DISSERTATION ON
A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, CHENNAI-8

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In partial fulfillment of the requirement for the award of the degree of

MASTER OF SCIENCE IN NURSING

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CERTIFICATE

This is to certify that this dissertation titled "A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 08", is the bonafide work done by Mr.T.Sudhagar, M.Sc Nursing II year student, College of Nursing, Madras Medical College, Chennai-03, submitted to The Tamil Nadu DR.M.G.R Medical University, Chennai-32, in partial fulfillment of the University rules and regulations towards the award of the Degree of **MASTER OF SCIENCE IN NURSING, BRANCH–II CHILD HEALTH NURSING,** under our guidance and supervision during the academic period from 2016 – 2018.

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ABSTRACT

The researcher selected this study based on the review of literature and clinical experience. This made the investigator to realize that Type 1 Diabetes Mellitus is one of the major health problems in worldwide. This motivates the investigator to undertake a study on knowledge regarding home care management of Type 1 Diabetes, Implementing planned teaching programme module to enhance mothers practice and adaptation to care of children with Type 1 Diabetes Mellitus.

TITLE: Assess the effectiveness of planned teaching programme on knowledge among mothers of children with type 1 diabetes mellitus and its management regimen attending Diabetology Outpatient Department, Institute of Child Health and Hospital for Children, Egmore, Chennai-08.

OBJECTIVES: To assess the knowledge of mothers on type 1 diabetes mellitus and its management regimen, to identify the home care management methods provided by the mothers to type 1 diabetes mellitus children, to correlate the demographic characteristics with the home care management methods by the mothers with type 1 diabetes mellitus children, to compare the pre-test and post-test knowledge of the home care management methods of the mothers with type 1 diabetes mellitus children.

METHODS & MATERIALS: This study was conducted with 60 samples in quantitative approach; the study design is pre experimental one group pretest – posttest design. Convenient sampling technique was applied. Pre-existing knowledge was assessed using semi structured questionnaire, following the pretest; planned teaching programme was given regarding type 1 diabetes mellitus and its management regimen. After 7 days post test was conducted by using the same tool.

RESULTS: The result in post-test shows that after planned teaching programme mothers gained 50.60% knowledge score with mean differences of about 15.18% by using students paired t- test and generalized Mc Nemar's Chi-Square test. It is statistically significant

CONCLUSION: Hence planned teaching programme is instructionally effective, appropriate and feasible. It helps the mother's to give training to children and prevent the complications and to improve the mother's knowledge.

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CHAPTER-I
INTRODUCTION

"The liquid you see may not seem like much to most, but for millions of children it is a life-saving drug, Insulin is not a cure; it keeps them alive until a cure is found".[1]

- **Canadian discovery**

Health is not valued till sickness comes[2]

- **Thomas fuller, brainy quotes**

Life is not over because you have Diabetes.

Make the most of what you have be grateful[3]

- **Dale evans, brainy quotes**

BLUE FACT

Kids do not outgrow Diabetes.
In Type 1 Diabetes, the cells of pancreas that produce insulin are destroyed. Once they are destroyed they will never make insulin again.
Kids with Type I Diabetes will always need to take insulin.[4]

Diabetes Mellitus (DM) Type 1 is a chronic metabolic disorder, characterized by a partial or complete deficiency of insulin hormone insulin production, resulting from the destruction of pancreatic beta cells, usually caused by the autoimmune or idiopathic process. Permanent neonatal Diabetes is caused by glucokinase deficiency, and is an inborn error of the glucose-insulin signaling pathway. It can occur in a quick and progressive way in children and adolescents.

Type 1 Diabetes (T1D) is one of the most common chronic diseases in children. The exact number of patients with Type 1 Diabetes around the world is unknown, but it seems that the annual prevalence is raising globally and the World Health Organization (2013) has predicted that by 2030 the number of adults and children with Diabetes Mellitus

would have almost doubled worldwide, from 177 million in 2000 to 370 million.[5]

There are two main Types of Diabetes Mellitus:

i. Type 1 Diabetes Mellitus, also called Insulin Dependent Diabetes Mellitus (IDDM), is caused by lack of insulin secretion by beta cells of the pancreas.

ii. Type 2 Diabetes Mellitus, also called Non-Insulin Dependent Diabetes Mellitus (NIDDM), is caused by decreased sensitivity of target tissues to insulin.

In both Types of Diabetes Mellitus, metabolism of all the main foodstuffs is altered. The basic effect of insulin lack or insulin resistance on glucose metabolism is to prevent the efficient uptake and utilization of glucose by most cells of the body, except those of the brain (Guyton and Hall, 2006).[6]

As a result of this, blood glucose concentration increases, cell utilization of glucose falls increasingly lower and utilization of fats and proteins increases.

EPIDEMIOLOGY AND ETIOLOGY OF TYPE-1 DIABETES MELLITUS (IDDM)

Type 1 Diabetes Mellitus represents around 10% of all cases of Diabetes, affecting approximately 20 million people worldwide (American Diabetes Association, 2010)[7]. Although Type 1 Diabetes affects all age groups, the majority of individuals are diagnosed either at around the age of 4 to 5 years, or in their teens and early adulthood (Blood et al., 1975)[8].

The incidence of Type 1 Diabetes Mellitus is increasing across Europe, the average annual increase in the incidence in children under 15 years is 3.4

With the steepest rise in those under 5 years old (Karvonen et al., 1999). Type 1 Diabetes Mellitus is the result of an autoimmune reaction to proteins of the islets cells of the pancreas (Holt, 2004).

There is a strong association between Insulin Dependent Diabetes Mellitus and other endocrine autoimmunity (for example, Addison disease) and an increased incidence of autoimmune diseases are seen in family members of Insulin Dependent Diabetes Mellitus patients.

PATHOGENESIS OF TYPE 1 DIABETES MELLITUS:

Type 1 Diabetes Mellitus is a chronic autoimmune disease associated with selective destruction of insulin-producing pancreatic β-cells. The onset of clinical disease represents the end stage of β-cell destruction leading to Type 1 Diabetes Mellitus[9].

ETIOLOGY OF TYPE 1 DIABETES:

- Obesity /overweight.
- Excess glucocorticoids.
- Excess growth hormone.
- Pregnancy -gestational Diabetes.
- Polycystic ovary disease.
- Autoantibodies to the insulin receptor.
- Mutations of insulin r-eceptor.
- Mutations of the peroxisome proliferators' activator receptor γ (PPAR γ)

- Mutations that cause genetic obesity (e.g., melanocortin receptor mutations)
- Hemochromatosis (a hereditary disease that causes tissue iron accumulation)[10].

In several studies, it has been reported that the caring role, effectiveness and compassion of mothers are more important than those of the other family members, and they are considered as the largest group of family caregivers.

Considerable changes in recent decades regarding the education and employment of women as well as the expectation to take on complete maternal role have caused mothers to assume more responsibility for caring their children.

Also, other studies indicated that controlling the metabolic condition of type 1 diabetes mellitus children has a close relationship with the level of mothers stress; the blood sugar of the children whose mothers had higher levels of stress was less controlled. Hence, it is important that the healthcare providers support and guide them.

The difficulties associated with the available treatment regimens, including insulin injections, have pre-occupied the mothers, and they wondered whether the use of new therapies was possible or would the treatment become developed enough to cause less pain and distress to their children. Awareness of the Diabetes complications and its impact on different aspects of child health has caused these mothers to become anxious.

In order to reduce the anxiety, nurses could introduce new treatment methods and centers that provide services to the mothers of type 1 diabetes mellitus children, to prevent unpredictable health status

of diabetic children and the occurrence of acute and critical conditions of their children suffering with Type 1 Diabetes Mellitus.

The lack of free healthcare services as well as inadequate insurance coverage for insulin and other therapeutic essentials imposed a heavy financial burden on the families of children suffering from Diabetes Mellitus not withstanding the fact that more than 60% of Asians are covered by at least one type of health insurance.

The results of other studies have shown that the problems pertaining to insurance coverage and finances related to the management of Diabetes were more dramatic in developing countries.

Since the reduction of these complications requires a careful management of children, the nurses can help these mothers to make decisions about their daily affairs by empowering and identifying their abilities as the first managers of their sick children, and provide training programs tailored to the lifestyle of these mothers.

Therefore, by creating family-centered care models, nurses can pay attention to the needs of these mothers, in addition to managing their children's conditions. In another study, family-centered care and parents' participation and empowerment were emphasized, and it was considered as one of the core concepts of pediatric nursing. They believed this was necessary to maintain the family integrity as well as provide unique care.

It is well recognized that parents, in particular, the mothers of children with IDDM, confront with difficult tasks such as coping with a regimen that includes administering insulin with strict and balanced diet and an exercise plan. In addition, they have to deal with regular follow-up visits, with episodes of hypoglycemia, hyperglycemia, and ketoacidosis, as well as with re-hospitalizations, when necessary.

Keeping the above approach, the present study attempted to further explore the contribution of mothers' psychological resources to the adjustment of their children with IDDM.

Specifically, the contribution of the relatively new concept of mothers' sense of empowerment to the adherence to treatment and metabolic control of their children with Insulin Dependent Diabetes Mellitus.

1.1 NEED FOR STUDY

This study aimed to assess the effectivenes of Planned Teaching Program in enhancing practice and psychological adaptation for mothers caring children with Type 1 Diabetes Mellitus.

PREVALENCE OF TYPE 1 DIABETES MELLITUS:

The greatest challenge faced by the modern world is Type 1 Diabetes Mellitus. It is expected that approximately 366 million people will be affected by Type 1 Diabetes Mellitus by the year 2030.

The prevalence of Type 1 Diabetes Mellitus is increasing rapidly according to World Health Organization (2013) has predicted that by 2030 the number of and children with Type 1 Diabetes Mellitus would have almost doubled.[11].

Experts project that the incidence of Type 1 Diabetes Mellitus is set to soar by 64% by 2025, meaning that a staggering 53.1 million citizens will be affected by this disease.

According to W.H.O statistics, the **global prevalence** of Type 1 Diabetes Mellitus in the year 2000 was 171,000,000 and it expected and approximated to be raised to 366,000,000 by 2030.[13]

The estimated **worldwide prevalence** of Type 1 Diabetes Mellitus among children in 2010 was 285 million (6.4%) and this value is

predicted to rise to around 439 million (7.7%) by 2030 (Shaw et al., 2010).[12]

The prevalence of Diabetes Mellitus in **Asia** has increased by 35% over the past seven years. In Asia, it has been 15 years since the prevention and control of Diabetes have been formally considered as the priorities of healthcare.[14]

Whereas its long arms have widely spread in **India** too, by the statistical report of W.H.O, in the year 2000 the prevalence was 3,67,000 and expected to be raised to 6,35,000 by the year 2030 in India.[15]

INDIAB study supported by the Indian Council of Medical Research indicate there are about 42 lakh individuals with Type 1 Diabetes and 30 lakh people with Pre-Diabetes in **Tamil Nadu.**

V. Mohan, National co-ordinator of the INDIAB study, said the study shows the real burden of the disease in the population. For the first time, a comprehensive picture of the national prevalence would emerge, providing sufficient fodder for planners and health policy makers.[16]

1.1 INSTITUTIONAL STATISTICS OF TYPE 1 DIABETES

YEAR	OUTPATIENT CENSUS	INPATIENT CENSUS
2014	1514	37
2015	1805	41
2016	2094	72
2017	2119	87

Review of literature and clinical experience made the investigator to realize the Type 1 Diabetes Mellitus is one of the major health problems worldwide. Home care management with proper knowledge

may reduce the risk of the illness to some extent. This motivates the investigator to undertake a study on knowledge regarding home care management of Type 1 Diabetes Mellitus, prevention and promotion of the health of the children through assessing mothers skills, provided to their children (home care management methods:diet, exercise, insulin administration), the psychological impact and burden of caring children with Type 1 Diabetes on mothers, implementing planned teaching programme module to enhance mothers practice and adaptation to care of children with Type 1 Diabetes Mellitus.

1.2 TITLE OF THE STUDY

"A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 8"

1.3 OBJECTIVES

- To assess the pre-test level of the knowledge regarding Type 1 Diabetes Mellitus and its management regimen among mothers of children with Type 1 Diabetes Mellitus
- To assess the post-test level of the knowledge regarding Type 1 Diabetes Mellitus and its management regimen among mothers of children with Type 1 Diabetes Mellitus
- To assess the effectiveness of the planned teaching programme regarding home care management of Type 1 Diabetes Mellitus
- To associate the post-test level of knowledge regarding Type 1 Diabetes and its management with the selected demographic variables of mothers and children

1.4 OPERATIONAL DEFINITION

Assessment: It refers to an organized, systematic and continuous process of collecting data from the mothers by semi structured knowledge questionnaire

Effectiveness: It refers to the extent to which information, education and communication module on Type 1 Diabetes has achieved the desired effect on the knowledge of mothers as evidenced by gain in knowledge

Planned Teaching Programme: It is systematically well planned teaching designed to provide information to the mothers regarding type 1 diabetes mellitus and care of children with type 1 diabetes mellitus

Knowledge: It refers to the understanding about Type 1 Diabetes Mellitus appropriate diet plan, administration of insulin injection technique, personal hygiene, exercise and prevention of complications

Mothers: It refers to the person who is more important than those of the other family members' giving total care to the child with Type 1 Diabetes Mellitus.

Type-1 Diabetes: It is characterized by destruction of the pancreatic beta cells, which produce insulin, this is usually leads to absolute insulin deficiency. Type 1 diabetes has two forms: Immune mediated diabetes results from an autoimmune destruction of the beta cells. Idiopathic type refers to rare forms of the disease that have no known cause - wong's.

1.5 ASSUMPTIONS

1) Mothers of children with Type 1 Diabetes mellitus have varying level of knowledge regarding home care management and prevention of complications.

2) Planned teaching programme may help to improve knowledge of Mothers of children with Type 1 Diabetes mellitus on home care management and prevention of complications.

1.6 HYPOTHESIS

At $P \leq 0.001$ level

H1: There is significant difference between pre-test and post-test knowledge score on Type 1 Diabetes Mellitus and its management after planned teaching programme among mothers of children with Type 1 Diabetes Mellitus

H2: There is significant association between post-test knowledge score with selected demographic variables regarding Type 1 Diabetes Mellitus its management regimen among mothers of children with Type 1 Diabetes Mellitus

1.7 DELIMITATIONS

- The study is limited to mothers with Type 1 Diabetes children attending Diabetology Outpatient Department, Institute of Child Health and Hospital for Children, Egmore, Chennai – 8.
- The study is limited to mothers with Type 1 Diabetes Mellitus children up to 3 to 12 years
- The sample size is limited to 60 mothers'
- The mothers who are willing to participate in the study

CHAPTER-II
2.1 LITERATURE REVIEW RELATED TO THE STUDY

According to Polit and Hunger (1999) review of literature is a critical summary of research on a topic of interest generally prepared to put a research problem on context or to identify gaps and weakness on previous studies to justify a new investigation.

A review of literature is an extensive critical review of the research topic. It is an essential first step in those methodologies that require context to interpret and understand the research problem by locating it within the body of knowledge on the research topic.(Worrall and caulley 1997)

The researcher came across with numerous theoretical and empirical literature related to the topic under study.

The relevant and related literature that was found useful has been presented as

2.1.1: Studies related to incidence of Type 1 Diabetes Mellitus.

2.1.2: Studies related to knowledge of Type 1 Diabetes Mellitus.

2.1.3: Studies related to management of Type 1 Diabetes Mellitus.

2.1.4: Studies related to prevention of Type 1 Diabetes Mellitus.

2.1.1: STUDIES RELATED TO INCIDENCE OF TYPE 1 DIABETES MELLITUS

Eliadarous H., et al (2017) conducted a comparative study on incidence of Type I Diabetes in children aged 0 to 14 years from 2010 to 2014 with the previously reported figures in sudan. All during below the

age of 15 years diagnosed while living in Sudan, during the period were identified from the registry. Tests for seasonal variation in incidence were carried out using the method of walter and elwood. The median age at diagnosis for both sexes was 11 years and there were slightly more girls than boys among the diabetic patients.[17]

Raymond.N.T, et al, (2014) conducted a study to estimate and compare the incidence of Type I Diabetes Mellitus in Leicestershire of children of South Asian and white or ethnic backgrounds. All new cases of childhood onset Type I Diabetes Mellitus diagnosed before 15 years of age in Leicestershire. Ethnicity was assigned to all children in the study according to their surnames.The convergence of rates for south Asians with other ethnic groups in Leicestershire suggests that environmental factors are more important than genetic predisposition in causing Type 1 Diabetes Mellitus in people of South Asian ethnic background.[18]

Terri H., et al., (2014) conducted a study on risk factors for cardiovascular disease in children with Type 1 Diabetes Mellius in Philadelphia. Although an increased prevalence of lipid abnormalities in many populations with Type 1 Diabetes Mellitus has been observed, minimal data exist regarding the distribution, correlates the determinants of lipid levels of children with Type 1 Diabetes Mellitus. This study was revealed that the lipid profile, the links between cardiovascular disease, Type 1 Diabetes Mellitus and physiological risk factors for cardiovascular disease in children wih Type 1 Diabetes Mellitus.[19]

2.1.2: STUDIES RELATED TO KNOWLEDGE OF TYPE 1 DIABETES MELLITUS

Eray Ş, Uçar HN, et al (2016) conducted a descriptive study on the Relationship between Perceived Family Climate and Glycemic Control in Type 1 Diabetes Mellitus adolescent patients. The adolescents with

Type 1 Diabetes Mellitus showed a significant difference when compared with the control group. When diabetic adolescents were compared among themselves, the diabetic adolescents with poor glycemic control perceived greater and less emotional support. The study recommended that not only patients with psychopathology, but all diabetic adolescents receive psychosocial support and family interventions.[20]

Al-Odayani AN, Alsharqi OZ, (2016) conducted a a cross sectional study on Children's glycemic control and mother's knowledge and socioeconomic status at outpatient clinics in prince sultan medical military city (PSMMC) Riyadh. The study illustrated that, mothers with more knowledge of Type 1 Diabetes Mellitus and with better education were maintaining a better glycemic control of their children, irrespective of the socio-economic status. It was found that, to improve glycemic control and to decrease acute and chronic complications of Diabetes Mellitus in children, mother's knowledge and education is needed.[21]

Herman. W. et al (2016) conducted a qualitative descriptive rstudy on children and young adolescents voices perceptions of the costs and rewards of Diabetes and its treatment in New york. Young people's perception of the costs and rewards related to Diabetes may influence their understanding of attitude toward and adherence to positive Diabetes related behaviors. The results provide important insights in to the perception of children and young adolescents with foster positive Diabetes related behaviors.[22]

Freckleton E, Sharpe L, Mullan B,(2014) conducted a descriptive study on reasons for the overly optimistic beliefs of parents of children with Type 1 Diabetes Mellitus and the relationship between the beliefs and parental psychopathology. The results suggested that it is usual and helpful for mothers of children with Diabetes to hold overly optimistic

views about their children's futures. Medical evidence appears to have little influence on mothers' beliefs about likely outcomes for their children.[23]

2.1.3: STUDIES RELATED TO MANAGEMENT OF TYPE 1 DIABETES MELLITUS

Nakhla M, Rahme E.,et al., (2018) made a population-based retrospective cohort study on risk of ketoacidosis in children at the time of Type 1 Diabetes Mellitus diagnosis by primary caregiver status. The study identified 3704 new cases of Type 1 Diabetes in Quebec children from 2006 to 2015. Of these, 996 (26.9%) presented with diabetic ketoacidosis. The interpretation for children with newly diagnosed Type 1 Diabetes, having a usual provider of care appears to be important in decreasing the risk of diabetic ketoacidosis at the time of diagnosis. Study results provide further evidence concerning the need for initiatives that promote access to primary care for children.[24]

