve the standards of nursing.

Nursing Research

Today nursing is involved in every issue of changes in health care delivery system such as advanced technology, development of newer discipline and required strategies have to be formulated in care and in medicine. Nursing needs to be developed studies in specific areas of problems, encountered by the gestational diabetes mellitus. This study directs the nursing personnel's to broaden and expand their knowledge and skill to elicit problems and to conduct various researches to improve their power to implement prompt case activities.

The Nursing discipline must follow the evidence based practice and which will provide quality of nursing care. This study will imply the nurse researcher to be conducted and motivated the learners to select a relevant studies with all dissemination, namely physical, mental, emotional, Social and spiritual change.

Organizing various researches and utilization of their findings and disseminating knowledge would provide a great vision for the growth in nursing discipline.

RECOMMENDATION

After the completion of the study, the investigator has certain points to recommend.

- Study can be done to assess the psychological status of client with antenatal mothers with gestational diabetes mellitus.
-
- Comparative study can be conducted between urban and rural area.
- Various researches can be done in community settings.
- Similar study can be conducted by using experimental and control group approach.

BIBLIOGRAPHY

BOOKS

1. Amaranth S Bhide, Ammeets Patki, Jesse M Levi. (2003), “**a textbook of obstetrics for nurses and midwives, pregnancy and child birth**”, New Delhi, Medical Publishers (P) Ltd., Jaypee Brothers.
2. Alligard M R (2002), “**nursing theorists and their work**”, 5th ed, Mosby company, Philadelphia.
3. Alexander .D (1995), “**midwifery**”, 4th ed, Calcutta, oxford university press.
4. Arulkumaran .s. Alokender. C(2004), “ **a comprehensive Text book of midwifery**”, New Delhi, jaypee brothers.
5. Annamma Jacob. (2000), “**a comprehensive textbook of midwifery**” New Delhi, Medical Publishers (P) Ltd., Jaypee brothers.
6. Betty Sweet R. (1988), “**mayer’s midwifery a text book for midwives**”, 11th Ed, Tindall English Language book society.
7. Burroughs “**maternity nursing : an introductory text**”, 7th ed, London, W.B. Saunders Company

8. Baswanthappa. (2005), "**nursing research**", New Delhi, Jaypee Brothers, Medical publishers (P) Ltd.
9. Betty Sweet R. (1988), "**mayer's midwifery a text book for midwives**", 11th Ed, Tindall English Language book society
10. Bijoi sree sengupta(1999) "**obstetrics for postgraduates & practitioners**", 1st edition, B.I.Churchill livingstone (P) Ltd.
11. Bobak, Jensen. (1993), "**maternity - gynaecologic care**", 5th ed, Philadelphia, Mosby.
12. C arpenito.J.Lynda (1992) "**nursing diagnosis, application to clinical practice**", 4th edition, J.B. Lippincott company.
13. Chamberlain. G.(2001) "**obstetrics for postgraduates & practitioners**", 3rd edition Churchill livingstone (P) Ltd.
14. Cunningham et, al (2000), "**williams obsterics**", 21st edition, mcgraw hill medical publishing division, newyork.
15. Dannel and Sharon Wong and perry (1998), "**maternal and child health nursing care**", c.v Mosby's co Philadelphia.
16. Daftary & Chakravarti, (2003) "**manual of obstetrics**", 2nd edition published by Elsevier.

17. Dew Hurst's. (1999), "**text book of obstetrics and gynaecology for postgraduates**", 6th ed, London, Blackwell Science.
18. Diane M Fraser, Margaret A Cooper. "**myles textbook for midwives**", 14th ed, London, Churchill Livingstone.
19. Dutta D.C (2004) "**text book of obstetrics including perinatology and contraception**", 6th ed, Calcutta, New Central Book Agency (p) Ltd.
20. Helen varney. (1987), "**nurse midwifery**" 2nd ed, London, Jonesa Bartlett Publisher Sudbury.
21. Ian Donald (1996) "**practical obstetric problems**", 5th edition B.I. Publications, New Delhi.
22. Julia B (1998), "**nursing theories the base for professional nursing practices**", 3rd ed, prentice hall pvt. Ltd., California.
23. Lowdermilk, Perry, Bobak. (1997), "**maternity and women's health care**", 6th ed, Philadelphia, Mosby.
24. Lynna Y. Littleton, Joan Engebretson C. (2002), "**maternal, neonatal and women's health nursing**", Delmar, published by William Brottniller.