Tieu J, Middleton P, Crowther CA, Shepherd E, (2017) conducted a retrospective study on Preconception care for diabetic women for improving maternal and infant health. Infants born to mothers with pre-existing Type 1 or Type 2 Diabetes Mellitus are at greater risk of congenital anomalies, perinatal mortality and significant morbidity in the short and long term. Pregnant women with pre-existing Diabetes are at greater risk of perinatal morbidity and diabetic complications. The relationship between glycemic control and health outcomes for both mothers and infants indicates the potential for preconception care for these women to be benefit.[25]

Victor Florian, 1 PhD, and Dina Elad (2017) conducted a prospective study on the impact of mothers' sense of empowerment of the metabolic control of their children with Type 1 Diabetes Mellitus. The mother's sense of empowerment expresses her attitude, knowledge,

and behavior within the context of her family in her dealings with her child, the service system, and with her involvement in the community. The results also indicate that this special psychological resource is relatively independent of the demographic characteristics measured and only slightly related to the self-reported economic status. This result reflects the same gender role identification or another psychological mechanism remains to be examined in future studies.[26]

Maryam Khandan,1 Farokh Abazari et al., (2016) conducted a study on lived experiences of mothers with Diabetic children from the transfer of caring role. The findings of this study revealed that after the confirmed diagnosis of Type 1 Diabetes Mellitus in children and their discharge from the hospital, the mothers of these children experience several problems such as 'facing the care management challenge', 'care in the shadow of concern', and 'hard life in the impasse of Diabetes'.[27]

Shahbah D, El Naga AA, Hassan T (2016) conducted a study on Status of serum magnesium in Egyptian children with Type 1 Diabetes Mellitus and its correlation to glycemic control and lipid profile. Type 1 Diabetes Mellitus has been suggested to be the most common metabolic disorder associated with magnesium deficiency, having 25% to 39% prevalence. This deficit could be associated with the development of late diabetic complications, especially macro-angiopathy. The study concluded that total serum magnesium was frequently low in Egyptian children with Type 1 Diabetes Mellitus and it is correlated with HbA1c and with lipid profile. Hypomagnesaemia was more evident in patients with poor diabetic control and those with higher atherogenic lipid parameters.[28]

Schoen S et al., (2016) conducted a DEDIPAC cross sectional survey on Diet Quality during Infancy and Early Childhood in Children with and without Risk of Type 1 Diabetes.The quality of nutrient intake (PAN

diet score) and food intake (analyzed by a newly developed score) were assessed using three-day dietary records collected for at-risk children (BABY diet study) and a matched sample of not-at-risk children (DONALD study) at nine and 24 months of age. In at-risk children, dietary quality was similar between children who were first exposed to gluten at six or 12 months of age. Despite being notified about their child's risk of Type 1 Diabetes Mellitus, the child's mother did not switch to healthier diets compared with not-at-risk mothers.[29]

Grey.M, Keeble C, PA et al, (2015) conducted a retrospective analysis of data from Learning Through Chain Event Graphs. The role of Maternal factors in childhood Type 1 Diabetes Mellitus, while incorporating previous Type 1 Diabetes knowledge. The report concluded that the mother's school-leaving-age and rhesus factor were not associated with the Diabetes status of the child, whereas having at least 1 amniocentesis procedure and, to a lesser extent, birth by cesarean delivery were associated; the combination of both procedures further increased the probability of Diabetes.[30]

Main A, Wiebe DJ, Van Bogart K et al (2015) conducted a prospective observational study on secrecy from parents and type 1 diabetes mellitus management in late adolescence. This study examined association of parent-adolescent relationship characteristics and adolescent problem behavior with late adolescents secrecy from parents about Type 1 Diabetes mellitus management, and whether secrecy was associated with Type 1 Diabetes Mellitus and psychological outcomes independently of these factors. Adolescent reported disclosure to parents was uniquely negatively associated with secrecy from parents. Controlling for relationship variables, conduct problems, and socio demographic and illness-related variables, secrecy from mothers was uniquely associated with poorer glycemic control and secrecy from both parents was associated with lower adherence.[31]

Pickup JC (2015) conducted a cross sectional study on economic evaluation of continuous subcutaneous insulin infusion for children with Diabetes. The results were sensitive to changes in glycated hemoglobin level. Improvements associated with glycemic control led to a reduced glycated hemoglobin level that could ensure good Type 1 Diabetes Mellitus management, but its influence on BMI in growing children remains unclear.[32]

Nirmi .R., et al., (2015) conducted a study on insulin pump in youth with Type I Diabetes mellitus a retrospective paired study to compare by age and glycemic control continuous subcutaneous insulin infusion with multiple daily injections in youth with Type 1 Diabetes mellitus. The data were compared between the 12 months of multiply daily injections that preceded continuous subcutaneous insulin infusion and the period after the start of the whole cohort and by the age group, the results a significant decrease in HbA_1c was demonstrated after the start of continuous subcutaneous insulin injection use for the entire cohort and for the prepubertal adolescent[33].

Freckleton E, Sharpe L, Mullan B., (2014) The Environmental Determinants of Diabetes in the Young (TEDDY) conducted a retrospective analysis on parental estimation of their child's increased Type 1 Diabetes mellitus risk during the first 2 years of participation in an International Observational Study. The analyses indicated that parental education, country of residence, family history of Type 1 Diabetes Mellitus, household crowding, ethnic minority status, and beliefs that the child's Type 1 Diabetes Mellitus risk can be reduced were factors associated with parental risk perception accuracy. This is particularly true for fathers, families from low socioeconomic backgrounds, and those with no family history of Type 1 Diabetes Mellitus. It is important to develop improved tools for risk communication tailored to individual family needs.[34]

Chisholm V1, Atkinson L, (2014) conducted an exploratory study to investigate positive and incongruent (i.e. the co-occurrence of contradictory verbal and non-verbal messages) communication in the mother-child and their association with child adjustment and dietary adherence outcomes. This study shows that specific features of dyadic, child and maternal communication could be targeted in developmentally sensitive interventions to promote positive communication in the home management of Type 1 Diabetes mellitus care for young children.[35]

Dashiff . J. et al., (2014) conducted study on to assess self-care of young adolescents with Type I Diabetes Mellitus in Birmingham. Subject of this study were 152 adolescents aged between 11 and 15 years with a diagnosis of Type I Diabetes Mellitus. Ethnicity and adolescent sex were statistically significant in predicting deviation self–care. Health deviation self-care decreases with age, suggesting that early adolescence or late school age is an appropriate time for intervention to strength self-care behaviours.[36]

Sparud-Lundin C, Hallström I, Erlandsson LK, (2013) study by constant comparative analysis method, explores parents process of changes and challenges in their patterns of daily activities after the onset of Type 1 Diabetes in their children and how personal gender relations can restrain or create functional strategies for managing the changes and challenges of illness, the core category depicts how the illness forced parents to reconstruct their family project with respect to patterns of daily activities and gender structures. With increased knowledge of the dynamics of gender relations of families in the context of a children illness, health care professionals can assist in promoting well-being and functional strategies in families when a child is newly diagnosed with Type 1 Diabetes Mellitus.[37]

Florian.V.et al., (2013) conducted a study on the impact of mothers sense of empowerment as a psychological resource and the level of adherence to treatment and metabolic control of their adolescent children with Insulin Dependent Diabetes Mellitus. Barilan University their children with insulin dependent Diabetes Mellitus filled out the self-care behaviors of the mothers sense of empowerment contributes significantly to their children's adherence to treatment.[38]

Faulkner MS***., et al., (2013)*** a study conducted to describe mothers perceptions of the Diabetes related self-care abilities and practices of their school age children with Type 1 Diabetes Mellitus. The children were between the age of 11 to 12 and had been diagnosed with Diabetes for minimum of 2 years. The study reveals that mothers reported that their children with Type 1 Diabetes had learned skills in a predictable sequence were usually motivated by events in the here and now and did not consistently perform all Diabetes related skill of which they are capable. Most of the children were becoming embarrassed about having Diabetes. There were considerable gender differences in the children's self-care activities.[39]

Pediatr.A.et al., (2013) The Aide to Juvenile Diabetes association, its role in the management and education of patients with insulin-dependent Diabetes Mellitus in Paris. Aide to Juvenile Diabetes association organizes three types of interventions. i) stays in special summer camps provide children, teenagers and young adults with the opportunity for receiving education in a recreational setting conducive to acquisition of knowledge and behaviors required for the management of their disease. ii) Continuing education through a news bulletin and information meetings improves compliance to treatment. iii) social and scientific interventions directly involve Aide to Juvenile Diabetes association members and provide them with regular information. In

conclusion, Aide to Juvenile Diabetes association plays a central role in the management of Type I Diabetes Mellitus in France.[40]

Azar R Solomon C.R (2012) conducted study identified differences in strategies used by mothers and fathers in coping with their children Insulin Dependent Diabetes Mellitus in Canada. Results showed that both the parents used planned problem solving, exercised positive re-appraisal, and sought social support frequently, with mothers using more planned problem solving strategies than fathers. Within the family analyses showed that fathers were more likely to use frequently all the coping strategies when the child was a girl. The scores of couples showed that mothers used all of the strategies significantly more often than fathers.[41]

Dabelea D.et al., (2012) conducted study on the care of the children and adolescents with Type 1 Diabetes Mellitus in Philadelphia. Reason cited for the rise of this condition in children and adolescents are speculated to stem from obesity because of a rise in sedentary behavior, non-nutritious food choices and genetic predisposition. A high recurrence rate in families shows that therapy for children and adolescents must involve the entire family to be successful. Treatment recommendations vary depending on severity but include nutrition, exercise and medication. Assessment of the patients and families willingness to change their current lifestyle behaviors is an integral part of treatment. Nutrition and exercise goals should be made on an individual basis to meet the needs of patient.[42]

Anderson. B.J., Brackett.J.,Laffel. L.M (2010) a descriptive study with on education effectiveness in Type 1 Diabetes Mellitus management made by children´s caregivers at brazil, The study reveals that the majority of caregivers of children with Type 1 Diabetes Mellitus have good knowledge about the disease, and disease management and

there is a need to intervene in some ways, changing attitudes to cope more adequately with the disease, as well as improving the effectiveness of Diabetes education[43].

2.1.4: STUDIES RELATED TO PREVENTION OF TYPE 1 DIABETES MELLITUS

Hansen UM, Olesen et al.,(2018) a descriptive study with quantitative approach on 1126 working people with Type 1 Diabetes Mellitus from a specialist Diabetes clinic in Denmark. Diabetes-related emotional distress was assessed with the Problem areas in Diabetes scale (PAID Scale-Problem Areas in Diabetes Questionnaire). The findings suggest that work-related Diabetes distress captures an aspect of distress so far unaccounted for in workers with Type Diabetes, and explore its clinical usefulness and clarify its risk factors.[44]

Elbarbary NS, Ismail et al.,(2018) conducted a study on role of neopterin as a biochemical marker for peripheral neuropathy in pediatric patients with Type 1 Diabetes Mellitus, Relation to nerve conduction studies, Sixty patients aged ≤18 years and >5 years disease duration were subjected to neurological assessment by neuropathy disability score for median, ulnar, posterior tibial and common peripheral nerves. Neopterin levels were positively correlated to motor latency of tibial and common peripheral nerves as well as motor and sensory latencies of median and ulnar nerves. Neopterin cutoff value 32nmol/L could differentiate patients with and without Diabetic Peripheral Neuropathy with 100% sensitivity and 96.7% specificity.[45]

Adolfsson A, Dec 29 (2014) conducted a study protocol for it is a randomized controlled trail on a web-based support study at Sweden. During pregnancy, in order to optimize the probability of giving birth to a healthy child, their blood glucose levels need to be as normal as

possible. After childbirth, they experience a 'double stress': in addition to the ordinary challenges they face as new mothers, they also need to focus on getting their blood glucose levels normal. To improve self-management of Diabetes and overall well-being in women with Type 1 Diabetes Mellitus to be used during pregnancy and early motherhood.[46]

Sullivan S., et al., (2013) a study on constant vigilance descriptive naturalistic inquiry principles were used to interview subjects. Mothers work parenting young children with Type 1 Diabetes Mellitus. The purposes of this study was to describe the day to day experiences of mothers raising young children under 4 years of age with Type 1 Diabetes Mellitus. The rate of severe hypoglycemic episodes decreased significantly in the adolescent group, from 58.1 to 11.1 events per 100 patient years and in the young adult group, from 58.1 to 23.3. There were no significant changes in the rate of Diabetes ketoacidosis between the 2 periods.[47]

Quirk H. (2014) A qualitative study exploring parents perceptions of physical activity in children with Type 1 Diabetes Mellitus. The purpose of this study was to understand parents perceptions of what influences physical activity for children with Type 1 Diabetes Mellitus and to inform the practice of those working with children who have Type 1 Diabetes Mellitus. This study highlights that parents serve as gate-keepers for children physical activity.The findings provide insight into the need for Type 1 Diabetes Mellitus knowledge and competence in personnel involved in the supervision of children physical activities. Healthcare providers should collaborate with families to ensure understanding of how to manage physical activity.[48]

2.2 CONCEPTUAL FRAMEWORK

Conceptual framework refers to interrelated concepts or abstractions that are assembled together in some rational scheme by virtue of their relevance to a common theme

– (Polit and Hunger 1999)

General system theory was first introduced by Von Bertanlanffy (1968). He described that general theory is a set of interrelated parts that come together to form a whole. Each part is a necessary component required to make a complete meaningful whole.

The present study is based on open system theory of J.W.Kenney. It explains the following concepts like structure, process and outcome.

A system consists of a set of interacting components, input (structure), throughput (process) and output (outcome).

Systems are organized into hierarchical level of complexity with sub-system and super-system, subsystem may be single or complex system. Each system also has a super-system.

The open system theory explains the relationship between the whole and the parts, a description of concepts about them and prediction. An open system (knowledge) depends on quality of its input (structure) throughput (process) and output (outcome).

INPUT

Input or structure specifies the designs to meet the global objectives. Input in this present study refers to factors related to mothers of children with Type 1 Diabetes Mellitus: sex of the child, age of the child, religion, language, mother's education, occupation, family

monthly income, duration of the disease, family history of Diabetes Mellitus.

Health care aspects of type 1 diabetes mellitus regarding, disease condition, diet management, insulin administration, personal hygiene, exercise, play and prevention of complications.

THROUGHPUT

Throughput or process is refers to identifying the designs, interaction that place towards goal achievement and regarding the activities. In this present study, throughput involves assessment and intervention. Assessment envisages the area of knowledge of mothers of children with type 1 diabetes mellitus. However, the focus of the study was to assess the knowledge. Intervention includes learning process planned teaching programme. The focus of the study was to assess the existing knowledge of mothers of children with Type 1 Diabetes Mellitus regarding various aspects of type 1 diabetes mellitus children such general aspects about the illness, investigation, identification of signs and symptoms, first line management methods and prevention of complication.

OUTPUT

It is the return of matter, energy and information to the environment in the form of both physical and psychological behavior. Output varies widely depending on the types and the purpose of the system affecting the environment. Output or outcome refers to the end result of the interaction between the input and throughput measured in terms of gain, loss and changes that take place. It helps to measure the outcome of any intervention made regarding knowledge of mother's regarding Type 1 Diabetes Mellitus.

FEEDBACK

The process of communicating what is found in evaluation of the system, the feedback can be measured by the output whether the knowledge is adequate, adequate and inadequate.

If the mother of children gains adequate knowledge after the administration of planned teaching programme then the developed educational intervention package is considered to be useful in updating the knowledge of mother. If the knowledge gained is inadequate it refers that the system input and throughput has to be re-evaluated.

According to J.W. Kenney all system are open, in that there is continual exchange of matter energy information. Open system has verifying degree of interaction with the environment from which the system receives inputs and gives feed backs. Kenney describes as follows;

PERSON

Person is a social, rational, purposeful action, and time oriented being, who requires fundamental health needs such as timely and useful health information, care that prevent illness, and help when the self-care demands cannot met.

ENVIRONMENT

Environment is the open system allows the exchange of matter, energy and the information.

HEALTH

Health is described as the dynamic state in the life, using personal resources to achieve optimal daily living.

NURSING

Nursing promotes, maintains and restores health and cares sick, uses a goal-oriented approach in which the client and nurse interact to attain goal. So that they can function their own role independently.

The main concepts of open system model are input, throughput, output and feedback.

In the open system input or action refers to the matter, energy and information that enter into the system through its boundary.

In this study input is the planned teaching programme intervention after the pretest assessment of knowledge of mothers on Type 1 Diabetes Mellitus based on the health care aspects.

Throughput or reaction refers to the processing where the system transforms the energy matter. In this study throughput is the process-taking place within the subjects are the assessment among mothers regarding knowledge on Type 1 Diabetes Mellitus and its management regimen during the planned teaching programme.

Output or transaction refers to the matter, energy and information in the environment that are in an altered state. In this study output will be the gain of improved level of knowledge

Feedback refers to the environmental response to the system. The output used by the system. The output used by the system is adjustment, correction, accommodation and the interaction within the environment.

CHAPTER-III
METHODOLOGY

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

3.1. RESEARCH APPROACH

Quantitative approach

3.2. RESEARCH DESIGN

The research design adopted for the study was Pre experimental design (one group pre- test and post-test design) with manipulation, and no randomization and no control group

Table-3.1 Pre–Experimental - One Group Pre-Test, Post-Test Design

0 1	X	0 2
Pre-Test on Knowledge	Planned Teaching Programme	Post-Test on Knowledge

KEY NOTES

O_1 - Pre-test to assess the knowledge about Type 1 Diabetes Mellitus appropriate diet plan, administration of insulin injection and techniques,sites & methods, personal hygiene, exercise, play and prevention of complications

X – Planned teaching program to provide information to the mothers regarding Type 1 Diabetes Mellitus and caring of children with Type 1 Diabetes Mellitus

O_2 - Posttest to assess the knowledge about Type 1 Diabetes appropriate diet plan, administration of insulin injection and techniques,

sites & methods, personal hygiene, exercise and prevention of complications.

3.3. STUDY SETTING

Diabetology Outpatient department in Institute of Child Health and Hospital for Children, Egmore, Chennai – 08.

3.4. DATA COLLECTION PERIOD

Four weeks.

3.5. STUDY POPULATION

3.5.1 Target population: Mothers of children with type 1 diabetes mellitus attending Diabetology Outpatient Department, Institute of Child Health and Hospital for Children, Egmore,Chennai-08.

3.5.2 Accessible population: Mothers of children with type 1 diabetes mellitus and who are available during the period of data collection

3.6. STUDY SAMPLE

Sample comprise of mothers of children with Type 1 Diabetes Mellitus attending diabetology outpatient department in Institute of Child Health and Hospital for Children, Egmore, Chennai-08 and met the inclusion criteria.

3.7. SAMPLE SIZE

60 mothers of children with Type 1 Diabetes Mellitus.

3.8. CRITERIA FOR SAMPLE SELECTION

3.8.1. Inclusion Criteria

- Education level of mothers (who can speak and understand Tamil and English)

- ❖ Mothers who give direct care to the children (nuclear family)
- ❖ Mothers aged >20 years mothers
- ❖ Mothers are willing to participate in this study

3.8.2. Exclusion Criteria

- ❖ Mothers who have psychiatric illness
- ❖ Mothers who have communication problems

3.9 SAMPLING TECHNIQUE

Non Probability – Convenient Sampling Technique

3.10 RESEARCH VARIABLES

3.10.1 Independent Variable

Planned teaching program on care of children with Type 1 Diabetes

3.10.2 Dependent Variable

Knowledge of mothers on care of children with Type 1 Diabetes

3.11 DEVELOPMENT AND DESCRIPTION OF TOOLS

3.11.1 Development of Tools

Appropriate Semi structured questionnaire tool has been developed after extensive review of literature and obtained experts opinion and content validity from Medical, Nursing and Statistics department. Construction and pretesting of tool was done during pilot study. Direct assessment of client was performed during data collection.

3.11.2 Description of Tools Scoring Procedure

Self-administered questionnaire, which consist of 2 sections.

Part-I: Demographic data of the mothers and children.

Part-II: Questions related to knowledge on Type 1 Diabetes Mellitus and its management regimen. It consists of 30 questions and distributed based on the following aspects:

- ❖ Knowledge related to illness
- ❖ Knowledge related to signs and symptoms
- ❖ Knowledge related to the diagnostic measures
- ❖ Knowledge related to insulin and its action
- ❖ Knowledge related to characteristics of insulin
- ❖ Knowledge related to site of insulin administration.
- ❖ Knowledge related to methods of insulin administration.
- ❖ Knowledge related to after care of insulin injection.
- ❖ Knowledge related to adverse effects of insulin injection.
- ❖ Knowledge related to precautions of Type 1 Diabetes Mellitus.
- ❖ Knowledge related to diet for Type 1 Diabetes Mellitus.

Table-3.2: Blue Print of Structured- Assisted Self-Administered Questionnaire

S. No	Categories	Items	Total items	Percentage
1.	Knowledge related to the illness	1,2,3	3	9.99%
2.	Knowledge related to the signs and symptoms	4,5	2	6.66%
3.	Knowledge related to the diagnostic measures	6,7	2	6.66%
4.	Knowledge related to the insulin and its action	8,9, 10, 11	4	13.32%

S. No	Categories	Items	Total items	Percentage
5.	Knowledge related to the characteristics of insulin	12,13,14	3	9.99%
6.	Knowledge related to the site of insulin administration	15,16	2	6.66%
7.	Knowledge related to the methods of insulin administration	17,18	2	6.66%
8.	Knowledge related to the after care of insulin injection	19,20, 21	3	9.99%
9.	Knowledge related to adverse effects of insulin injection	22,23	2	6.66%
10.	Knowledge related to the precautions of Type 1 Diabetes Mellitus	24, 25, 26, 27	4	13.42%
11.	Knowledge related to the diet for Type 1 Diabetes Mellitus	28,29, 30	3	9.99%
Total			30	100%

Table 3.3 Scoring Procedure

Marks	Percentage	Level of Knowledge
Less than 15	Less than 50%	Inadequate
16 - 23	50 – 75%	Moderate
24 – 30	Above 75%	Adequate

SCORING KEY

Scoring key for correct answer 1mark was awarded and for wrong answer 0 marks was awarded

76- 100 % : Adequate

51-75% : Moderately adequate

50 & Below % : Inadequate

3.12. CONTENT VALIDITY

Content validity of the tool was obtained from Medical and Nursing experts in the field of Child Health. They suggested certain modifications. The experts' suggestions were incorporated in the tool and the tool was finalized and used for the main study.

3.13 RELIABILITY OF THE TOOL

Reliability of the tool was determined by using Test-Retest method. There was a significant correlation between test and retest according to Karl Pearson's correlation coefficient the reliability of the tool was 0.81. This score indicates high correlation. Hence the tool was found to be reliable to conduct the main study.

3.14 PROTECTION OF HUMAN SUBJECTS

Permission was obtained from the Institutional Ethics Committee, Director, Institute of Child Health and Hospital for Children, Egmore, Chennai-8 and all respondents were carefully informed about the purpose of the study and their part during the study and how the privacy will be guarded. Researcher explained the procedure and got written consent from the samples before interviewed. The freedom was given to the clients to leave the study at her without assigning any reason. The study information were kept confidential. Routine care was not disturbed, the investigator followed the ethical guidelines during the data collection procedure.

3.15 PILOT STUDY

In order to check feasibility, relevance and practicability of the study, pilot study was conducted among 10 samples of mothers of children with Type 1 diabetes mellitus attending diabetology outpatient department, Institute of Child Health and Hospital for Children for a period of one week. According to convenient sampling technique ten

samples were taken using questionnaire method the effectiveness of Planned Teaching Programme on Type 1 Diabetes Mellitus among mothers of children was assessed. The result of the pilot study showed that there was a positive correlation between the knowledge of mothers of children with type 1 diabetes mellitus and the study was found to be feasible.

3.16 DATA COLLECTION PROCEDURE

Formal permission to conduct the pilot study and main study was obtained from the Director and the HOD of the Diabetology Department, Institute of Child Health and Hospital for Children, Chennai–08.

The period of the study was extended for four weeks; the data was collected from Monday to Friday 4 weeks 8am to 4pm. Using convenient sampling technique 60 samples were selected who fulfilled the selection criteria.

The researcher introduced him to the selected sample of mothers of Type I Diabetes children and written consent was obtained from each participant after giving assurance of confidentiality. Then the mothers were interviewed by using semi structured interview schedule. Each day data was collected from available samples from Diabetology Out Patient Department and the samples were gathered as a group.

The pre-test was conducted. The planned teaching programme was implemented on the same day for 45 minutes using lecture cum discussion method with flash cards, Pamphlets which was prepared by the researcher after consulting with the specialist in the diabetology department. The mothers participated with interest and they were alert and enthusiastic. Certain points were repeated for better understanding and doubts were clarified and a pamphlet was given to each mother at the end of the discussion.

After 7 days of interval post test was conducted among the same samples using the same questionnaire and evaluated the effectiveness of planned teaching programme on knowledge of mothers on management regimen of Type 1 Diabetes Mellitus children.

Table 3.17 Intervention Protocol

Place	Diabetology Outpatient Department, Institute of Child Health and Hospital for Children, Egmore, Chennai-8
Intervention Tool	Planned Teaching Programme with pamphlets, flash cards.
Duration	45 minutes.
Time	12 : 00 pm to 12.45 pm
Frequency	One time teaching.
Recipient	Mothers of children with Type 1 Diabetes Mellitus.
Admitted By	Investigator.

3.18 DATA ENTRY AND ANALYSIS

- The collected data was arranged and tabulated to represent the findings of the study. Both descriptive and inferential statistics were used.
- Descriptive statistics (frequency and percentage distribution, mean and standard deviation) and inferential statistics (paired test, chi square test and extended Mc.Nemar test) were used to test the research hypothesis
- Demographic variables in categories were given in frequencies with their percentages.
- knowledge score were given in mean and standard deviation.

- Association between demographic variables and knowledge score were analysed using pearson chisquare test
- Quantitative knowledge score in pre-test and post-test were compared using student's paired t-test.
- Qualitative level of knowledge in pretest and posttest were compared using Stuart-Maxwell test /extended McNemar test
- Association between knowledge gain score with demographic variables are assessed using one way ANOVA F-test and student independent t –test.
- Effectiveness and generalization was given using mean with 95% CI and Percentage with 95%.
- Simple bar diagram, Multiple bar diagram, Pie diagram, Doughnut diagram and Box plot were used to represent the data.
- $P<0.05$ was considered statistically significant. All statistical test are two tailed test.

CHAPTER-IV
ANALYSIS AND INTERPRETATION OF DATA

Kerlinzer (1976) has described analysis as the "categorizing, ordering, manipulating and summarizing of data to obtain answers to be used in research Hypothesis questions".

This chapter deals with the analysis and interpretation of the data gathered from 60 mothers having type 1 diabetes mellitus children with regard to their awareness about diabetes and the level of knowledge of mothers.

The data collected were tabulated, analyzed and presented based on the objectives and hypothesis.

OBJECTIVES

- To assess the pre-test level of the knowledge regarding Type 1 Diabetes Mellitus and its management regimen among mothers of children with Type 1 Diabetes Mellitus
- To assess the post-test level of the knowledge regarding Type 1 Diabetes Mellitus and its management regimen among mothers of children with Type 1 Diabetes Mellitus
- To assess the effectiveness of the planned teaching program regarding Type 1 Diabetes Mellitus and the home care management regimen
- To associate the post-test level of knowledge regarding Type 1 Diabetes and its management with demographic variables of mothers and children

Descriptive and inferential statistics were used for the analysis of the data. According to the study objectives the interpretation has been tabulated and organized as follows:

ORGANIZATION OF DATA

Section - A: Distribution of study participants according to demographic variables.

Section - B: Knowledge score of mother before and after planned teaching programme.

Section - C: Comparison of mean score between pre-test and post-test effectiveness of the planned teaching program on knowledge of mothers with Type 1 children diabetes mellitus regarding Type 1 Diabetes mellitus and its management regimen

Section – D: Evaluate the Effectiveness of Planned Teaching Programme in association between Knowledge gain score and Demographic Variables

Section – E: Association between knowledge gain score and Demographic variables

SECTION A: DISTRIBUTION OF STUDY PARTICIPANTS ACCORDING TO DEMOGRAPHIC VARIABLES

Table 4.1: Demographic Profile

Demographic variables		No. of Children	%
Gender	Male	36	60.00%
	Female	24	40.00%
Age of the Child	1 to 3 years	0	0.00%
	3 to 6 years	28	46.67%
	6 to 9 years	21	35.00%
	9 to 12 years	11	18.33%
Education of the Child	Primary school	10	16.67%
	Middle school	45	75.00%
	High school	5	8.33%
	Higher secondary school	0	0.00%
Duration of the illness of the Child	< 1 year	26	43.33%
	2 years to 3 years	33	55.00%
	4 years to 5 years	0	0.00%
	6 years and above	1	1.67%
Type of treatment	Regular	50	83.33%
	Irregular	10	16.67%
Religion of the child	Hindu	32	53.33%
	Christian	22	36.67%
	Muslim	6	10.00%

Demographic variables		No. of Children	%
Education of the father	Primary school	1	1.66%
	High school	9	15.00%
	Higher secondary school	25	41.67%
	Diploma, graduate or others	25	41.67%
	Non formal education	0	0.00%
Education of the mother	Primary school	2	3.33%
	High school	24	40.00%
	Higher secondary School	20	33.34%
	Diploma, graduate or others	14	23.33%
	Non formal education	0	0.00%
Occupation of the father	Government employee	1	1.67%
	Private employee	44	73.33%
	Self-employment / business	10	16.67%
	Labor	5	8.33%
Occupation of the mother	Government employee	0	0.00%
	Private employee	17	28.33%
	Labor	7	11.67%
	Home maker	36	60.00%
Age of the mother?	Below 18 years	0	0.00%
	18 years to 23 years	27	45.00%
	24 years to 30 years	31	51.67%
	Above 30 years	2	3.33%

Demographic variables		No. of Children	%
Family income per month	< Rs.5000	0	0.00%
	Rs.5,000 to 10,000	31	51.67%
	Rs.10,000 to 15,000	29	48.33%
	Rs.15,000 to 20,000	0	0.00%
	> Rs. 20,000	0	0.00%
Family history of Diabetes	Grandparents	27	45.00%
	Parents	9	15.00%
	Siblings	0	0.00%
	No family history	24	40.00%
Previous knowledge about insulin administration	Relatives / friends	25	41.67%
	Television / radio	14	23.33%
	Newspaper / magazine	9	15.00%
	Not heard now yet	12	20.00%

Table 4.1 shows the demographic information of children those who are participated for the following study on A Study to Assess the Effectiveness of Planned Teaching Programme on the Knowledge among Mothers of Children with Type 1 Diabetes Mellitus and its Management Regimen attending Diabetology Outpatient Department, Institute of Child Health and Hospital for Children, Egmore, Chennai-8.

KNOWLEDGE REGARDING

Gender of the children: 36 of them were male (60.0%), 24 of them were female (40 %).

Age of the children: between 1 to 3 years were (0%), 3 to 6 years were 28 (46.67%), 6 to 9 years were 21 (35.00%), 9 to 12 years were 11 (18.33%).

Education of the Children: 10 from primary school (16.67%), 45 from middle school (75%), 5 from high school (8.33 %), and 0% from higher secondary school.

Duration of the illness of the Child: less than one year is 26 (43.33%), 2 to 3 years were 33 (55.0%), 4 to 5 years were 0%, 6 years and above were 1 (1.67%).

Type of treatment: 50 children are regular (83.33%), 10 children are irregular (16.67%).

Religion of the child: (among 60): 32 were Hindu (71.7%), 22 were Christian (22.0%), 6 were Muslim (10.00%).

Education of the father: 1 were primary school (1.66%), 9 (15.0%) were high school , 25(41.67%) were higher secondary school , 25(41.67%) were diploma, (0%) were non formal education.

Education of mother: 2 were primary school (3.33%), 24 were high school (40.0%) 20 were higher secondary school (33.34%), 14 were diploma (23.33%) and (0%) are non-formal education.

Occupation among fathers: 1 Government employee (1.67%), 44 Private employees (73.33%), 10 Self-employment-business (16.67%) and 5 labour (8.33%).

Occupation among mothers: 0 Government employee (0%), 17 Private employees (28.33%), 7 labour (11.67%) and 36 home maker (60.00%).

Age of mother below 18 years (0%), 18 years to 23 years were 27(45.00%), 24 years to 30 years were 31(51.67%), above 30 years were 2(3.33%).

Family history of Diabetes: 27 grandparents (45.00%), 9 parents (15.00%) and 24 with no family history (40.00%).

According the previous knowledge about insulin administration: 25 through relatives/friends (41.67%), 14 through television/radio (23.33%), 9 through newspaper/ magazine (15.00%) and 12 who had not heard now yet are (20.00%).

SECTION B: KNOWLEDGE SCORE OF MOTHERS BEFORE AND AFTER PLANNED TEACHING PROGRAMME

Table 4.2: Each Domainwise Pretest Percentage of Knowledge of Mothers of Type -1 Diabetes Children and its Management

S. No	Knowledge on	No. of questions	Min – Max score	Knowledge score		
				mean	D	% of mean score
1	Illness	3	0 -3	1.25	0.82	41.67%
2	Signs and Symptoms	2	0 - 2	0.78	0.64	39.00%
3	Diagnostic measures	2	0 – 2	0.95	0.59	47.50%
4	Insulin and its action	4	0 - 4	1.48	1.51	37.08%
5	Characteristics of Insulin	3	0 - 3	0.82	0.70	27.23%
6	Site of insulin administration	2	0 - 2	0.43	0.56	21.65%
7	Methods of insulin administration	2	0 - 2	0.30	0.56	15.00%
8	After care of insulin injection	3	0 - 3	0.47	0.62	15.57%
9	Adverse effects of insulin injection	2	0 - 2	0.52	0.62	25.85%
10	Precautions of Type I DM	4	0 – 4	1.22	0.94	30.43%
11	Diet for Type I DM	3	0 - 3	0.88	1.20	29.33%
Total		30	0 - 30	9.10	3.46	30.33%

Table 4.2: shows each domain wise pre-test percentage of knowledge of mothers with Type 1 Diabetes mellitus children and its management. They were having maximum knowledge in Diagnostic measures (47.50%) and minimum knowledge score in Methods of insulin administration (15.00%).

Table 4.3: Overall Pretest Knowledge Score

	No. of questions	Min – Max score	Knowledge Score	
			Mean ± SD score	%
Overall score	30	0 -30	9.10±3.46	30.33%

Table 4.3: shows pre-test percentage of knowledge of mothers of Type 1 Diabetes mellitus children and its management. Overall pre-test percentage of knowledge score is 30.33% among mothers.

Table 4.4: Pretest Level of Knowledge

Level of knowledge	No. of mothers	%
Inadequate knowledge	57	95.0%
Moderate knowledge	3	5.0%
Adequate knowledge	0	0.0%
Total	60	100%

Table 4.4: shows the mothers level of knowledge score.

In general 95.0% of mothers were having inadequate knowledge and 5.0% of them were having moderate knowledge and none of them were having adequate knowledge.

Table-4.5: Percentage distribution of each domain wise post-test percentage of knowledge of mothers of Type 1 Diabetes children and its management.

S. No	Domains	No. of Quest	Min-max Score	Knowledge score		
				Mean	SD	% of Mean score
1.	Illness	3	0-3	2.45	0.87	81.67%
2.	Signs and Symptoms	2	0-2	1.65	0.48	82.50%
3.	Diagnostic measures	2	0-2	1.65	0.48	82.50%
4.	Insulin and its action	4	0-4	2.98	1.35	74.58%
5.	Characteristics of Insulin	3	0-3	2.42	0.89	80.57%
6.	Site of insulin administration	2	0-2	1.65	0.48	82.50%
7.	Methods of insulin administration	2	0-2	1.68	0.47	84.15%
8.	After care of insulin injection	3	0-3	2.40	0.87	80.00%
9.	Adverse effects of insulin injection	2	0-2	1.78	0.42	89.15%
10.	Precautions of Type I DM	4	0-4	3.30	1.20	82.50%
11.	Diet for Type I DM	3	0-3	2.32	0.50	77.33%
Total		30	0-30	24.28	3.90	80.94%

Table 4.5: shows each domain wise post -test percentage of knowledge of mothers of Type 1 Diabetes mellitus children and its management. They were having maximum knowledge in adverse effects of insulin injection (89.15%) and minimum knowledge score in Insulin and its action (74.58%).

Table 4.6: Overall Post Test Knowledge Score

	No. of Questions	Min – Max score	knowledge score	
			Mean ±SD score	%
Overall score	30	0 -30	24.28±3.90	80.94%

Table 4.6 shows, post-test percentage of knowledge of mothers of Type 1 Diabetes mellitus children and its management. Overall post-test percentage of knowledge score is 80.94% among mothers.

Table 4.7: Posttest Level of Knowledge

Level of knowledge	No. of mothers	%
Inadequate knowledge	0	0.0%
Moderate knowledge	10	20.0%
Adequate knowledge	50	80.0%
Total	60	100%

Table 4.7: shows the mothers level of knowledge of mothers of Type 1 Diabetes children and its management.

In general none of the mothers were having inadequate level of knowledge score, 20.0% of them were having moderate level of knowledge score and 80.0% of them were having adequate level of knowledge score.

SECTION-C

Table 4.8: Comparison of Pretest and Posttest Domainwise Mean Knowledge Score

S. No	Knowledge on	Pre-test		Post-test		Mean Difference	Student's paired t-test
		Mean	D	MMean	SD		
1	Illness	1.25	0.82	2.45	0.87	1.20	t=7.81P=0.001 *** DF= 59, Significant
2	Signs and Symptoms	0.78	0.64	1.65	0.48	0.87	t=8.48 P=0.001 *** DF= 59, Significant
3	Diagnostic measures	0.95	0.59	1.65	0.48	0.70	t=6.38 P=0.001*** DF= 59 , Significant
4	Insulin and its action	1.48	1.51	2.98	1.35	1.50	t=5.54 P=0.001 *** DF= 59 , Significant
5	Characteristics of Insulin	0.82	0.70	2.42	0.89	1.60	t=10.36 P=0.001 *** DF= 59 , Significant
6	Site of insulin administration	0.43	0.56	1.65	0.48	1.22	t=11.43 P=0.001 *** DF= 59 , Significant
7	Methods of insulin administration	0.30	0.56	1.68	0.47	1.38	t=14.98 P=0.001 *** DF= 59 , Significant
8	After care of insulin injection	0.47	0.62	2.40	0.87	1.93	t=13.21 P=0.001 *** DF= 59 , Significant

S. No	Knowledge on	Pre-test		Post-test		Mean Difference	Student's paired t-test
		Mean	D	MMean	SD		
9	Adverse effects of insulin injection	0.52	0.62	1.78	0.42	1.26	t=11.95 P=0.001 *** DF= 59 , Significant
10	Precautions of Type I DM	1.22	0.94	3.30	1.20	2.08	t=9.78 P=0.001 *** DF= 59 , Significant
11	Diet for Type I DM	0.88	1.20	2.32	0.50	1.44	t=10.94 P=0.001 *** DF= 59 , Significant
*** very high significant at $P \leq 0.001$							

Table 4.8: shows the comparison of pre-test and post-test knowledge score of mothers of type 1 diabetes children and its management.