25. Marcia London L, Patricia W, Ladewig, Jane W, Ball, Ruth Bindler C. (2003), “**maternal – newborn and child nursing: family centre care**”, New Jersey, Julie Levin Alexander Prentice Hall.
26. Mathews A J (2000), “**using and understanding medical Statistics**”, K arger publishers, Newyork.
27. Mudaliar AC Krishnan MK, Mudaliar and Menon’s. “**clinical obstetrics**” 9th ed, Orient Longman; 1994.
28. Nancy A, Didona, Margaret G, Marks (1996), “**introductory maternal new born nursing**”, J.B. Lippincott Company.
29. Nancy Burns, Susan K. “**understanding nursing research building an evidence based practice**”, 4th ed, Saunders.
30. Netters, (2002) “**obstetrics gynecology & women’s health**”, 1st edition published by Icon learning System, New Jersey.
31. Parthnath Mukherji. (2000), “**methodology in social research, diremman and perspectives**”, New Delhi.
32. Patricia A, Creehan, Rice Simpson. (1996), “**perinatal nursing: association of womens health obstetric and neonatal nurses**” 1st ed, Philadephia, Lippincott.

33. Raheena Begum, (1997), “**a text book of foods, nutrition and dietics**” 2nd ed, Sterling Publishers Pvt. Ltd., New delhi.
34. Reeder, Martin, Koniak. (1992), “**maternity nursing: family, newborn and women’s health care**” 17th ed, Philadelphia, J.B. Lippincott Company.
35. Romney, Gray, Little, Merrill, Quilligan, Stander. (1981), “**gynaecology and obstetrics**”, 2nd ed, New York, McGraw Hill Book Company.
36. Ruth Bennett, Linda K, Brown Myles. (1996), “**textbook for midwives**”, 12th ed, Newyork, Mary Law Churchill Livingstone. Sarah Robinson, (1996) “**midwives research & childbirth**”, 4th edition published by Chapman & Hall.
37. Sparks R Sheila and Tailor M Cynthia “**spark’s and tailor’s nursing diagnosis**” reference manual, 6th edition, Lippincott Williams and Wilkins, Philadelphia.
38. Sundar Rao (1998), “**an introduction to bio-statistics**”, 2nd ed., Pesographic printers, Vellore.
39. Sumathi R Mudambi, (2000), “**fundamentals of foods and nutrition**” 3rd ed, New Age International Pvt. Ltd., New Delhi.

40. Susan Mattson Judy E. Smith. (1993), “**core curriculum for maternal new born nursing**”, Philadelphia, W.B. Saunders Company.
41. Varney Helen and Kriebs M. Jan and Gegor Carolyin, “**text book of nurse midwifery**”, 4th edition All India publishers and Distributors, New Delhi.
42. Gupta s.p.(1991), “statistical method”, sultan chand and sons publications.

JOURNALS

1. Alice di Rad (2004) “**gestational diabetes mellitus leads to severe chemical imbalances**”, The British journal of obstetrics and gynecology, Vol. 99, Pg.No: 360 – 364.
2. Brewer. W. (2004), “**treatment for gestational diabetes mellitus**”, the journal of obstetric and gynaecology, vol: 8 pg No: 54- 69.
3. Bernasko.j, (2008) “**intensive insulin therapy**” The journal of clinical obstetrics and Gynecology, Vol.19, Pg.No: 641 – 659.
4. Buchanan (2002) “**effects of insulin therapy**” The journal of clinical obstetrics and Gynecology, Vol.19, Pg.No: 641 – 659.

5. Caroline.B. (2008) “**prevalence of gestational diabetes mellitus**”, The journal of obstetrics and Gynecology, Vol:9 Pg.No: 527 – 528
6. Cattedra, L (2002) “**risk for gestational diabetes mellitus**” The journal of obstetrics and Gynecology, and Neonatal nursing (JOGNN) Vol.31, Pg.No: 49 – 54.
7. Dennis Wilson, (2004), “**prevalence rate of macrosomia infant in insulin therapy**” The journal of obstetrics and gynecology, Vol.69, Pg.No: 338 – 342.
8. David Naylor. (2007) “**prevalence of gestational diabetes mellitus**”, the journal of obstetrics and gyneac and Neonatal nursing (JOGNN) Vol.13, Pg.No: 742 – 792.
9. Fee Rasta (2000) “**risk factor for uterine atony,**” The journal of obstetrics and gynecology, Vol.69, Pg.No: 338 – 342.
10. King,(2004), “**prevalence of gestational diabetes mellitus**” The journal recent advances in obstetrics and gynecology, Vol: 20, Pg.No 125 – 138.
11. Kalfman et.al. C. (2000) “**risk for gestational diabetes mellitus**”, Nursing journal of obstetric and gynecology, Vol.21, Pg.No: 24– 25.
12. Lange.(2005) “**insulin management in gestational diabetes mellitus**”, The American journal of Maternal and Child nursing, Vol.30, Pg.No 356 – 358.