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Illness: In pre-test, mothers were having 1.25 score whereas in post-test they were having 2.45 score. Difference is 1.20. This difference is large and it is statistically significant.

Signs and Symptoms: In pre-test, mothers were having 0.95 score whereas in post-test they were having 1.65 score. Difference is 0.87. This difference is large and it is statistically significant.

Diagnostic measures: In pre-test, mothers were having 1.97 score whereas in post-test they were having 2.75 score. Difference is 0.70. This difference is large and it is statistically significant.

Insulin and its action: In pre-test, mothers were having 1.48 score whereas in post-test they were having 2.98 score. Difference is 1.50. This difference is large and it is statistically significant.

Characteristics of Insulin: In pre-test, mothers were having 0.82 score whereas in post-test they were having 2.42 score. Difference is 1.60. This difference is large and it is statistically significant.

Site of insulin administration: In pre-test , mothers were having 0.43 score whereas in post-test they were having 1.65 score. Difference is 1.22. This difference is large and it is statistically significant.

Methods of insulin administration: In pre-test, mothers were having 0.30 score whereas in post-test they were having 1.68 score. Difference is 1.38. This difference is large and it is statistically significant.

After care of insulin injection: In pre-test, mothers were having 0.47 score whereas in post-test they were having 2.40 score. Difference is 0.93. This difference is large and it is statistically significant.

Adverse effects of insulin injection: In pre-test, mothers were having 0.52 score whereas in post-test they were having 1.78 score. Difference is 1.26. This difference is large and it is statistically significant.

Precautions of Type I DM: In pre-test, mothers were having 1.22 score where as in post-test they were having 3.30 score. Difference is 2.08. This difference is large and it is statistically significant.

Diet for Type I DM: In pre-test, mothers were having 0.88 score whereas in post-test they were having 2.32 score. Difference is 1.44. This difference is large and it is statistically significant.

Significance of difference between pre-test and post-test score were calculated using student paired t-test.

Table 4.9: Comparison of Overall Knowledge Score Before and after Planned Teaching Programme

	No. of mothers	**Pre-test Mean± SD**	**Post-test Mean± SD**	**Mean difference Me ± SD**	**Students' paired t-test**
Overall Knowledge Score	60	9.10 ± 3.46	24.28 ± 3.90	15.18 ± 6.59	t=17.84 P=0.001*** DF = 59, significant

*** very high significant at P≤0.001

Table 4.9 shows the comparison of overall knowledge before and after the administration of Planned Teaching Programme, on an average, mothers knowledge were improved from 9.10 to 24.28 after the administration of planned teaching programme. In pre-test they were able to answer only 9 questions before administration of Planned Teaching Programme, after administration of Planned Teaching Programme, they were able to answer up to 24 questions. After PTP they were able to answer 15 more questions correctly. This difference is statistically significant. Statistical significance was calculated by using student's paired 't'test.

Table 4.10: Each Domainwise Pretest and Posttest Percentage of Knowledge

S: No	Domains	Post-test knowledge	Pre-test knowledge	% of knowledge gain
1	Illness	81.67%	41.67%	40.00%
2	Signs and Symptoms	82.50%	39.00%	43.50%
3	Diagnostic measures	82.50%	47.50%	35.00%
4	Insulin and its action	74.58%	37.08%	37.50%
5	Characteristics of Insulin	80.57%	27.23%	53.34%
6	Site of insulin administration	82.50%	21.65%	60.85%
7	Methods of insulin administration	84.15%	15.00%	69.15%
8	After care of insulin injection	80.00%	15.57%	64.43%
9	Adverse effects of insulin injection	89.15%	25.85%	63.30%
10	Precautions of Type I DM	82.50%	30.43%	52.07%
11	Diet for Type I DM	77.33%	29.33%	48.00%
Overall		80.94%	30.33%	50.61%

Table4.10 shows each domain wise mothers knowledge gain score on type 1 diabetes children and its management.

Table 4.11: Comparison of Pretest and Posttest Level of Knowledge Score

Level of knowledge	Pretest		Posttest		Generalized McNemar's test
	n	%	n	%	
Inadequate knowledge	57	95.0%	0	0.0%	**$\chi 2$=57.00 P=0.001*(S)**
Moderate knowledge	3	5.0%	12	20.0%	
Adequate knowledge	0	0.0%	48	80.0%	
Total	60	100.0%	60	100.0%	

***significant at p<0.001 level

Table 4.11 shows the pretest and post-test level of knowledge among mothers

Before Planned Teaching Programme, 95.0% of the mothers are having inadequate level of knowledge score, 5.0% of them having moderate level of knowledge score and none of them are having adequate level of knowledge score.After Planned Teaching Programme, none of the mothers are having inadequate level of knowledge score, 20.0% of them having moderate level of knowledge score and 80.0% of them are having adequate level of knowledge score.Level of knowledge gain of between pretest and posttest was calculated using Generalised McNemar's chisquare test.

SECTION-D:EVALUATE THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME IN ASSOCIATION BETWEEN KNOWLEDGE GAIN SCORE AND DEMOGRAPHIC VARIABLES

Table 4.12: Effectiveness and Generalization of Knowledge Gain due to Planned Teaching Programme

	Max score	**Mean score**	**Mean Difference of knowledge gain score with 95% Confidence interval**	**Percentage Difference of knowledge gain score with 95% Confidence interval**
Pre-test	30	9.10	15.18% (13.48 – 16.88)	50.60% (44.93% –56.26%)
Post-test	30	24.28		

Table 4.12: shows the effectiveness of planned teaching programme among mothers on Type 1 Diabetes children and its management.

On an average, in post-test after having Planned Teaching Programme, mothers were gained 50.60% more knowledge score than pre-test score.

Differences and generalization of knowledge gain score between pre-test and post-test score was calculated using and mean difference with 95% Confidence Interval and proportion with 95% Confidence Interval.

SECTION – E: ASSOCIATION BETWEEN KNOWLEDGE GAIN SCORE AND DEMOGRAPHIC VARIABLES

Table 4.13: Association between Posttest Level of Knowledge and their Demographic Variables

Demographic variables		Total					Chi square test
		Moderate		Adequate			
		n	%	n	%	n	
Gender	Male	9	25.00%	27	75.00%	36	$\chi 2$=1.40 P=0.23(NS)
	Female	3	12.50%	21	87.50%	24	
Age of the Child	1 to 3 years	0	0.00%	0	0.00%	0	$\chi 2$=0.82 P=0.66(NS)
	3 to 6 years	6	21.43%	22	78.57%	28	
	6 to 9 years	3	14.29%	18	85.71%	21	
	9 to 12 years	3	27.27%	8	72.73%	11	
Education of the Child	Primary school	4	40.00%	6	60.00%	10	$\chi 2$=3.88 P=0.14(NS)
	Middle school	8	17.78%	37	82.22%	45	
	High school	0	0.00%	5	100.00%	5	
	Higher secondary school	0	0.00%	0	0.00%	0	
Duration of the illness of the Child	< 1 year	5	19.23%	21	80.77%	26	$\chi 2$=0.29 P=0.86(NS)
	2 years to 3 years	7	21.21%	26	78.79%	33	
	4 years to 5 years	0	0.00%	0	0.00%	0	
	6 years and above	0	0.00%	1	100.00%	1	
Type of treatment	Regular	7	14.00%	43	86.00%	50	$\chi 2$=6.75 P=0.01**(S)
	Irregular	5	50.00%	5	50.00%	10	
Religion of the child	Hindu	7	21.88%	25	78.13%	32	$\chi 2$=0.15 P=0.92(NS)
	Christian	4	18.18%	18	81.82%	22	
	Muslim	1	16.67%	5	83.33%	6	
Education of the father	Primary school	1	100.00%	0	0.00%	1	$\chi 2$=7.50 P=0.06(NS)
	High school	0	0.00%	9	100.00%	9	
	Higher secondary school	4	16.00%	21	84.00%	25	
	Diploma, graduate or others	7	28.00%	18	72.00%	25	
	Non formal education	0	0.00%	0	0.00%	0	

Demographic variables		Total					Chi square test
		Moderate		Adequate			
		n	%	n	%	n	
Education of the mother	Primary school	2	100.00%	0	0.00%	2	$\chi 2$=9.46 P=0.02*(S)
	High school	5	20.83%	19	79.17%	24	
	Higher secondary school	4	20.00%	16	80.00%	20	
	Diploma, graduate or others	1	7.14%	13	92.86%	14	
	Non formal education	0	0.00%	0	0.00%	0	
Occupation of the father	Government employee	1	100.00%	0	0.00%	1	$\chi 2$=4.63 P=0.20(NS)
	Private employee	9	20.45%	35	7.55%	44	
	Self-employment-business	1	10.00%	9	90.00%	10	
	Labour	1	20.00%	4	80.00%	5	
Occupation of the mother	Government employee	0	0.00%	0	0.00%	0	$\chi 2$=6.93 P=0.03* (S)
	Private employee	3	17.65%	4	82.35%	17	
	Labour	4	57.14%	3	42.86%	7	
	Home maker	5	13.88%	31	86.12%	36	
Age of the mother	Below 18 years	0	0.00%	0	0.00%	0	$\chi 2$=8.95 P=0.01**(S)
	18 years to 23 years	10	37.04%	17	62.96%	27	
	24 years to 30 years	2	6.45%	29	93.55%	31	
	Above 30 years	0	0.00%	2	100.00%	2	
Family income per month	< Rs.5000	0	0.00%	0	0.00%	0	$\chi 2$=2.01 P=0.16(NS)
	Rs.5,000 to 10,000	4	12.90%	27	87.10%	31	
	Rs.10,000 to 15,000	8	27.59%	21	72.41%	29	
	Rs.15,000 to20,000	0	0.00%	0	0.00%	0	
	> Rs. 20,000	0	0.00%	0	0.00%	0	

Demographic variables		Total					Chi square test
		Moderate		Adequate			
		n	%	n	%	n	
Family history of Diabetes	Grandparents	8	29.63%	19	70.37%	27	$\chi 2=3.63$ P=0.16(NS)
	Parents	2	22.22%	7	77.78%	9	
	Siblings	0	0.00%	0	0.00%	0	
	No family history	2	8.33%	22	91.67%	24	
Previous knowledge about insulin administration	Relatives friends	5	20.00%	20	80.00%	25	$\chi 2=0.50$ P=0.91(NS)
	Television radio	2	14.29%	12	85.71%	14	
	Newspaper magazine	2	22.22%	7	77.78%	9	
	Not heard	3	25.00%	9	75.00%	12	

Table 4.13: shows the association between post-test level of knowledge and their demographic variables.

Regular Type of treatment, more educated mothers, Elder age mothers, housewife mothers are significantly having more knowledge than others.

Statistical significance was calculated using karl pearson chi square test.

Table 4.14: Association between Knowledge Gain Score and Demographic Variables

		n	Knowledge gain score						One-way ANOVA F-test/t-test
			Pre-test		Post-test		Gain score= Post-Pre		
			Mean	D	Mean	SD	Mean	SD	
Gender	Male	36	9.19	3.68	24.25	4.03	15.06	6.92	t=0.18 P=0.86(NS)
	Female	24	8.96	3.17	24.33	3.78	15.38	6.21	
Age of the Child	3 to 6years	28	9.14	3.03	23.82	3.90	14.68	6.21	F=0.61 P=0.54 (NS)
	6 to 9years	21	9.48	3.37	24.29	3.73	14.81	6.81	
	9 to 12 years	11	8.27	4.69	25.45	4.34	17.18	7.35	
Education of the Child	Primary school	10	10.90	2.42	24.30	4.16	13.40	6.04	F=0.66 P=0.53 (NS)
	Middle school	45	9.09	3.42	24.33	3.78	15.24	6.29	
	High school	5	5.60	3.36	23.80	1.79	18.20	5.07	
Duration of the illness of the Child	< 1 year	26	8.92	2.94	24.04	3.59	15.12	6.11	F=0.38 P=0.68 (NS)
	2 years to 3 years	33	9.33	3.86	24.39	4.21	15.06	7.06	
	6 years and above	1	6.00	0.00	27.00	0.00	21.00	0.00	
Type of treatment	Regular	50	8.50	3.49	27.50	3.86	19.00	6.02	t=2.07 P=0.04* (S)
	Irregular	0	8.10	2.60	22.72	4.23	14.62	6.58	
Religion of the child	Hindu	32	9.22	3.03	23.88	3.95	14.66	6.60	F=0.64 P=0.53 (NS)
	Christian	22	9.45	4.21	24.64	3.86	15.18	6.77	
	Muslim	6	7.17	2.14	25.17	4.22	18.00	6.26	
Education of the father	Primary school	1	11.00	.	16.00	.	5.00	.	F=2.10 P=0.11(NS)
	High school	9	8.00	2.83	26.33	2.60	18.33	5.24	
	Higher secondary school	25	8.88	3.78	24.80	4.08	15.92	6.92	
	Diploma, graduate or others	25	9.64	3.39	23.36	3.59	13.72	6.24	

		n	Knowledge gain score						One-way ANOVA F-test/t-test
			Pre-test		Post-test		Gain score= Post-Pre		
			Mean	D	Mean	SD	Mean	SD	
Education of the mother	Primary school	2	10.00	1.41	21.50	4.95	7.50	3.54	F=2.78 P=0.05* (S)
	High school	24	8.88	2.72	21.98	4.06	13.10	6.16	
	Higher secondary school	20	10.15	4.08	25.36	3.78	15.21	6.22	
	Diploma, graduate or others	14	9.29	3.29	26.01	3.08	17.72	5.44	
Occupation of the father	Government employee	1	11.00	.	18.00	.	7.00	.	F=0.84 P=0.47 (NS)
	Private employee	44	9.05	3.28	24.25	3.77	15.20	6.52	
	Self-employment business	10	10.20	4.13	24.70	3.40	14.50	5.68	
	Labour	5	7.00	3.61	25.00	5.87	18.00	9.17	
Occupation of the mother	Private employee	17	9.41	3.06	24.17	3.07	14.76	5.79	F=3.93 P=0.03* (S)
	Labour	7	8.14	2.12	21.20	3.21	13.06	5.30	
	Home maker	36	8.33	3.77	26.49	4.35	18.16	5.30	
Age of the mother	18 years to 23 years	27	10.33	3.21	23.30	3.97	12.96	5.71	F=3.13 P=0.05* (S)
	24 years to 30 years	31	8.10	3.47	25.00	3.81	16.90	6.98	
	Above 30 years	2	8.00	1.41	26.70	.71	18.70	2.12	
Family income per month	Rs.5,000 to 10,000	31	8.71	3.46	24.90	3.92	16.19	6.47	t=1.23 P=0.22 (NS)
	Rs.10,000 to 15,000	29	9.52	3.47	23.62	3.84	14.10	6.66	
Family history of Diabetes	Grand Parents	27	9.56	3.51	23.52	3.89	13.96	6.73	F=1.04 P=0.35 (NS)
	Parents	9	9.33	4.12	24.33	4.00	15.00	5.77	
	No family history	24	8.50	3.19	25.13	3.87	16.63	6.68	

		n	Knowledge gain score						One-way ANOVA F-test/t-test
			Pre-test		Post-test		Gain score= Post-Pre		
			Mean	D	Mean	SD	Mean	SD	
Previous knowledge about insulin administration	Relatives / friends	25	9.08	3.25	24.12	3.99	15.04	6.53	F=0.40 P=0.75 (NS)
	Television / radio	14	9.00	4.02	25.64	3.61	16.64	6.28	
	Newspaper / magazine	9	9.11	3.37	24.33	3.20	15.22	6.36	
	Not heard now yet	12	9.25	3.70	23.00	4.45	13.75	7.68	

Table 4.14: shows the association between knowledge gain score and their demographic variables.

Regular Type of treatment, more educated mothers, elder age mothers, housewife mothers significantly have more knowledge than others.

Statistical significance was calculated using one way analysis of variance F-test and student independent t-test.

CHAPTER-V
DISCUSSION

This chapter deals with the discussion of the results of the data based on the objective of the study, hypothsis and the purpose of the study was to "ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 8"

FINDING BASED ON OBJECTIVES

Objective-I: To assess the pre-test level of the knowledge of mothers of Type 1 Diabetes children and its management

During pretest score of knowledge 95.0 % of the mothers were having inadequate level of knowledge score, 5.0 % of them were having moderate level of knowledge score and none of them were having adequate level of knowledge score and after the administration of planned teaching programme none of the mothers were having inadequate level of knowledge score, 21.7% of them were having moderate level of knowledge score and 78.3% of them were having adequate level of knowledge score.

On an average, mothers were gained 9.10% to 24.28% of knowledge score after administration of Planned Teaching Programme. This 24.28% knowledge gain score shows the effectiveness of Planned Teaching Programme on knowledge among mothers of children with Type 1 Diabetes Mellitus and its management regimen.

On an average, knowledge of mothers after administration of Planned Teaching Programme of Type 1 Diabetes children and its

management they gained maximum knowledge in Adverse effects of insulin injection (89.15%) which every mothers should know and minimum knowledge score in Insulin and its action (74.58%).

Maryam Khandan, Farokh Abazari et al (2016) conducted a study on Lived Experiences of Mothers with Diabetic Children from the Transfer of Caring Role The findings of this study revealed that after the confirmed diagnosis of T1D in children and their discharge from the hospital, the mothers of these children experience several problems such as 'facing the care management challenge' 'care in the shadow of concern', and 'hard life in the impasse of Diabetes'. The results obtained in this study are similar to those in other studies. Therefore, identifying the needs and problems of these mothers regarding the transfer of the caregiver's role as well as their education and training by healthcare providers can help them to effectively facilitate the management of this transition.[27]

Objective-II: To assess the post-test level of the knowledge regarding Type 1 Diabetes Mellitus and its management regimen among mothers of children with Type 1 Diabetes Mellitus

This study shows the mothers level of knowledge of mothers of Type 1 Diabetes children and its management. In general none of the mothers were having inadequate level of knowledge score, 20.0% of them were having moderate level of knowledge score and 80.0% of them were having adequate level of knowledge score.

Objective-III: Assess the effectiveness of the planned teaching programme on knowledge of mothers of Type 1 Diabetes children and its management

On an average, mothers are improved their knowledge from 9.10 to 24.28 after the administration of Planned teaching programme or we can say , in pre-test they were able to answer only 9 questions before administration of planned teaching programme, after administration of planned teaching programme they are able to answer up to 24 questions.

Due to planned teaching programme they were able to answer 15 more questions correctly. This difference is statistically significant. Statistical significance was calculated by using student's paired 't'test.

Before planned teaching programme, 95.0% of the mothers were having inadequate level of knowledge score, 5.0% of them having moderate level of knowledge score and none of them were having adequate level of knowledge score.

Anderson. B.J., Brackett.J.,Laffel. L.M (2010), this is a descriptive study with cross- cut and quantitative approach. We used the instruments: Knowledge Quiz Diabetes Mellitus and Self-efficacy Scale in Diabetes Management adapted and validated in Brazil. About knowledge of caregivers, 72% had a satisfactory score. Most of them can perform the treatment (80%), and 24% do not trust the skill; 72% of respondents can recognize hyperglycemia and 96% can recognize hypoglycemia; 80% apply the correct technique of insulin administration; 80% manage to keep the recommended diet. However, 16% said they did not know to replace correctly. The majority of caregivers of children with Type 1 Diabetes Mellitus have good knowledge about the disease, and disease management performed by these caregivers is satisfactory in general. However, there is a need to intervene in some ways, changing attitudes to cope more adequately with the disease, as well as improving the effectiveness of Type 1 diabetes mellitus education[43].

The results showed with education the awareness was improved and there was decrease to refuse the treatment, but in this study with education the parents had adequate awareness about the Type 1 Diabetes Mellitus management**.**

Objective-IV: To associate the post-test level of knowledge regarding Type 1 Diabetes and its management with demographic variables of mothers and children

The association between knowledge gain score regarding Type 1 Diabetes mellitus and its management and their demographic variables states that the regular Type of treatment, more educated mothers, elder age mothers, housewife mothers are significantly having more knowledge than others.

Statistical significance was calculated using one way analysis of variance F-test and student independent t-test.

The findings of the study revealed a high statistical significance in comparing with pre and post-test level of knowledge among mothers of children with Type 1 Diabetes Mellitus and its management regimen attending Diabetology Outpatient Department, Institute of Child Health and Hospital for Children, Egmore, Chennai – 8

Al-Odayani AN, Alsharqi OZ, (2016) Oct 29, conducted a cross sectional study on **Children's glycemic control: mother's knowledge and socioeconomic status.** The study was designed to examine the role of socioeconomic status of the mother's knowledge about different aspects of Diabetes and the glycemic control of Type 1 children with Diabetes. Samples were taken from successive admissions to the outpatient Diabetes clinics in Prince Sultan Medical Military City (PSMMC), Riyadh, Saudi Arabia[21].

It was found that, to improve glycemic control and to decrease acute and chronic complications of Diabetes in children, mother's knowledge and education is needed.

CHAPTER-VI
SUMMARY, IMPLICATION, RECOMMENDATION, LIMITATION AND CONCLUSION

This chapter deals with the summary, implications, recommendations, limitations and conclusion of the study

6.1 SUMMARY OF THE STUDY

The study was done to assess the effectiveness of planned teaching programme on the knowledge among mothers of children with type 1 diabetes mellitus and its management regimen attending diabetology outpatient department, Institute of Child Health and Hospital for Children, Egmore, Chennai – 8"

The conceptual framework of the study was based on the Modified Open System Theory of J.W.Kenney. A pre experimental one group pre-test and post-test design was used. The independent variable was planned teaching programme and the dependent variable was knowledge among mothers of children with type 1 diabetes mellitus and its management regimen

The study period was 4 weeks. Convenient sampling technique was used for sample selection. The total samples of the study consisted of 60 Mother's of children with type 1 diabetes mellitus attending Diabetology Outpatient Department, Institute of Child Health and Hospital for Children, Egmore , Chennai-8. The data was collected using a semi structured questionnaire and planned teaching programme (flash cards and phamplet). The reliability of the tool was test-retest method, the data analysis and interpretation were done by using descriptive and inferential statistics.

6.2. MAJOR FINDING OF THE STUDY

6.2.1 BASED ON DEMOGRAPHIC DATA FINDINGS:

- The study finding reveals demographic characteristic
- **Gender**s of children were (60.0%) 36 of them were male.
- **Age** of children 3 to 6 years were 28 (46.67%).
- **Education** of Children 45 (75%) was from middle school.
- **Duration of the illness of the Child** 2 to 3 years were 33 (55.0%)
- **Types of treatment were** regular for 50 children (83.33%).
- **Religion** of the child among 32 (71.7%) were Hindu.
- **Education of the father** 25 (41.67%) were higher secondary school, 25 (41.67%) were diploma.
- **Education of mother** 24(40.0%) were high school
- **Occupation wise distribution** among fathers Private employees were 44 (73.33%).
- **Occupation wise distribution** among mothers home maker were 36(60.00%).
- **Age of mother** 24 years to 30 years were 31 (51.67%).
- **Family history of Diabetes** grandparents had 27 (45.00%).
- **Previous knowledge about insulin administration through** relatives / friends was 25 (41.67%).

The findings of the study revealed a high statistical significance in comparing with pre and post-test level of knowledge among mothers of children with Type 1 Diabetes Mellitus and its management regimen

attending diabetology outpatient department, Institute of Child Health and Hospital for Children, Egmore, Chennai-8.

6.2.2 BASED ON THE PRE-TEST AND POSTTEST LEVEL OF KNOWLEDGE SCORE.

In the pretest 95.0% of the mothers were having inadequate level of knowledge score, 5.0% of them were having moderate level of knowledge score and none of them were having adequate level of knowledge score

In the post test none of the mothers were having inadequate level of knowledge score, 20.0% of them were having moderate level of knowledge score and 80.0% of them were having adequate level of knowledge score.

6.2.3 COMPARISON OF THE PRE-TEST AND POST-TEST LEVEL OF KNOWLEDGE SCORE

Knowledge regarding

1) ***Illness:*** In pre-test, mothers are having 1.25 score whereas in post-test they are having 2.45 score. Difference is 1.20. This difference is large and it is statistically significant difference.

2) ***Signs and Symptoms:*** In pre-test, mothers are having 0.95 score whereas in post-test they are having 1.65 score. Difference is 0.87. This difference is large and it is statistically significant difference.

3) ***Diagnostic measures:*** In pre-test, mothers are having 1.97 score whereas in post-test they are having 2.75 score. Difference is 0.70. This difference is large and it is statistically significant difference.

4) ***Insulin and its action:*** In pre-test, mothers are having 1.48 score whereas in post-test they are having 2.98 score. Difference is 1.50. This difference is large and it is statistically significant difference.

5) ***Characteristics of Insulin:*** In pre-test, mothers are having 0.82 score whereas in post-test they are having 2.42 score. Difference is 1.60. This difference is large and it is statistically significant difference.

6) ***Site of insulin administration:*** In pre-test, mothers are having 0.43 score whereas in post-test they are having 1.65 score. Difference is 1.22. This difference is large and it is statistically significant difference.

7) ***Methods of insulin administration:*** In pre-test, mothers are having 0.30 score whereas in post-test they are having 1.68 score. Difference is 1.38. This difference is large and it is statistically significant difference.

8) ***After care of insulin injection:*** In pre-test, mothers are having 0.47 score whereas in post-test they are having 2.40 score. Difference is 0.93. This difference is large and it is statistically significant difference.

9) ***Adverse effects of insulin injection:*** In pre-test, mothers are having 0.52 score whereas in post-test they are having 1.78 score. Difference is 1.26. This difference is large and it is statistically significant difference.

10) ***Precautions of Type -I Diabetes Mellitus:*** In pre-test, mothers are having 1.22 score whereas in post-test they are having 3.30 score. Difference is 2.08. This difference is large and it is statistically significant difference.

11) ***Diet for Type -I Diabetes Mellitus:*** In pre-test, mothers are having 0.88 score whereas in post-test they are having 2.32 score. Difference is 1.44. This difference is large and it is statistically significant difference.

Significance of difference between pre-test and post-test score was calculated using student paired t-test and statistically it is highly significant.

6.2.4 COMPARISON OF OVERALL KNOWLEDGE SCORE BEFORE AND AFTER PLANNED TEACHING PROGRAMME

On an average, knowledge of mothers after administration of Planned Teaching Programme of Type 1 Diabetes children and its management they gained maximum knowledge in Adverse effects of insulin injection (89.15%) and minimum knowledge score in Insulin and its action (74.58%).

On an average, mothers were improved their knowledge from 9.10 to 24.28 after the administration of Planned teaching programme or we can say , in pre-test they were able to answer only 9 questions before administration of planned teaching programme, after administration of planned teaching programme they are able to answer upto 24 questions. Due to planned teaching programme they were able to answer 15 more questions correctly. This difference is statistically significant. Statistical significance was calculated by using student's paired 't'test.

Before Planned teaching programme, 95.0% of the mothers were having inadequate level of knowledge score, 5.0% of them were having moderate level of knowledge score and none of them were having adequate level of knowledge score.

After planned teaching programme, none of the mothers were having inadequate level of knowledge score, 20.0% of them were having moderate level of knowledge score and 80.0% of them were having adequate level of knowledge score. An average, in post-test after having planned teaching programme, mothers are gained 50.60% more knowledge score than pre-test score.

Differences and generalization of knowledge gain score between pre-test and post-test score was calculated using and mean difference with 95% Confidence Interval and proportion with 95% Confidence Interval.

6.2.5 FINDING BASED ON ASSOCIATION BETWEEN KNOWLEDGE GAIN SCORE AND DEMOGRAPHIC VARIABLES

The association between knowledge gain score and their demographic variables states that:

Regular Type of treatment, more educated mothers, elder age mothers, housewife mothers are significantly having more knowledge than others.

Statistical significance was calculated using one way analysis of variance F-test and student independent t-test.

6.3 LIMITATIONS

- The study is limited to mothers with Type 1 Diabetes Mellitus children up to 3 to 12 years.
- The sample size is limited to 60 Mothers' of Type 1 Diabetes Mellitus children

6.4 RECOMMENDATIONS

On the basis of the study the following recommendations have been made for further study.

- ❖ The study can be replicated for large sample for more valid generalization.
- ❖ The same study can be done with other age groups.
- ❖ Maximum publicity should be given through mass media for creating awareness among public about the reason and the treatment of Type I Diabetes available in the health care system.
- ❖ An comparative study can be done between hospital and community settings.
- ❖ This study can be replicated in various settings.
- ❖ An information booklet can be prepared and to be issued.
- ❖ Further researches are necessary to understand the mechanisms through which parents cope with the strain of parenting a diabetic child survivor and how parenting stress in this parents influences both physical and mental health.

6.5 IMPLICATION OF THE STUDY

Numerous implications can be drawn from the present study for the improvement of knowledge on management of children with Type1 Diabetes Mellitus which promotes and creates new dimension to the mothers in care of their children with Type1 Diabetes Mellitus.

6.5.1 NURSING PRACTICE

- ❖ Nurses are the majority in health care setting. The finding of the study clearly highlights the problems experienced by the mothers.

- ❖ The health care providers of hospital provide awareness programme regarding Type 1 Diabetes Mellitus and its management regimen.

- ❖ The nurses can develop skill to explain care during the illness, counselling to the parents to adopt the situation. Nurse can teach about, to protect the child from hypoglycemia and measures to cope up with the side effects of hypoglycemia.

- ❖ Nurse can educate the parents about the Illness, Signs and Symptoms, Diagnostic measures, Insulin and its action, Characteristics of Insulin, Site of insulin administration, Methods of insulin administration, after care of insulin injection, adverse effects of insulin injection, Prevention of complications and Diet for Type 1 Diabetes Mellitus.

- ❖ The study stresses the importance of nurses being knowledgeable to provide adequate information about Type 1 Diabetes Mellitus.

- ❖ The audio visual aids like overhead projector, slide projector, video and materials should be supplied to educate the patients in all the departments of the hospital.

- ❖ Pamphlets, hand outs, patients booklets should be kept at diabetology clinics regarding type 1 diabetes mellitus for further use by children and their care givers.

6.5.2 NURSING EDUCATION

Before nurses can utilize their practice, they need to have strong foundations in terms of education.

Nurse's educators not only have a role for the students and also for the newly appointed staff.

The objective of the education in the clinical areas is,

- To create awareness regarding Type 1 Diabetes Mellitus.
- Updating the knowledge of the staff by proper and relevant in-service education
- Education programs to related to management of Type 1 Diabetes Mellitus.
- Conduct the ward teaching, staff development programme.
- Nursing rounds for both students and staff in the hospital and community
- The nurse educators take responsibility or should provide more opportunity to conduct survey and community screening.
- She should teach about early detection of Type1 Diabetes mellitus and its management to create public awareness.

6.5.3 NURSING ADMINISTRATION

- The pediatric nurse as an administrator can conduct a short term program along with the health personnel in the community for diabetic child to highlight the importance of self-monitoring of sugar levels at home itself.
- Nurse administrator should be efficient in organization of programme regarding awareness on Type 1 Diabetes Mellitus.
- She as an administrator should plan and organize in-service education for the peripheral staffs of the primary health center who comes in more contact with the community.
- A special nurse practitioner can be appointed in the outpatient department and inpatient department to provide counseling to the

parents and family members to educate the management related Type 1 Diabetes Mellitus and psychological problems.

- Nurse administrator must plan and organize education programme regarding awareness on Type 1 Diabetes Mellitus and its treatment modalities for the nursing personnel and other health team members to update their knowledge.

6.5.4 NURSING RESEARCH

- There is a need for exclusive research in this area. A research can be done to assess the parents' awareness on Type 1 Diabetes Mellitus and their stress level in community settings.

- The findings of the study serve as a basis for the nursing professional and the students to conduct for further studies, in different aspects of Type 1 Diabetes Mellitus like drug compliance, self-administration of insulin, diet, exercise, foot care, dental care, skin care and prevention of complications.

- Dissemination of findings through conference, professional journals will make the application of research findings too effective.

- One of the main aims of the nursing research is to contribute knowledge to the body of nursing to expand and broaden the scope of nursing. This is possible only if nurses are taking initiative to conduct further research.

- Establishment of counseling clinic especially for parents of children with Type I Diabetes, to promote care, reduce anxiety, and consequently, enhance quality of life.

- ❖ Research on Diabetes Mellitus should involve interdisciplinary research teams, and the findings should be communicated through journals and other media.

6.6 CONCLUSION

Planned teaching programme was conducted to enhance practice and improving the knowledge among mothers of children with Type 1 Diabetes Mellitus and its management regimen attending diabetology outpatient department. Before planned teaching programme, 95.0% of the mothers are having inadequate level of knowledge score, 5.0% of them having moderate level of knowledge score and none of them are having adequate level of knowledge score. After planned teaching programme, none of the mothers have inadequate level of knowledge score, 20.0% of them have moderate level of knowledge score and 80.0% of them are have adequate level of knowledge score. An average, in post-test after having planned teaching programme, mothers are gained 50.60% more knowledge score than pre-test score. Hence, the Planned teaching programme was instructionally effective, appropriate and feasible.

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TOOLS FOR THE DATA COLLECTION

Name of the Child :

Name of the Mother :

SOCIO-DEMOGRAPHIC DATA

1) Gender of the Child

a) Male [ ]

b) Female [ ]

2) Age of the Child in years

a) 1 to 3 years [ ]

b) 3 to 6 years [ ]

c) 6 to 12 years [ ]

d) 12 to 16 years [ ]

3) Education of the Child

a) Elementary school education [ ]

b) Primary school education [ ]

c) High school education [ ]

d) Higher secondary school education [ ]

4) Duration of the illness of the Child?

a) < 1 year [ ]

b) 2 years to 3 years [ ]

c) 4 years to 5 years [ ]

d) 6 years and above [ ]

5) Type of treatment

a) Regular [ ]

b) Irregular [ ]

6) Religion of the child?

a) Hindu [ ]

b) Christian [ ]

c) Muslim [ ]

d) Others [ ]

7) Education of the father

a) Primary school education [ ]

b) High school education [ ]

c) Higher secondary school education [ ]

d) Diploma, graduate or others [ ]

e) Non formal education [ ]

8) Education of the mother

a) Primary school education [ ]

b) High school education [ ]

c) Higher secondary school education [ ]

d) Diploma, graduate or others [ ]

e) Non formal education [ ]

9) Occupation of the father

a) Government employee [ ]

b) Private employee [ ]

c) Self-employment-business [ ]

d) Labor [ ]

10) Occupation of the mother

a) Government employee [ ]

b) Private employee [ ]

c) Labor [ ]

d) Home maker [ ]

11) Age of the mother?

a) Below 18 years [ ]

b) 18 years to 23 years [ ]

c) 24 years to 30 years [ ]

d) Above 30 years [ ]

12) Family income per month

a) 5,000 to 10,000 [ ]

b) 10,000 to 15,000 [ ]

c) 15,000 to 20,000 [ ]

d) 20,000 and above [ ]

13) Family history of diabetes

a) Grandparents [ ]

b) Parents [ ]

c) Siblings [ ]

d) No family history [ ]

14) Previous knowledge about insulin administration

a) Relatives / friends [ ]

b) Television / radio [ ]

c) Newspaper / magazine [ ]

d) not heard now yet [ ]

KNOWLEDGE REGARDING THE ILLNESS

1) Type 1 diabetes mellitus is

a) Increased blood sugar level [ ]

b) Decreased blood sugar level [ ]

c) Normal blood sugar level [ ]

d) Increased cholesterol level [ ]

2) Type 1 diabetes mellitus affects

a) Old age [ ]

b) Adults [ ]

c) Children [ ]

d) Only male [ ]

3) Type 1 diabetes mellitus is caused by

a) More intake of foods [ ]

b) Unknown or immune mediated reasons [ ]

c) Less intake of foods [ ]

d) Life style measures [ ]

KNOWLEDGE REGARDING THE SIGNS AND SYMPTOMS

4) The sign of type 1 diabetes mellitus are

a) Weight loss / increased urine output [ ]

b) Wheezing [ ]

c) Head ache / abdomen pain [ ]

d) Decreased urine output [ ]

5) Hyperglycemia is identified by

a) Pain [ ]

b) Infection [ ]

c) Excessive sweating / giddiness / fainting [ ]

d) Increased urine output [ ]

KNOWLEDGE REGARDING THE DIAGNOSTIC MEASURES

6) Diagnostic test done to find type 1 diabetes mellitus is

a) Sputum test [ ]

b) X-ray test [ ]

c) Blood and urine for sugar level [ ]

d) E C G test [ ]

7) Other predisposing factors of type 1 diabetes diagnosis is

a) Excessive thirst [ ]

b) Obesity [ ]

c) Decreased urine output [ ]

d) Loss of appetite [ ]

KNOWLEDGE REGARDING INSULIN AND ITS ACTION

8) Insulin is a

a) Food product [ ]

b) Fat substance [ ]

c) Toxic substance [ ]

d) Endocrine hormone [ ]

9) Insulin is secreted by

a) Stomach [ ]

b) Liver [ ]

c) Pancreas [ ]

d) Spleen [ ]

10) Insulin helps in the metabolism of

a) Glucose [ ]

b) Iron [ ]

c) Vitamin [ ]

d) Calcium [ ]

11) The action of insulin is to maintain

a) Body weight [ ]

b) Protein [ ]

c) Energy [ ]

d) Blood sugar [ ]

KNOWLEDGE REGARDING THE CHARACTERISTICS OF INSULIN

12) The appearance of insulin injection is

a) Precipitated [ ]

b) Cloudy /clear [ ]

c) Yellowish [ ]

d) Purple [ ]

13) Insulin injection is prepared from

a) Pork pancreas [ ]

b) Stem cells [ ]

c) Egg yolk [ ]

d) Plant stem [ ]

14) The potency of insulin is maintained by keeping it in

a) Box [ ]

b) Water [ ]

c) Refrigerator [ ]

d) Vessels [ ]

KNOWLEDGE REGARDING SITE OF INSULIN ADMINISTRATION

15) Common sites for administration of insulin are

a) Scalp and back [ ]

b) Buttocks [ ]

c) Lateral chest walls [ ]

d) Upper arms, thighs, abdomen [ ]

16) Fastest insulin injection absorption site is

a) Abdomen [ ]

b) Arm [ ]

c) Back [ ]

d) Thigh [ ]