13. Medical nutritional therapy (2000) “**euglycemic diet**”, The journal of obstetrics and gyneac and Neonatal nursing (JOGNN) Vol.29, Pg.No: 480 – 481.
14. Romon et,al., (2003) “**macronutrient intake**”, The Indian journal of nursing and midwives, Vol. 6, Pg.No: 25 – 39.
15. Shimron (2003) “**nutritional management alone for gestational diabetes mellitus**”, The journal of Maternal and child nursing, Vol.32, Pg.No: 780 – 792.
16. Usha Narayanan. (1995) “**Intuitive Diet**” The journal of Nightingale, Vol.40, and Pg.No: 127 – 130.
17. Walkin show (2006) “**primary dietary therapy**” the journal of health, Vol.26, PG.No: 177 – 181.
18. Sanaka (2005) “**management of gestational diabetes mellitus by exercise**” A journal of obstetrics and gyneacology, Vol.11, Pg.No: 26 – 33

WEBSITE

- [www.all refer. Com.](http://www.allrefer.com)
- [www.biomed. Com](http://www.biomed.com)
- [www.medscape. Com](http://www.medscape.com)
- [www.pubmed. Com](http://www.pubmed.com)
- [www. image. Com](http://www.image.com)
- [www. med line. Com](http://www.medline.com)

APPENDIX - I

DEMOGRAPHIC VARIABLES

1) Age in years

- a. 18-24 years
- b. 25-31 years
- c. 32-38 years
- d. 39-45 years

2) Educational status

- a. Illiterate
- b. School education
- c. College education

3) Occupation

- a. Homemaker
- b. Skilled worker
- c. Unskilled worker

4) Family income per month

- a. Rs. up to 2000/-
- b. Rs. 2001-3000/-
- c. Rs.3001/- and above

- 5) Dietary pattern**
- a. Vegetarian
 - b. Non vegetarian
- 6) Order of pregnancy**
- a. Primigravida
 - b. Multi gravida
 - c. Grand multi gravida
- 7) Gestational age**
- a. up to 12weeks
 - b. 13-28weeks
 - c. 29-42 weeks
- 8) Family history of diabetes mellitus.**
- a. Yes
 - b. No
- 9) Source of Health information**
- a. Mass media
 - b. Health personnel
 - c. Neighbours, friends and family members

APPENDIX – II
OBSERVATIONAL RATING SCALE FOR ASSESSMENT ON
MOTHERS WITH GESTATIONAL DIABETES MELLITUS

S. no.	criteria	Score	Days						
			1	2	3	4	5	6	7
1.	Fasting blood sugar								
	a. 70-105mg/dl	1							
	b. 106-140mg/dl	2							
	c. more than141mg/dl	3							
2.	Post prandial blood sugar								
	a. 80-140mg/dl	1							
	b. 141-200mg/dl	2							
	c. > 200 mg/dl	3							
3.	urine sugar								
	a. nil	1							
	b. +to+++	2							
	c. +++++	3							
4.	Urine output per day								
	a. 1500-2000ml	1							
	b. 2001-2500ml	2							
	c. above 2500ml	3							
5.	Body mass index								
	a. 20-30%	1							
	b. 31-40%	2							
	c. above 41%	3							

6.	Edema								
	a. absent	1							
	b. pedal edema	2							
	c. anasarca	3							
7.	Weight gain of the mother								
	a. corresponds to the period of amenorrhea	1							
	b. gradual increase	2							
	c. sudden increase	3							
8.	Anemia								
	a. mild	1							
	b. moderate	2							
	c. severe	3							
9.	Assessment of Fetal movement								
	a. 10 movements perceived during 2 hours observation	1							
	b. more than 10 movements perceived during 12 hours observation	2							
	c. less than 10 movements perceived during 12 hours observation	3							
10.	Fetal heart rate								
	a. 120-160 beats / Minutes	1							
	b. less than 120 beats/Minutes	2							
	c. more than 160 beats/Minutes	3							

11.	Activity level of the mother a. Good b. Fair c. poor	1 2 3							
12.	Treatment of gestational diabetes mellitus a. Insulin, Dietary management and physical Exercise b. Dietary management and physical exercise c. Dietary management alone	1 2 3							
13.	Antenatal exercise a. Walking, Breathing exercise etc b. walking alone c. No exercise	1 2 3							

Score

- 1 - Mild health deterioration
- 2 - Moderate health deterioration
- 3 -Severe health deterioration

APPENDIX – III
OBSERVATIONAL CHECK LIST TO ASSESS THE VITAL
PARAMETERS ON MOTHERS WITH GESTATIONAL DIABETES
MELLITUS

S.No.	Criteria	Days						
		1	2	3	4	5	6	7
1.	Temperature							
	Normal							
	Abnormal							
2.	Pulse							
	Normal							
	Abnormal							
3.	Respiration							
	Normal							
	Abnormal							
4.	Blood pressure							
	Normal							
	Abnormal							

APPENDIX- IV
OBSERVATIONAL CHECKLIST FOR NURSING CARE ON MOTHERS
WITH GESTATIONAL DIABETES MELLITUS

S. no.	criteria	Days						
		1	2	3	4	5	6	7
1.	Monitoring vital signs							
2.	Monitoring blood glucose level							
3.	Maintaining intake and output chart							
4.	Urine test							
5.	Daily weight checking							
6.	Assessment of body mass index							
7.	Abdominal girth measurement							
8.	Meeting the nutritional requirement							
9.	Administration of insulin therapy a) Human mixtard b) Human actrapid							
10.	Fetal surveillance a) Monitoring fetal heart rate b) Maintenance of kick chart c) USG							
11.	Perineal Care							
12.	Health education a) Psychological Support b) Dietary management c) Exercise d) Insulin therapy							
13.	Regular follow up							

APPENDIX –V
NURSING PROTOCOL FOR NURSING CARE ON MOTHERS WITH
GESTATIONAL DIABETES MELLITUS

NURSING INTERVENTION	RATIONAL
Monitor vital signs a. temperature b. pulse c. respiration d. blood pressure	It helps to know the basic vital functions of the body.
Monitoring the blood glucose level	It helps to know the mothers blood glucose level.
Maintaining the intake and output chart	It helps to know the mother's urine output per day.
Urine test	It helps to know the presence of urine sugar.
Daily weight monitoring	It helps to monitor the edema level and also helps to assess polyhydramnios.
Assessment of body mass index	It helps to know the weight gain of the mothers.
Measurement of abdominal girth	It helps to assess hydramnios and big baby.
Monitoring the fetal heart rate	To know the fetal well being.
Maintaining the kick chart 24 hrs	To monitor the fetal movements.
Maintaining left lateral position	It helps to improve uterine blood flow.

<p>Meeting the nutritional requirement</p> <ul style="list-style-type: none"> a. 30 kcal/kg/ 24hrs for normal weight mothers b. 24 kcal/kg/ 24hrs for over weight mothers c. 12-15 kcal/kg/ 24hrs for morbidly obese weight mothers d. 40 kcal/kg/ 24hrs for under weight Mothers <p>40 to 50% Carbohydrate 20 to 25% Protein 30 to 40% Fat</p>	<p>It helps to maintain the blood glucose level</p>
<p>Administering of insulin injection such as human actrapid and mixtard subcutaneously</p>	<p>To bring the blood glucose level to normal limit.</p>
<p>Health Education</p> <p>Dietary pattern Regular exercise Regular follow up</p>	<p>It helps to prevent further complications.</p>

APPENDIX- VII NURSING DIAGNOSIS

- Imbalanced nutritional pattern more than body requirement related to increase metabolic demands.
- Altered urinary pattern polyuria related to gestational diabetes mellitus.
- Risk for fetal injury related to altered uteroplacental perfusion
- Risk for maternal injury related to abnormal blood glucose level hyperglycemia or hypoglycemia.
- . Fear and anxiety regarding outcome of pregnancy.
- Knowledge deficit regarding gestational diabetes mellitus and its prognosis and treatment modalities.
- Ineffective individual and family coping related to the presence of high risk pregnancy.