KNOWLEDGE REGARDING METHODS OF INSULIN ADMINISTRATION

17) Insulin injection is administered using

a) 5ml hypodermic syringe [ ]

b) 5ml disposable syringe [ ]

c) Disposable 40 units insulin syringe [ ]

d) 10 ml disposable syringe [ ]

18) The needle should be introduced into the tissue at

a) 30 degree angle [ ]

b) 45 degree angle [ ]

c) 60 degree angle [ ]

d) 75 degree angle [ ]

KNOWLEDGE REGARDING THE AFTER CARE OF INSULIN INJECTION

19) After giving insulin injection the site can be

a) Pressed lightly [ ]

b) Compressed [ ]

c) Cleaned thoroughly [ ]

d) Rubbed vigorously [ ]

20) The rotation of the site of insulin injection is to prevent

a) Allergy [ ]

b) Wasting [ ]

c) Irritation [ ]

d) Fat degeneration [ ]

21) Avoiding massage after administering insulin injection helps in

a) Rapid absorption and rapid action [ ]

b) Increased absorption and prolonged action [ ]

c) Slow release and prolonged action [ ]

d) Slow absorption and poor action [ ]

KNOWLEDGE REGARDING ADVERSE EFFECTS OF INSULIN INJECTION

22) Overdose of insulin injection results in

a) Fever [ ]

b) Hypoglycemia [ ]

c) Diarrhea [ ]

d) Vomiting [ ]

23) The complication of irregular insulin injection administration may cause

a) Pain [ ]

b) Skin rashes [ ]

c) Ketoacidosis [ ]

d) Constipation [ ]

KNOWLEDGE REGARDING THE PRECAUTIONS OF TYPE 1 DIABETES MELLITUS

24) Children with type 1 diabetes mellitus, who is on insulin injection should always carry

a) Fruits [ ]

b) Cooked food [ ]

c) Salty foods [ ]

d) Sugar candy [ ]

25) The Medical I.D Card of children with type 1 diabetes should consist of

a) Family members name, relationship & qualification [ ]
b) Father's occupation and income details [ ]
c) Personal information, medical diagnosis & medical care providers contact number [ ]
d) Educational qualification of child [ ]

26) Children with type 1 diabetes mellitus should be advised to

a) Avoid excessive exercises [ ]

b) Take more spicy foods [ ]

c) Take less fluid [ ]

d) Take more fat rich foods [ ]

27) Children with type 1 diabetes mellitus should not be educated

a) Exercises [ ]

b) Self-adjustment of medication [ ]

c) Dietary management [ ]

d) Foot care [ ]

KNOWLEDGE REGARDING THE DIET FOR TYPE 1 DIABETES MELLITUS

28) List of the food items that are children with type 1 diabetes mellitus can take without restrictions

a) Cakes and chocolates [ ]

b) Fruit juices [ ]

c) Sweets and savories [ ]

d) Leafy vegetables [ ]

29) Specific food to be avoided by the children with type 1 diabetes is

a) Ghee, butter [ ]

b) Refined sugar containing food [ ]

c) Fruits & cereals [ ]

d) Root vegetables [ ]

30) The timing at which food to be taken after insulin injection

a) Immediately after food taken [ ]

b) After one hour [ ]

c) Within half an hour [ ]

d) As they wish [ ]

KEY ANSWERS :

I :

1 - a

2 - c

3 - b

II.

4 - a

5 - d

III.

6 - c

7 - a

IV.

8 - d

9 - c

10 - a

11 - d

V.

12 - b

13 - a

14 - c

VI.

15 - d

16 - a

VII.

17 - c

18 - b

VIII.

19 - a

20 - d

21 - c

IX.

22 - b

23 - c

X.

24 - d

25 - c

26 - a

27 - b

XI.

28 - d

29 - b

30 - c

குழந்தையின் குடும்பம் பற்றிய விவரங்கள்

1) குழந்தையின் பாலினம்

அ) ஆண் ☐

ஆ) பெண் ☐

2) குழந்தையின் வயது

அ) 1 வயது முதல் 3 வயது வரை ☐

ஆ) 3 வயது முதல் 6 வயது வரை ☐

இ) 6 வயது முதல் 12 வயது வரை ☐

ஈ) 12 வயது முதல் 16 வயது வரை ☐

3) குழந்தையின் கல்வி நிலை

அ) தொடக்கக் கல்வி ☐

ஆ) ஆரம்பக் கல்வி ☐

இ) நடுநிலைக் கல்வி ☐

ஈ) உயர்நிலைக் கல்வி ☐

4) குழந்தையின் நோயின் கால அளவு

அ) 1 வருடத்திற்கும் கீழ் ☐

ஆ) 2 வருடம் முதல் 3 வருடம் வரை ☐

இ) 4 வருடம் முதல் 5 வருடம் வரை ☐

ஈ) 6 வருடம் அதற்கு மேல் ☐

5) குழந்தையின் சிகிச்சை வகை முறை

அ) முறையாக/ தொடர்ச்சியாக ☐

ஆ) விட்டு விட்டு/ தொடர்ச்சியின்றி ☐

6) குழந்தையின் மதம்

அ) இந்து ☐

ஆ) கிருத்துவர் ☐

இ) முஸ்லிம் ☐

ஈ) பிற மதத்தினர் ☐

7) குழந்தையின் தந்தையின் கல்வி நிலை

அ) ஆரம்பக் கல்வி ☐

ஆ) நடுநிலைக் கல்வி ☐

இ) உயர்நிலைக் கல்வி ☐

ஈ) பட்டயப்படிப்பு/ பட்டப்படிப்பு/ அதற்கு மேல் ☐

உ) முறை சார் அற்ற கல்வி ☐

8) குழந்தையின் தாயின் கல்வி நிலை

அ) ஆரம்பக் கல்வி ☐

ஆ) நடுநிலைக் கல்வி ☐

இ) உயர்நிலைக் கல்வி ☐

ஈ) பட்டயப்படிப்பு/ பட்டப்படிப்பு/ அதற்கு மேல் ☐

உ) முறை சார் அற்ற கல்வி ☐

9) குழந்தையின் தந்தையின் தொழில்

அ) அரசு வேலை ☐

ஆ) தனியார் வேலை ☐

இ) சுய வேலை ☐

ஈ) கூலித்தொழில் ☐

10) குழந்தையின் தாயின் தொழில்

அ) அரசு வேலை ☐

ஆ) தனியார் வேலை ☐

இ) கூலித்தொழில் ☐

ஈ) குடும்பத் தலைவி ☐

11) குழந்தையின் தாயின் வயது

அ) 18 வயதுக்கு கீழ் ☐

ஆ) 19 வயது முதல் 23 வயது வரை ☐

இ) 24 வயது முதல் 30 வயது வரை ☐

ஈ) 30 வயதுக்கு மேல் ☐

12) மாத குடும்ப வருமானம்

அ) ரூ.5000 முதல் ரூ.10000 வரை ☐

ஆ) ரூ.10001 முதல் ரூ.15000 வரை ☐

இ) ரூ.15001 முதல் ரூ.20000 வரை ☐

ஈ) ரூ.20000 அதற்கு மேல் ☐

13) குடும்பத்தில் நீரிழிவு நோயின் வரலாறு

அ) மூதாதையர் வழியல் ☐

ஆ) பெற்றோர் வழியில் ☐

இ) உடன் பிறந்தோர் வழியில் ☐

ஈ) யாருக்கும் சர்க்கரை நோய் இல்லை ☐

14) இன்சுலின் மருந்து பற்றி முந்தைய அறிவுத்திறன்

அ) உறவினர்/ நண்பர் மூலம் ☐

ஆ) தொலைக்காட்சி/ வானொலி மூலம் ☐

இ) தினசரி/ வார மற்றும் மாத இதழ்கள் மூலம் ☐

ஈ) இதுவரை அறியவில்லை ☐

நோய் பற்றிய அறிவு

1) நீரிழிவு நோய்-1 என்பது என்ன?

அ) இரத்தத்தில் சர்க்கரையின் அளவு அதிகரித்தல் ☐

ஆ) இரத்தத்தில் சர்க்கரையின் அளவு குறைந்திருத்தல் ☐

இ) இரத்தத்தில் சாரசரி சர்க்கரை அளவு ☐

ஈ) இரத்தத்தில் கொழுப்பின் அளவு அதிகரித்தல் ☐

2) நீரிழிவு நோய் வகை-1 பாதிப்பு யாருக்கு ஏற்படும்?

அ) வயதானவர்களுக்கு ☐

ஆ) சராசரி வயது உடையவர்களுக்கு ☐

இ) குழந்தைகளுக்கு ☐

ஈ) ஆண்களுக்கு மட்டும் ☐

3) நீரிழிவு வகை-1 எதனால் ஏற்படும்?

அ) அதிகமான உணவு உண்பதால் ☐

ஆ) மரபியல் அமைப்பு காரணமாக ☐

இ) குறைவான உணவு உண்பதால் ☐

ஈ) வாழ்க்கை சூழல் மாற்றம் காரணமாக ☐

நோயின் அறிகுறிகள் பற்றிய விவரம்

4) நீரிழிவு நோய் வகை-1ன் அறிகுறிகள் என்ன?

அ) எடை இழப்பு/ அதிகமான அளவு சிறுநீர் கழித்தல் ☐

ஆ) சுவாச கோளாறு ☐

இ) தலைவலி/ வயிற்று வலி ☐

ஈ) குறைவான அளவு சிறுநீர் கழித்தல் ☐

5) ஹைபர் கிளைசீமியாவின் (இரத்தத்தில் சர்க்கரையின் அளவு கூடுதல் நிலை) அறிகுறிகள் என்ன?

அ) வலி ☐

ஆ) நோய் தொற்று ☐

இ) அதிக வியர்வை/ மயக்கம்/ தலை சுற்றல் ☐

ஈ) அதிகமான அளவு சிறுநீர் கழித்தல் ☐

நோய் கண்டறியும் பரிசோதனை முறைகள் பற்றிய விவரம்

6) நீரிழிவு நோய் வகை-1 கண்டறியும் பரிசோதனை முறை?

அ) சளி பரிசோதனை ☐

ஆ) எக்ஸ்-ரே பரிசோதனை ☐

இ) இரத்தம் மற்றும் சிறுநீரில் சர்க்கரையின் அளவு பரிசோதித்தல் ☐

ஈ) ஈ.சி.ஜி. பரிசோதனை ☐

7) நீரிழிவு நோய் வகை-1 கண்டறியும் பிற முன்கணிப்பு காரணிகள்?

அ) அதிகமான தாகம் ☐

ஆ) எடை கூடுவது ☐

இ) குறைவான அளவு சிறுநீர் கழித்தல் ☐

ஈ) பசியின்மை ☐

இன்சுலின் ஊசி மருந்து அதன் செயல் பற்றிய விவரம்

8) இன்சுலின் மருந்து என்பது என்ன?

அ) உணவு பொருள் போன்றது ☐

ஆ) கொழுப்பு பொருள் போன்றது ☐

இ) நச்சு பொருள் போன்றது ☐

ஈ) நாளமில்லா சுரப்பி ☐

9) இன்சுலின் உடலில் எங்கிருந்து சுரக்கிறது?

அ) வயிற்றில் இருந்து ☐

ஆ) கல்லீரலில் இருந்து ☐

இ) கணையத்தில் இருந்து ☐

ஈ) மண்ணீரலில் இருந்து ☐

10) இன்சுலின் உடலில் இந்த வளர்சிதை மாற்றத்திற்கு உதவுகிறது?

அ) சர்க்கரையின் அளவு சமநிலை ☐

ஆ) இரும்பு சத்து ☐

இ) வைட்டமின் ☐

ஈ) கால்சியம் ☐

11) இன்சுலின் உடலில் இந்த பராமரிப்பு நடவடிக்கைக்கு உதவுகிறது?

அ) எடை பராமரிப்பு ☐

ஆ) புரதம் பயன்பாடு ☐

இ) இயக்க ஆற்றல் பயன்பாடு ☐

ஈ) சர்க்கரையின் அளவு சமநிலை ☐

இன்சுலின் மருந்து அதன் குணங்கள் பற்றிய விவரம்

12) இன்சுலின் மருந்து எந்த வகை நிறத்தில் தோன்றும்?

அ) வெள்ளைத்திரி நிறம் ☐

ஆ) மஞ்சள் நிறம் ☐

இ) தெளிவான நிறம் ☐

ஈ) ஊதா நிறம் ☐

13) இன்சுலின் மருந்து இதன் மூலம் தயாரிக்கப்படுகிறது?

அ) பன்றியின் கணையத்திலிருந்து ☐

ஆ) மனிதர்களின் செல்களிலிலிருந்து ☐

இ) கோழி முட்டையின் கருவிலிருந்து ☐

ஈ) தாவர செல்களிலிருந்து ☐

14) இன்சுலின் மருந்தின் சக்தியை இதன் மூலம் பராமரிக்கலாம்?

அ) பெட்டியில் வைப்பதன் மூலம் ☐

ஆ) தண்ணீரில் வைப்பதன் மூலம் ☐

இ) குளிர்சாதன பெட்டியில் வைப்பதன் மூலம் ☐

ஈ) பாத்திரத்தில் வைப்பதன் மூலம் ☐

இன்சுலின் மருந்தினை உடலில் போட்டுக்கொள்ள வேண்டிய இடங்கள் பற்றிய விவரம்

15) இன்சுலின் மருந்தினை உடலில் போட்டுக்கொள்ள வேண்டிய பொதுவான இடங்கள்?

அ) உச்சந்தலை பகுதி ☐

ஆ) புட்டம் பகுதி ☐

இ) மார்பு பகுதியின் பக்கவாட்டு பகுதியில் ☐

ஈ) மேல் கை பகுதி/ தொடை பகுதி/ வயிற்றுப் பகுதி ☐

16) இன்சுலின் ஊசி மருந்து உடலில் எங்கு வேகமாக உறிஞ்சப்படுகிறது?

அ) வயிற்றுப் பகுதியில் ☐

ஆ) கை பகுதியில் ☐

இ) முதுகு பகுதியில் ☐

ஈ) தொடைப் பகுதியில் ☐

இன்சுலின் மருந்தினை போட்டுக்கொள்ள வேண்டிய முறைகள் பற்றிய விவரம்

17) இன்சுலின் ஊசி மருந்து இதனை பயன்படுத்தி செலுத்தப்படுகிறது?

அ) 5 மி.லி. கண்ணாடி ஊசி மூலம் ☐

ஆ) 5 மி.லி. ஒரு முறை பயன்படுத்தும் டிஸ்போஸபிள் ஊசி மூலம் ☐

இ) 40 யூனிட் அளவு குறிக்கப்பட்ட இன்சுலின் ஊசி மூலம் ☐

ஈ) 10 மி.லி.ஒருமுறை பயன்படுத்தும் டிஸ்போஸபிள் ஊசி மூலம் ☐

18) இன்சுலின் ஊசி மருந்து உடலில் திசுக்குள் இந்த கோணத்தில் செத்தப்படுகிறது?

அ) 30 டிகிரி கோணத்தில் ☐

ஆ) 45 டிகிரி கோணத்தில் ☐

இ) 60 டிகிரி கோணத்தில் ☐

ஈ) 75 டிகிரி கோணத்தில் ☐

இன்சுலின் ஊசி மருந்து போட்டுக்கொண்ட பின்பு மேற்கொள்ளும் முறைகள் பற்றிய விவரம்

19) இன்சுலின் ஊசி மருந்து உட்செலுத்துவதற்கு பிறகு அந்த இடத்தினை?

அ) மெதுவாக அழுத்த வேண்டும் ☐

ஆ) இறுக்கமாக அழுத்த வேண்டும் ☐

இ) முழுவதுமாக சுத்தப்படுத்த வேண்டும் ☐

ஈ) வேகமாக தேய்க்க வேண்டும் ☐

20) இன்சுலின் ஊசி மருந்து சுழற்சி முறையில் வழங்குவதால் இதனை தடுக்க முடியும்?

அ) ஒவ்வாமை ☐

ஆ) வீணாகாமல் தவிர்ப்பது ☐

இ) எரிச்சல் ☐

ஈ) கொழுப்பு சீரழிவு ☐

21) இன்சுலின் உட்செலுத்துதலுக்கு பின்னர் மசாஜ் செய்வதனை தவிர்ப்பதனால் இதனை தவிர்க்க முடியும்?

அ) வேகமாக உறிஞ்சப்பட்டு வேகமாக செயலாற்றுகிறது ☐

ஆ) அதிகமாக உறிஞ்சப்பட்டு அதிக நேரம் செயலாற்றுகிறது ☐

இ) மெதுவாக உறிஞ்சப்பட்டு அதிக நேரம் செயலாற்றுகிறது ☐

ஈ) மெதுவாக உறிஞ்சப்பட்டு சரியாக செயலாற்றுவதில்லை ☐

<u>இன்சுலின் ஊசி மருந்தின் பாதகமான விளைவுகள் பற்றிய விவரம்</u>

22) அதிக அளவு இன்சுலின் ஊசி மருந்தினால் இப்பிரச்சனை ஏற்படும்?

அ) ஜ்ரம் ☐

ஆ) ஹைபோகிளைசீமியா (இரத்தத்தில் சர்க்கரையின் அளவு குறைதல் நிலை) ☐

இ) வயிறுப்போக்கு ☐

ஈ) வாந்தி ☐

23) ஒழுங்கற்ற முறையில் அல்லது விட்டு விட்டு இன்சுலின் ஊசி மருந்து எடுத்துக்கொள்வதனால் ஏற்படும சிக்கல்?

அ) வலி ☐

ஆ) சரும வடுக்கள் ☐

இ) திடீர் மயக்க நிலை (கீட்டோஅசிடோசிஸ்) ☐

ஈ) மலக்கட்டு (கான்ஸ்டிபேஷன்) ☐

நீரிழிவு நோய் வகை-1 ஆல் பாதிக்கப்பட்ட குழந்தைகளுக்கு சுய மேலாண்மை முறைகள் பற்றிய விவரம்

24) இன்சுலின் ஊசி மருந்து போட்டுக்கொள்ளும் நீரிழிவு நோய் வகை-1ஆல் பாதிக்கப்பட்ட குழந்தைகள் எப்போது கையில் வைத்திருக்க வேண்டியது?

அ) பழங்கள் ☐

ஆ) சமைத்த உணவு ☐

இ) உப்பான உணவு ☐

ஈ) சர்க்கரை கலந்த மிட்டாய் வகைகள் ☐

25) நீரிழிவு நோய் வகை-1 ஆல் பாதிக்கப்பட்ட குழந்தைகளின் மருத்துவம் அடையாள அட்டையில் (ID) இருக்க வேண்டிய விவரங்கள்?

அ) குடும்ப நபர்கள் பெயர், உறவு முறை மற்றும் கல்வி விவரங்கள் ☐

ஆ) தந்தையின் வேலை மற்றும் வருவாய் விவரங்கள் ☐

இ) குழந்தையை பற்றிய விவரங்கள், மருத்துவ முறைகள் மற்றும் மருத்துவம் வழங்குபவர்கள் பற்றிய விவரங்கள் ☐

ஈ) குழந்தையின் கல்வி பற்றிய விவரங்கள் ☐

26) நீரிழிவு நோய் வகை-1ஆல் பாதிக்கப்பட்ட குழந்தைகளுக்கு இதனை அறிவுறுத்தப்பட வேண்டும்?