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
<p>Subjective data Mother verbalized that always feeling of hungry.</p> <p>Objective data Mother blood glucose level elevated and having polyphagia.</p>	<p>Imbalanced nutritional pattern more than body requirement related to increased metabolic demands.</p>	<p>Mother's nutritional status will balance.</p>	<p>Assess the nutritional status of the mother.</p> <p>Check the weight of the mother.</p> <p>Check the blood glucose level of the mother.</p> <p>Assess the clients likes and dislikes</p> <p>Advice to take small and frequent diet</p> <p>Assess calorie intake and dietary pattern.</p>	<p>Assessed the nutritional status of the mother.</p> <p>Checked the weight of the mother.</p> <p>Check the blood glucose level of the mother.</p> <p>Assessed the clients likes and dislikes</p> <p>Advised to take small and frequent diet.</p> <p>Assessed calorie intake and dietary pattern.</p>	<p>It helps to know the mothers health status.</p> <p>It helps to know the mother weight gain.</p> <p>It helps to know the client blood glucose level.</p> <p>It helps to provide diet on client likes.</p> <p>For easy digestion.</p> <p>It helps to prevent complications</p>	<p>Mother's nutritional pattern balanced.</p>

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
<p>Subjective data Mother complains of frequent urination.</p> <p>Objective data Mother has polyuria.</p>	<p>Altered urinary pattern polyuria related to gestational diabetes mellitus.</p>	<p>Mother's urinary pattern will return to normal.</p>	<p>Assess the urinary pattern of the mother.</p> <p>Maintain intake and output chart.</p> <p>Check the weight of the mother.</p> <p>Provide adequate liquid diet.</p>	<p>Assessed the urinary pattern of the mother.</p> <p>Maintained intake and output chart.</p> <p>Checked the weight of the mother.</p> <p>Provided adequate liquid diet</p>	<p>It helps to know the mother urinary pattern.</p> <p>It helps to know the mother renal perfusion.</p> <p>It helps to identify polyhydramnios.</p> <p>.</p> <p>It helps to maintain the hydration status</p>	<p>Mother's urinary pattern improved</p>

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
<p>Objective Data Mother looks tired and worried, Decreased fetal heart rate, fetal movement.</p>	<p>Risk for fetal injury related to altered uteroplacental perfusion.</p>	<p>The risk for fetal injury will reduce.</p>	<p>Assess the mother and the fetal movement.</p> <p>Maintain the kick chart.</p> <p>Monitor the fetal heart rate.</p> <p>Advise the mother about ultrasonography.</p> <p>Explain about the regular monitoring of blood glucose level.</p>	<p>Assessed the mother and the fetal movement.</p> <p>Maintained the kick chart.</p> <p>Monitored the fetal heart rate.</p> <p>Advised the mother about ultrasonography.</p> <p>Explained about the regular monitoring of blood glucose level.</p>	<p>It helps to know the mother and fetal health status.</p> <p>It helps to identify the fetal movements</p> <p>It helps to know the fetal status.</p> <p>It helps to know the fetal well being.</p> <p>It helps to identify the complications earlier.</p>	<p>Fetal risk for injury reduced.</p>

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
Objective data Mother blood glucose level elevated	Risk for maternal injury related to elevated blood glucose level.	Mother's risk for injury will reduce	Assess the general condition of the mother. Monitor vital signs Check the blood glucose level of the mother. Assess the client for vaginal bleeding and abdominal tenderness. Observe the Mother.	Assessed the general health status of the mother. Monitored vital signs Check the blood glucose level of the mother. Assessed the client for vaginal bleeding and abdominal tenderness. Observed the mother for 24 hours.	It helps to know the mother health status. It helps to know the client Vital function. It helps to know the client blood glucose level. It helps to prevent complications. It helps to identify the complication.	Mothers risk for maternal injury reduced.

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
<p>Subjective data Mother complaints of fear of fetal outcome.</p> <p>Objective data Mother looking anxious and dull.</p>	Fear and anxiety regarding outcome of pregnancy.	Mother's anxiety will reduce.	<p>Explain about the gestational diabetes mellitus.</p> <p>Educate the availability of treatment modalities Such as insulin therapy.</p> <p>Explain about the importance of ultrasonography.</p> <p>Explain about the regular monitoring of blood glucose level.</p>	<p>Explained about the gestational diabetes mellitus.</p> <p>Educated the availability of treatment modalities Such as insulin therapy.</p> <p>Explained about the importance of ultrasonography.</p> <p>Explained about the regular monitoring of blood glucose level.</p>	<p>It helps to reduce anxiety.</p> <p>It helps to reduce anxiety.</p> <p>It helps to identify the complications.</p> <p>It helps to know the glucose level.</p>	Mother's anxiety was reduced.

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
<p>Subjective data Mother asked more doubts.</p> <p>Objective data Mother is looking anxious about the blood glucose level elevated.</p>	Knowledge deficit related to gestational diabetes mellitus.	Mother's knowledge will improve.	<p>Explain about the regular antenatal checkup.</p> <p>Educate the availability of treatment modalities Such as insulin therapy.</p> <p>Explain about the importance of ultrasonography.</p> <p>Explain about the regular monitoring of blood glucose level.</p> <p>Educate about the maintenance of kick chart</p>	<p>Explained about the regular antenatal checkup.</p> <p>Educated the availability of treatment modalities Such as insulin therapy.</p> <p>Explained about the importance of ultrasonography.</p> <p>Explained about the regular monitoring of blood glucose level.</p> <p>Educated about the maintenance of kick chart.</p>	<p>It helps to identify the complications.</p> <p>It helps to reduce anxiety.</p> <p>It helps to identify the complications earlier.</p> <p>It helps to identify the complications earlier.</p> <p>It helps to know the fetal well being.</p>	Mother's Knowledge was improved.

ASSESSMENT	NURSING DIAGNOSIS	GOAL	PLANNING	IMPLEMENTATION	RATIONALE	EVALUATION
<p>Subjective data Mother is asking more doubts and irrelevant question.</p> <p>objective data Mother is looking anxious, not answering properly.</p>	<p>Ineffective individual and family coping related to the presence of high risk pregnancy and hospitalization</p>	<p>Mother and family coping will improve.</p>	<p>Advise the family members to provide emotional support to the mother.</p> <p>Educate the family members to provide healthy environment.</p> <p>Make the family members to involve in care.</p> <p>Provide psychological support to the mother and family members.</p>	<p>Advised the family members to provide emotional support to the mother.</p> <p>Educated the family members to provide healthy environment.</p> <p>Made the family members to involve in care.</p> <p>Provided psychological support to the mother and family members.</p>	<p>It helps to reduce anxiety.</p> <p>It helps to create a happy environment.</p> <p>It helps to improve family coping.</p> <p>It helps to reduce anxiety</p>	<p>Mother and the family members coping were improved.</p>

APPENDIX – VII

HEALTH EDUCATION

DIET

- Advised to take adequate diet .The daily recommended calorie for the mothers are 30 to 35 kcal/ kg of ideal body weight.
- Advice the mother to have food three meals and four snacks depending on individual needs.
- Eat a substantial bed time snacks to prevent a severe drop in blood glucose level during night.
- Take vitamins, minerals and iron rich diet. Avoid foods high in refined sugar.
- Advice to never skip the meals or snacks. Eat foods high in dietary fibers.
- Advice to avoid alcohol and caffeine.

EXERCISE

- Advice to do the exercise regularly, it will increase the effectiveness of insulin.

INSULIN THERAPY

- Advice to have regular insulin injection based on her blood glucose level.

FETAL MONITORING

- Advice to maintain a kick chart.

REGULAR FOLLOW UP

- Advised the mother to come for regular antenatal checkup to prevent complications to the mothers and the fetus.

APPENDIX- VIII

CASE ANALYSIS

SAMPLE-1

On the assessment day, the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-2

On the assessment day, the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-3

On the assessment day, the mother bloods glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-4

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-5

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-6

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-7

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-8

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved

SAMPLE-9

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-10

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-11

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-12

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-13

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-14

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-15

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-16

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved

SAMPLE-17

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-18

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-19

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-20

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-21

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-22

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-23

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved

SAMPLE-24

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-25

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-26

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-27

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-28

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-29

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.

SAMPLE-30

On the assessment day the mother blood glucose level, urine sugar level, maternal weight, body mass index, fetal movement, fetal heart rate and modes of maintained intake and output treatment were assessed. Nursing interventions such as monitoring Vital signs, maintained intake and output chart, daily assessment of blood glucose level, Urine sugar, weight monitoring, abdominal girth measurement, body mass index, fetal heart rate and maintaining kick chart, administered insulin injection and health education were provided. On evaluation day, the mother health status was improved.