அ) அதிக விளையாட்டு/ உடற்பயிற்சி தவிர்ப்பது ☐

ஆ) காரமான உணவுகளை எடுத்துக்கொள்ளுதல் ☐

இ) குறைவான அளவு தண்ணீர் எடுத்துக்கொள்ளுதல் ☐

ஈ) கொழுப்பு சத்து அதிகமான உணவுகளை எடுத்துக்கொள்ளுதல் ☐

27) நீரிழிவு நோய் வகை-1ஆல் பாதிக்கப்பட்ட குழந்தைகளுக்கு இதனை பற்றிய கல்வி அறிவு வழங்கக் கூடாது?

அ) உடற்பயிற்சி பற்றி ☐

ஆ) இன்சுலின் மருந்தின் அளவு சுயமாக மாற்றி கொள்வது பற்றி ☐

இ) உணவு முறைகள் பற்றி ☐

ஈ) பாதங்களை பாதுகாக்கும் முறைகள் பற்றி ☐

நீரிழிவு நோய் வகை-1ஆல் பாதிக்கப்பட்ட குழந்தைகளுக்கான உணவு முறைகள் பற்றிய விவரம்

28) நீரிழிவு நோய் வகை 1-ஆல் பாதிக்கப்பட்ட குழந்தைகள் இந்த வகை உணவுப் பொருட்களை கட்டுப்பாடு இல்லாமல் எடுத்துக்கொள்ளலாம்?

அ) கேக் போன்ற திண்பண்டங்கள் ☐

ஆ) பழச்சாறு வகை ☐

இ) இனிப்பு மற்றும் இனிப்புசார் பண்டங்கள் ☐

ஈ) கீரை வகைகள் மற்றும் பச்சை காய்கறிகள் ☐

29) நீரிழிவு நோய் வகை-1ஆல் பாதிக்கப்பட்ட குழந்தைகள் இந்த வகை உணவு பொருட்களை தவிர்க்க வேண்டும்?

அ) நெய், வெண்ணை சார் பண்டங்கள் ☐

ஆ) சுத்திகரிக்கப்பட்ட சர்க்கரையினால் செய்த பண்டங்கள் ☐

இ) பழங்கள் மற்றும் பருப்பு வகைகள் ☐

ஈ) கிழங்கு வகைகள் ☐

30) உணவு உட்கொண்ட பின்பு இன்சுலின் ஊசி மருந்தினை எவ்வளவு நேரத்திற்குள் எடுத்துக்கொள்ள வேண்டும்?

அ) சாப்பிட்டு முடித்த உடன் ☐

ஆ) சாப்பிட்ட ஒரு மணி நேரம் கழித்து ☐

இ) சாப்பிட்ட அரை மணி நேரம் கழித்து ☐

ஈ) அவரவர்கள் விரும்பும் நேரத்தில் ☐

கேள்விகளின் பதில்கள்:

I:

1 - அ
2 - இ
3 - ஆ

II:

4 - அ
5 - ஈ

III:

6 - இ
7 - அ

IV:

8 - ஈ
9 - இ
10 - அ
11 - ஈ

V:

12 - ஆ
13 - அ
14 - இ

VI:

15 - ஈ
16 - அ

VII:

17 - இ
18 - ஆ

VIII:

19 - அ
20 - ஈ
21 - இ

IX:

22 - ஆ
23 - இ

X:

24 - ஈ
25 - இ
26 - அ
27 - ஆ

XI:

28 - ஈ
29 - ஆ
30 - இ

PLANNED TEACHING PROGRAMME

ON

HOME CARE MANAGEMENT REGIMEN OF TYPE 1 DIABETES

PLANNED TEACHING MODULE ON HOME CARE MANAGEMENT REGIMEN OF TYPE 1 DIABETES

TOPIC	:	HOME CARE MANAGEMENT REGIMEN OF TYPE 1 DIABETES
GROUP	:	MOTHER'S OF CHILDREN WITH TYPE 1 DIABETES
PLACE OF TEACHING	:	DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 08
DURATION	:	45 MINUTES
INSTRUCTOR	:	T.SUDHAGAR, M.Sc (N) – II YEAR
METHODS OF TEACHING	:	LECTURE CUM DISCUSSION
TEACHING AID	:	FLASH CARDS, PHAMPLET
MEDIUM OF INSTRUCTION	:	TAMIL

CENTRAL OBJECTIVE

Mothers of the children with type 1 diabetes will understand the importance of home care management of Type 1 diabetes and apply this knowledge in care of the type 1 diabetes children and prevention of complications.

CONTRIBUTORY OBJECTIVE

The mothers of the children with type 1 diabetes will be able to

- define type 1 diabetes
- describe the causes of type 1 diabetes
- depict the signs and symptoms of type 1 diabetes
- list out the various investigations done for the type 1 diabetes
- explain the steps of urine testing
- brief out the dietary management of diabetes
- enumerate on insulin therapy
- state the side effects of insulin
- demonstrate the procedure of self-administration of injection insulin
- narrate the importance of exercise in maintaining blood glucose level under control
- mention the importance of dental care, skin care & foot care
- list down the complications and the management of type 1 diabetes

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
	2 mins	The mothers of the children with the type 1 diabetes will be able to	**INTRODUCTION:** Childhood Diabetes is a metabolic disease, which continues lifelong. Therefore, the education on home care management of Type 1 diabetes must be taught to the mothers of the type 1 diabetes. Education creates awareness on "danger signals of complication". The child must learn from the onset of the disease that he must obey certain rules regarding food and that he must accept the injections at the time stated. Although activity need not be restricted, it is important to recognize that there are greater energy requirements during activities. Thus, clear instructions to be given to the child regarding self-care.	explaining	listening	flash cards	
1.	2 mins	define diabetes?	**DEFINITION:** **Diabetes mellitus type 1,** also known as **type 1 diabetes,** is a form of diabetes mellitus in which not enough insulin is produced. This results in high blood sugar levels in the body. The classical symptoms are frequent urination, increased thirst, increased hunger, and weight loss. Additional symptoms may include blurry vision, feeling tired, and poor healing. Symptoms typically develop over a short period of time. – W.H.O	explaining	listening	flash cards	define the term type 1 diabetes?
2.	2 mins	describe the causes of type 1 diabetes	**CAUSES:** 1. Familial / hereditary 2. Increase in weight 3. Lack of insulin 4. Stress 5. Other factors like infection, surgeries etc.	explaining	listening	flash cards	what are all the causes for type 1 diabetes?

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
3.	2 mins	depict the signs and symptoms of type 1 diabetes	**SIGNS AND SYMPTOMS OF TYPE 1 DIABETES:** 1. Increased thirst 2. Frequent urination. 3. Increased hunger. 4. Weight loss. 5. Blurred vision. 6. Excessive tiredness 7. Delayed wound healing	explaining	listening	flash cards	what are all the signs and symptoms for the type 1 diabetes?
4.	3 mins	list out the various investigations done for type 1 diabetes	**INVESTIGATIONS:** ‡ Blood Sugar Analysis: ‡ Fasting blood sugar ‡ Post prandial blood sugar ‡ Capillary blood analysis ‡ Urine sugar analysis: ‡ Ready stick analysis ‡ Benedict solution method ‡ Hb1ac (three months once)	explaining	listening	flash cards	what are all the investigations done for the detection of type 1 diabetes?
5.	5 mins	explain the steps of urine testing	**TESTING OF URINE:** So when collecting urine makes sure to collect a second void specimen. Pass urine, do not collect this sample, drink a glass of water wait for half an hour and urinate again. Collect and test the second specimen. The second sample is better reflective of blood sugar level at the time of urine test.	explaining	listening	flash cards	what are the steps of urine sugar testing?

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			TEST FOR URINE SUGAR WITH BENEDICT'S SOLUTION: 1. Take 5 ml of benedict's solution in a test tube. 2. Boil it over the spirit lamp, holding the test tube away from your face. 3. If there is no color change in the benedict's solution add 8 drops of urine into the test tube with the help of dropper and shake well. 4. Boil it again. 5. Remove the test tube and allow it to cool. 6. The result may be recorded according to the color change as given below. a) Blue liquid with no deposit - Absence of sugar. b) Green liquid with no deposit - Approximately 1% of sugar. c) Green liquid with yellow deposit - Approximately 2% of sugar. d) Color less liquid with orange deposit - Approximately 3% of sugar. e) Brick red - 5 % or above. 7. Discard the urine and clean the test tube. Dipsticks are available now a day, which enables one to check his/her diabetes status at home. Here the child has to dip the stick in the urine collected and compare the color change with the standard color to know his/her diabetes status.				

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
6.	5 mins	brief out the dietary management of diabetes	**MANAGEMENT:** **DIET THERAPY:** The diet of a diabetic child should be regulated not restricted, Portion of daily calories should be from, for example: 1. Carbohydrates 40 to 45 per cent. 2. Protein 15 to 20 per cent. 3. Fat 35 to 40 per cent. Whatever the method emphasis should be laid on the growth factor in children. It is practical to prescribe a 'free diet' with instructions not to over indulge in candies, cakes etc. the calculation of calories requirements by the age, age and weight method is as follows: **Age and weight** **calories** 7 to 8 years 70 cals/kg 1600 cal 9 to 10 years 60 cals/kg 1800 cal 12 to 16 years 40 cals/kg 2000 cal Meals should be small and frequent especially when protamine zinc insulin is employed, in order to prevent episodes of hypoglycemia. **FOOD LIST:** **Free Foods / Liberal Foods:** Cabbage, cauliflower, ladies finger, drumstick, radish, brinjal, sow sow, mushroom, tomato, lemon, cucumber, plantain flower, plantain stem, spinach, fenugreek leaves, radish leaves, coriander leaves, curry leaves, field beans, Beans, cluster beans, broad beans, bengal gram (whole), green gram (whole), horse gram, germinated pulses, peas, cow pea, bitter gourd, ridge gourd, bottle gourd, snake gourd, ash gourd	explaining	listening	flash cards	what are all the diet should be given and should not be given to the child with type 1 diabetes?

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			Butter milk, vegetable soup, vegetable salad, rasam, lemon juice without sugar, plain soda, Tomato juice without sugar **Food for Snacks:** Field beans, broad beans, peas, cowpeas, horse gram, bengal gram, green gram, boiled vegetables, tomato, cucumber and onion salad, Wheat bread, Marie biscuits, Fruits: orange, sweet lime, apple, pomegranate, papaya, guava **Foods to Avoid:** Sweet items: sugar, jaggery, glucose, honey, halwa, chocolates, ice cream, horlicks, boumvita, boost, dried fruits, nuts and oil seeds Roots and tubers: potato, yam, tapioca, and sweet potato. Fruits: mangoes, jackfruit, banana, seethaphal (or) custard apple, sapota, grapes, pineapple. Milk and milk products such as butter, ghee, curd, cream, and khoa. Fried items like muruku, mixture, pakoda, chips etc.The above mentioned food items to be taken as per the dietary restrictions with dieticians consultation				
7.	5 mins	enumerate on insulin therapy	**INSULIN THERAPY:** The child should be thought how to take insulin injection. It must be emphasized that this should be done regularly and throughout life. As the child grows older he will require increased amounts.	explaining	listening	flash cards	what are all the aspect taught to mother's diabetes regarding insulin therapy?

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			The child should be competent in the followings: 1. The site of injection - upper outer aspect of thigh, abdomen, upper arm. 2. Method of administration. 3. Cleanliness of syringe and needle: Ideally you should use a disposable syringe and needle only once. However it is all right to use the same needle for the same patient more than once. It depends on when the needle starts causing pain while injecting. 4. Prevention of infection: skin cleanliness, washing of hands. 5. Calculation of dose. 6. Availability of insulin. 7. Recognition of hypoglycemia signs, i.e. irritability, inability to concentrate, sweating, trembling, hunger pangs, faintness, headache, confusion and convulsions. 8. Knowledge regarding how to deal with hypoglycemic state: a) Oral glucose, lump of sugar. b) Test urine. c) Seek medical assistance. 9. Carry identification card or disc stating that the child is suffering from type 1 diabetes mellitus.				

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
8.	2 mins	state the side effects of insulin	**THE ADVERSE EFFECTS OF INSULIN:** The adverse effects of insulin include the following. a) Hypoglycemia b) Hyperglycemia c) Ketoacidosis d) Hypertrophy e) Lipotrophy	explaining	listening	flash cards	what are adverse effects of insulin?
9.	2 mins	demonstrate the procedure of self-administration of injection insulin	**PROCEDURE:** 1. Keep all the articles ready. 2. Wash hands with soap and water. 3. Load the required dose of insulin in the insulin syringe. 4. Clean the site of injection with antiseptic solution. 5. Gently pinch skin. 6. Push needle in vertically at least 1 cm. 7. Do not pull back plunger — push inwards only. 8. When removing the needle, quickly cover the site with cotton. 9. Do not rub the site. 10.Replace all the articles	explaining	listening	flash cards	what is the step of procedure for self-administration of insulin?
10.	3 mins	narrate the importance of exercise in maintaining blood glucose level under control	**EXERCISE:** Exercise plays vital role in controlling blood sugar. Lack of physical activity also increases the sugar level in the blood. Therefore, the child is advised to exercise daily. The effect of exercise on blood sugar can last from 12 to 72 hours. **However the following are the advantages of regular exercise:** 1. Better control of blood sugar. 2. Controls weight. 3. Improves heart and blood circulation. 4. Increases strength and ease of movement.	explaining	listening	flash cards	what are all the advantages of exercise therapy?

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			5. Reduces the amount of diabetic medicine you need to control your blood sugar. **Getting started with exercise:** 1. Whatever kind of exercise you choose, start slowly and only after checking with your doctor. Begin by doing only 5 to 10 minutes a day. Increase gradually. 2. Exercise every day, if you can. 3. Wear cotton socks and good supportive shoes, chappals. 4. Check blood sugar before and after exercise, if blood sugar is low before or during exercise, have a snack to raise it.				
11.	3 mins	mention the importance of dental care, skin care & foot care	**DENTAL CARE:** A diabetic child is prone for dental problems than anyone else. Each one of the diabetic child should go for dental check-up at the regular interval. **Certain interventions like the below mentioned prevents complication of dental carries.** • Learn how the gum problems start. • Brush teeth twice a day. • Look for early signs of gum disease. • Visit dentist at least twice a year. **In addition to the above points the following warning Signs should be taught to the children:** • Red, swollen, or painful gums. • Pus between the teeth and gums (when press over gums). • Bad breath. • Pain while chewing. • Dark spots or holes in teeth. • Bleeding gums when brushing, this bleeding is not normal, don't hurt gums, and get that checked. Consult dentist.	explaining	listening	flash cards	what are the methods to protect the dental, skin & foot problems?

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			SKIN AND FOOT CARE: A diabetic child should keep the skin healthy, because they are prone for frequent infection. Furthermore they have to take care of the foot also. **There are several ways to keep the skin problems away:** • Keep your diabetes well managed. People with high glucose levels tend to have dry skin and less ability to fend off harmful bacteria. Both conditions increase the risk of infection. • Keep skin clean and dry. Use talcum powder in areas where skin touches skin, such as armpits and groin. • Avoid very hot baths and showers. But don't put lotions between toes. The extra moisture there can encourage fungus to grow. • Prevent dry skin. Scratching dry or itchy skin can open up and allow infection to set in. Wash minor cuts with soap and water. Antiseptics, alcohol, or iodine to clean skin because they are too harsh. Only use an antibiotic cream or ointment. Cover minor cuts with sterile gauze. • See a skin doctor about skin problems if you are not able to solve them. • Check your feet every day for sores and cuts. Wear broad, flat shoes that fit well. Check your shoes for foreign objects before putting them on.	explaining	listening	flash cards	

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
12.	9 mins	list down the complications and the management of type 1 diabetes	**COMPLICATIONS:** The complications of type 1 diabetes includes: ➢ **Physical complications** ➢ **Mental complications** **The physical complications includes:** ➢ Acute Complications ➢ Chronic Complications **Acute Complications:** ➢ Hypoglycemia ➢ Hyperglycemia **Chronic Complications:** ➢ Eye damage - Diabetic Retinopathy ➢ Hearing impairment ➢ Heart and blood vessel diseases – cardiomyopathy ➢ Nerve damage – neuropathy ➢ Kidney damage – nephropathy ➢ Osteoporosis ➢ Alzheimer's diseases ➢ Diabetic Ketoacidosis ➢ Coma **HYPOGLYCEMIA:** Hypoglycemia in children has been defined as the state in which blood sugar level is below 40 mgs in infants and 50 mgs in older children. Hence only the blood glucose level should be estimated in these cases for a definite diagnosis of hypoglycemia.	explaining	listening	flash cards	what are all the complications and the management for type 1 diabetes?

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			CAUSES: Hypoglycemia may occur in starvation and is common and frequent. **The child may experience any of the symptoms mentioned below:** Shakiness, nervousness, impatience, chills and cold sweat, hunger, stubbornness, blurry vision, tingling or numbness of lips or tongue, strange behavior, personality changes, sweating, irritability, sadness or anger, tachycardia, light headedness or dizziness, drowsiness, lack of coordination, nausea, headaches, confusion **HYPERGLYCEMIA:** Hyperglycemia (or high blood glucose) can occur at any time if blood glucose is above the target range. Hyperglycemia is caused by having too much sugar and/or not enough insulin in the body. In fact, the symptoms of diabetes are the same as the symptoms of hyperglycemia. The two main reasons for having hyperglycemia are poor blood glucose management and getting sick. When you get sick, your blood glucose level goes up. It's your body's way of trying to get the energy it needs, especially when you're not eating as much. **Signs and symptoms of high blood sugar level include:** Frequent urination, extreme thirst, weight loss, weakness, dehydration, vomiting, unusual hunger, exhaustion, blurry vision, nausea, fruit-smelling breath, abdomen pain, drowsiness, unconsciousness, coma				

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			Diabetic retinopathy: Damage to the retina, small blood vessels in the eyes is affected. The early symptom of eye problem related to diabetes is blurred vision. High blood sugar changes the shape and flexibility of the lens of the eye distorting the ability to focus and causes blurred vision. **Nerve damage – neuropathy:** Most often, diabetes damages the sensory nerves in your legs and sometimes your arms. This can cause tingling, numbness, burning or pain that usually begins at the tips of your toes or fingers and over a period of months or years gradually spreads upward. **Kidney damage - nephropathy:** By the time you develop symptoms such as hand, foot or ankle swelling, anemia, shortness of breath, and high blood pressure, extensive damage may have already occurred. Severe damage can lead to kidney failure or irreversible end-stage renal disease, requiring dialysis or a kidney transplant. **Osteoporosis:** People with type 1 diabetes have lower bone mineral density and have a higher risk of fractures of the hip and foot. **DIABETIC KETOACIDOSIS:** **Clinical feature of keto-acidosis:** 1. Dehydration, 2. Abdominal pain, 3. Vomiting, 4. Fever and drowsiness, 5. Kussmaul breathing. **Mental complications include:** depression, withdrawal, dependency, school dropouts, social isolation, and favorite child syndrome.				

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			MANAGEMENT: Hypoglycemia is the anticipatory problem of the insulin therapy. Even though, hypoglycemia is the most expected unavoidable problem, certain precautions may help to prevent the frequent episodes of hypoglycemia. If you experience such a situation, take sugar immediately (3 tea spoons) otherwise, your blood sugar may further go low. **Tips to manage Hypoglycemia: <u>CARD & CANDY</u>** ➢ The best way to raise your blood sugar is by consuming glucose – **candy** ➢ Always carry the type 1 diabetes identification **card** Type 1 Diabetes is often managed by a number of health care providers including a dietitian, nurse educator, eye doctor, endocrinologist, and podiatrist. **Insulin:** Injections of insulin – either via subcutaneous injection or insulin pump – are necessary for those living with type 1 diabetes because it cannot be treated by diet and exercise alone. Insulin dosage is adjusted taking into account food intake, blood glucose levels and physical activity. **Lifestyle:** A low-carbohydrate diet, exercise, and medications is useful in type 1 DM. There are camps for children to teach them how and when to use or monitor their insulin without parental help.				

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			As psychological stress may have a negative effect on diabetes, a number of measures have been recommended including: exercising, taking up a new hobby, or joining a charity, among others. **Pancreas transplantation**: In some cases, a pancreas transplant can restore proper glucose regulation. However, the surgery and accompanying immunosuppression required may be more dangerous than continued insulin replacement therapy, so is generally only used with or sometime after a kidney transplant. One reason for this is that introducing a new kidney requires taking immunosuppressive drugs such as cyclosporine, which allows the introduction of a new pancreas to a person with diabetes without any additional immunosuppressive therapy. However, pancreas transplants alone may be beneficial in people with extremely labile type 1 diabetes mellitus. **Islet cell transplantation**: Islet cell transplantation may be an option for some people with type 1 diabetes that are not well controlled with insulin. Difficulties include finding donors that are compatible, getting the new islets to survive, and the side effects from the medications used to prevent rejection. Success rates, defined as not needing insulin at 3 years follow the procedure occurred in 44% in on registry from 2010. In the United States, as of 2016, it is considered an experimental treatment.				

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			Prevention of type 1 diabetes: Prevention may be attempted at three levels: ‡ Primary prevention ‡ Secondary prevention ‡ Tertiary prevention **Primary prevention:** In early childhood before there is evidence of immune activation directed against islet cells primary prevention. **Secondary prevention:** In non-diabetic individuals with humoral or metabolic markers of high risk of progression to diabetes secondary prevention. **Tertiary prevention:** In the attempt to prolong residual beta cell function in the newly diagnosed tertiary prevention. Interventions may aim to avoid, limit or reverse harmful immune effector mechanisms, and could potentially be supplemented by other measures designed to enhance beta cell survival or regeneration. **FOLLOW-UP CARE:** At the time of physical checkup the degree of control to be evaluated. The laboratory tests are performed once in a month or alternate months: fasting/ post prandial blood sugar values, and three months once hb1ac is to assess the mean value and it is very effective too, the insulin is adjusted according to the value.				

S.NO	TIME	SPECIFIC OBJECTIVES	CONTENT	RESEARCHER'S ACTIVITY	LEARNER'S ACTIVITY	A.V. AIDS	EVALUATION
			Height and weight measurements are made at the time of first visit at each subsequent visit. If the child making normal progress in weight and height, it is an index of the adequacy of control and management. **CONCLUSION:** A child with type 1 diabetes can lead a normal healthy life, if diabetes is well under control. This can be achieved by closely following the advice of the doctor, balancing the diet, medication and exercise, reducing stress and having a positive outlook to life.				

SUMMARY:

Childhood Diabetes is a metabolic disease, which continues lifelong. Therefore, the education on home care management of Type 1 diabetes must be taught to the mothers of the type 1 diabetes. Education creates awareness on "danger signals of complication". The child must learn from the onset of the disease that he must obey certain rules regarding food and that he must accept the injections at the time stated. Although activity need not be restricted, it is important to recognize that there are greater energy requirements during activities. Thus, clear instructions to be given to the child regarding self-care. According to W.H.O: Diabetes mellitus type 1, also known as type 1 diabetes, is a form of diabetes mellitus in which not enough insulin is produced. This results in high blood sugar levels in the body. The classical symptoms are frequent urination, increased thirst, increased hunger, and weight loss. Additional symptoms may include blurry vision, feeling tired, and poor healing. Symptoms typically develop over a short period of time. –A child with type 1 diabetes can lead a normal healthy life, if diabetes is well under control. This can be achieved by closely following the advice of the doctor, balancing the diet, medication and exercise, reducing stress and having a positive outlook to life.

திட்டமிட்ட கற்பித்தல் மாதிரி
நீரிழிவு நோய் வகை-1ன் மேலாண்மை நல பாடத்திட்டம்

தலைப்பு	:	நீரிழிவு நோய் வகை-1 பராமரிப்பு அளிப்பு திட்டம்
குழு	:	நீரிழிவு நோய் வகை-1 குழந்தைகளின் தாய்மார்கள்
கற்பிக்கும் இடம்	:	நீரிழிவு நோய் புற நோயாளிகள் பகுதி, குழந்தைகள் நல ஆராய்ச்சி மையம் மற்றும் குழந்தைகள் நல மருத்துவமனை, எழும்பூர், சென்னை-8.
நேரம்	:	45 நிமிடங்கள்
கற்பிப்பவர்/ ஆராய்ச்சியாளர்:		து.சுதாகர், எம்.எஸ்.சி., 2ம் ஆண்டு
போதிக்கும் முறை	:	விரிவுரை மற்றும் கலந்துரையாடல்
கற்பிற்கும் உபகரணங்கள்	:	செய்தி பரப்பு அட்டை, துண்டு பிரசுரம்
விரிவுரை விளக்க மொழி	:	தமிழ் மொழி

மைய நோக்கம்

நீரிழிவு நோய் வகை, குழந்தைகளின் தாய்மார்களுக்கு நீரிழிவு நோய் வகை-1ன் பராமரிப்பு மேலாண்மை முக்கியத்துவத்தினையும், சிக்கல்களை தடுப்பு முறைகள் பற்றி அறிவு வழங்குதல்.

துணை நோக்கங்கள்

இந்த திட்டமிட்ட கற்பித்தல் மாதிரி விளக்கத்திற்கு பின்பு நீரிழிவு நோய் வகை-1 குழந்தைகளின் தாய்மார்களினால் இவை முடியும்.

- நீரிழிவு நோய் வகை-1 வரையறுத்தல்
- நீரிழிவு நோய் வகை-1க்கான காரணங்களை விவரித்தல்
- நீரிழிவு நோய் வகை-1ன் அறிகுறிகளை விவரித்தல்
- நீரிழிவு நோய் வகை-1க்கான பரிசோதனை முறைகளை பட்டியலிடுதல்
- சிறுநீரில் சர்க்கரை அளவை சோதிக்கும் படிகளை விளக்குதல்
- நீரிழிவு நோய் வகை-1ன் உணவு மேலாண்மையினை விவரித்தல்
- நீரிழிவு நோய் வகை-1ககான இன்சுலின் முறைகளை குறிப்பிடுதல்
- இன்சுலின் பக்க விளைவுகள் பற்றி விளக்கமளித்தல்
- இன்சுலின் உட்செலுத்துதல் சுய நிர்வாகம் செயல்முறை விளக்கமளித்தல்
- இரத்தத்தில் குளுக்கோஸ் அளவை கட்டுப்படுத்த உடற்பயிற்சி முக்கியத்துவத்தை விவரித்தல்
- பல் பாதுகாப்பு நோய் மற்றும் கால், பாதம் பராமரிப்பு முக்கியத்துவத்தை குறிப்பிடுதல்
- நிரிழிவு நோய் வகை-1-ஆல் ஏற்படும் இன்னல்கள் மற்றும் மேலாண்மை முறைகளை பட்டியலிடுதல்

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
	2 நிமி		**அறிமுகம்** குழந்தை பருவ நீரிழிவு நோய் ஒரு வாழ்வாதார நோய், இது வாழ்நாள் முழுவதும் தொடர்கிறது. எனவே நீரிழிவு நோய் வகை-1 வீட்டில் பராமரிப்பு மேலாண்மை பற்றி குழந்தைகளின் தாய்மார்களுக்கு கற்பிக்க வேண்டும். மேலும் 'சிக்கல் சமிக்ஞைகள்' மீதும் விழிப்புணர்வு ஏற்படுத்துதல் வேண்டும். உணவு மேலாண்மை, நோய் தடுப்பு முறைகள் ஏற்றுக்கொள்ள வேண்டும். பாதுகாப்பு முறைகள் பற்றிய அறிவுறுத்தல் வழங்கப்பட வேண்டும்.	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	
1.	2 நிமி	நீரிழிவு நோய் வகை-1 வரையறுத்தல்	**விளக்கம்** நீரிழிவு நோய் வகை-1 என அறியப்படும் நோய் நீரிழிவு நோயின் ஒரு வடிவமாகும். இது உடலில் போதுமான இன்சுலின் உற்பத்தி இல்லாததினால் இரத்தத்தில் அதிக சர்க்கரை அளவை ஏற்படுத்துகிறது. -உலக சுகாதார அமைப்பு	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	நீரிழிவு நோய் வகை-1 வரையறுக்க?

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
2.	2 நிமி	நீரிழிவு நோய் வகை-1க்கான காரணங்களை விவரித்தல்	**காரணங்கள்** • பரம்பரை • அதிக எடை • இன்சுலின் குறைபாடு • மன அழுத்தம் • பிற காரணிகள்	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	நீரிழிவு நோய் வகை-1க்கான காரணிகளை கூறுக?
3.	2 நிமி	நீரிழிவு நோய் வகை-1ன் அறிகுறிகள் விவரித்தல்	**அறிகுறிகள்** • அதிக தாகம் • அடிக்கடி சிறுநீர் கழித்தல் • அதிக பசி • எடை இழப்பு • மங்கலான பார்வை • அதிக சோர்வு • காயங்கள் தாமதமாக ஆறும் நிலை	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	நீரிழிவு வகை-1ன் அறிகுறிகள் யாவை?

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
4.	3 நிமி	நீரிழிவு வகை-1க்கான பரிசோதனை முறைகளை பட்டியலிடுதல்	**பரிசோதனைகள்** இரத்தத்தில் சர்க்கரையின் அளவு பரிசோதனை • இரவு முழுவதும் உண்ணாமல் வெறும் வயிற்றுடன் இரத்தம் பரிசோதனை • உணவு உண்ட பின் 1 ½ மணி நேரம் கழித்து இரத்தம் பரிசோதனை • கேபிலரி இரத்தம் பரிசோதனை • மூன்று மாதங்களுக்கு ஒருமுறை Hb1Ac பரிசோதனை • சிறுநீரில் சர்க்கரை அளவு பரிசோதனை • ஆயத்த அட்டை சிறுநீரில் சர்க்கரை அளவு பரிசோதனை • பெனிடிக்ட் திரவம் மூலம் சிறுநீரில் சர்க்கரை அளவு பரிசோதனை	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	நீரிழிவு நோய் வகை 1க்கான பரிசோதனை முறைகளை கூறுக?

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
5	5 நிமி	சிறுநீரில் சர்க்கரையின் அளவை சோதிக்கும் படிகளை விளக்குதல்	**சிறுநீர் சர்க்கரை அளவை கண்டறியும் படிகள்** சிறுநீரில் சர்க்கரை அளவை சோதிக்க முதலில் வெளியேறிய சிறுநீரை தவிர்த்து இரண்டாவதாக வெளியேறும் சிறுநீர் மாதிரியை சேகரிக்க வேண்டும். சிறுநீர் மாதிரி சேகரிக்க இயல்பாக வெளியேறும் சிறுநீர் தவிர்த்து, தண்ணீர் பருகி அரை மணி நேரம் கழித்து வெளியேறும் சிறுநீர் மாதிரியை சேகரிக்க வேண்டும். இம்முறைகள் பரிசோதனை முடிவுகளை தெளிவாக அளிக்கும். **பெனிடிக்ட் திரவம் கொண்டு சிறுநீர் சர்க்கரை கண்டறியும் முறைகள்** • 5 மி.லி பெனிடிக்ட் திரவத்தினை சோதனை குழாயில் எடுத்துக்கொள்ள வேண்டும். • ஸ்பிரிட் விளக்கு மூலம் சூடேற்றவும், முகத்தை தள்ளிவைத்துக் கொள்ளவும்.	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	சிறுநீர் சர்க்கரை அளவு சோதனை படிகளை விளக்கவும்?

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			• பெனிடிக்ட் திரவம் சூடேறிய பின்பு நிறம் மாறாத நிலையில் 8 சொட்டு சிறுநீரினை சொட்டு குழாய் கொண்டு சோதனை குழாயில் விட்டு, பின்பு கலக்கவும். • மீண்டும் ஸ்பிரிட் விளக்கில் சூடேற்றவும். • சோதனை குழாயினை குளிர வைக்கவும் • நிறம் மாற்றத்தினை குறிப்பிடவும். பரிசோதனை முடிவுகளை நிறத்தின் மூலம் குறிப்பிடவும். • நீல நிறம் எந்தவித படிவம் இல்லாமல் இருப்பது- சர்க்கரை நோய் இல்லை • பச்சை நிறம்- எந்தவித படிவம் இல்லாதது- தோராயமாக 1% சர்க்கரை • பச்சை நிறம் மஞ்சள் நிறம் படிவத்துடன்- தோராயமாக 2% சர்க்கரை • நிறம் மாறி ஆரஞ்சு நிற படிவத்துடன்- தோராயமாக 3% சர்க்கரை • செங்கல் சிவப்பு நிறம்- 5% அதற்கு மேல் • சிறுநீர் மாதிரியை பாதுகாப்பாக கழிவறையில் கொட்டவும். சோதனை குழாயை சுத்தம் செய்யவும்.				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			நவீன மருத்துவ சிகிச்சை முதலில் ஆயத்த பரிசோதனை அட்டைகள் மூலம் வீடுகளிலேயே பரிசோதனை செய்து பெறும் நிறங்களின் மூலம் முடிவுகளை அறியலாம்.				
6.	5 நிமி	நீரிழிவு நோய் வகை-1ன் உணவு மேலாண்மை விவரித்தல்	**நீரிழிவு வகை-1 உணவு மேலாண்மை முறைகள்** குழந்தைகளை உணவு கட்டுப்பாட்டுடன் தினசரி கலோரி உணவுகளை பராமரிக்க வேண்டும். எடுத்துக்காட்டாக 1. கார்போஹைட்ரேட் 40 முதல் 45 சதவீதம் 2. புரதம் 15 முதல் 20 சதவீதம் 3. கொழுப்பு 35 முதல் 40 சதவீதம் இவைகள் குழந்தைகளின் வளர்ச்சி காரணிகளுக்கு ஏதுவாக இருக்க வேண்டும். குழந்தைகளின் வயது மற்றும் எடை முறையிலான கலோரி தேவைகளை கணக்கிட வேண்டும். எடுத்துக்காட்டாக • 7 முதல் 8 ஆண்டுகள் 70 கலோரி/கிலோ • 9 முதல் 10 ஆண்டுகள் 60 கிலோ/கலோரி	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	நீரிழிவு நோய் வகை-1ன் உணவு மேலாண்மை முறைகளை விவரிக்கவும்?

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			• 12 முதல் 16 ஆண்டுகள் 40 கிலோ/ கலோரி உணவு சிறிய அளவு, அடிக்கடி இருக்க வேண்டும். குறிப்பாக புரோட்டாமைன் துத்தநாகம் நிறைந்த உணவுகள் எடுத்துக்கொள்ள வேண்டும். இவை இன்சுலின் குறைபாட்டால் ஏற்படும் பின்விளைவுகள் ஹைபோகிளைசீமியா அத்தியாயங்களை தடுக்கிறது. **உணவு பட்டியல்** **<u>கட்டுபாடற்ற உணவுகள்– லிபரல் உணவுகள் விபரம்</u>** தக்காளி, எலுமிச்சை, வெள்ளரிக்காய், வாழைப்பழம், கீரை வகைகள், முள்ளங்கி, இஞ்சி, கறி இலை, பீன்ஸ், கொத்தமல்லி, பாசிபயிறு, பச்சை பட்டாணி, கொள்ளு, சிறுதானியங்கள், பாகற்காய், சுரைக்காய், புடலங்காய், மோர், பால், காய்கறி குழுமம், எலுமிச்சை சாறு. **நொருக்கு தீனி உணவுகள்** ஆரஞ்சு, ஆப்பிள், மாதுளை, பப்பாளி, கொய்யா, அன்னாச்சி போன்ற பழவகைகள் ஏற்றவை.				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			தவிர்க்க வேண்டிய உணவுகள் சுத்திகரிக்கப்பட்ட வெள்ளை சர்க்கரையினால் செய்யப்பட்ட இனிப்பு பொருட்கள், வெல்லம், தேன், குளுக்கோஸ், ஐஸ் கிரீம், ஹார்லிக்ஸ், பூஸ்ட், போர்ன்விட்டா, உலர் பழங்கள், எண்ணெய் விதைகள் மற்றும் கொட்டைகள். தவிர்க்க வேண்டிய பழங்கள் மாம்பழம், சீதா பழம், சப்போட்டா பழம், திராட்சை. வேர் உணவுகள்: உருளைக்கிழங்கு, மரவள்ளி கிழங்கு. பால், வெண்ணெய், நெய், தயிர், கிரீம், கோவா போன்ற பொருட்கள். மருத்துவம் மற்றும் உணவியல் நிபுணர் பரிந்துரையின்படி உட்கொள்ள வேண்டும்.				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
7.	5 நிமி	நீரிழிவு நோய் வகை-1க்கான இன்சுலின் சிகிச்சை முறைகளை குறிப்பிடுதல்	**இன்சுலின் சிகிச்சை முறைகள்** குழந்தைகளை பெற்றோர் மேற்பார்வையில் இன்சுலின் ஊசி எடுத்துக்கொள்ள பயிற்சிக்க வேண்டும். குழந்தை வளரும்போது அதற்கேற்ப தக்க ஆலோசனை பெற்று இன்சுலின் ஊசி அளவை பரிந்துரைப்படி எடுத்துக்கொள்ள வேண்டும். குழந்தையை இன்சுலின் மருந்து எடுத்துக்கொள்வதில் திறம்பட வைத்தல் வேண்டும். 1. ஊசி போடும் இடம் 2. ஊசி போடும் முறைகள் 3. ஊசியினை சுத்தமாக போட்டுக்கொள்ளும் முறைகள், மறுமுறை உபயோகிக்க பாதுகாக்கும் முறைகள் 4. நோய் தொற்று ஏற்படாமல் பாதுகாக்கும் முறைகள் 5. மருந்தின் அளவினை கணக்கிடுதல் முறைகள் 6. நோயின் அறிகுறிகள் உணர்தல் மற்றும் அதற்கான சிகிச்சை முறைகள், பரிசோதனை	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	இன்சுலின் சிகிச்சை பற்றி விளக்கவும்?

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			முறைகள் மற்றும் மருத்துவ ஆலோசனை பெறும் முறைகள் பற்றியும் தெளிவாக அறிந்து கொள்ள வைக்க வேண்டும்.				
8	2 நிமி	இன்சுலின் மருந்தின் பக்க விளைவுகள் பற்றி விளக்கம் அளித்தல்	**இன்சுலின் மருந்தின் பாதகமான விளைவுகள்** • ஹைபோகிளைசீமியா இரத்தத்தில் சர்க்கரையின் அளவு குறைதல் • ஹைபர் கிளைசீமியா இரத்தத்தில் சர்க்கரை அளவு அதிகரித்தல் • கீட்டோ அசிடோசிஸ் திடீரென மயக்க நிலை • ஹைபர் டிராபி இயற்கை கொழுப்பு திரள் கட்டி • லிப்போடிராபி இயற்கை கொழுப்பு சிதைவு	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	இன்சுலின் மருந்தின் பக்க விளைவுகள் பற்றி விளக்கவும்

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
9	2 நிமி	இன்சுலின் உட் செலுத்துதல் சுய நிர்வாகம் செயல்முறை விளக்கம் அளித்தல்	**இன்சுலின் உட்செலுத்துதல் சுய நிர்வாகம் செயல்முறை விளக்கம்** • தேவையான உபகரணங்களை தயார் நிலையில் வைக்கவும். • சோப்பு மற்றும் தண்ணீரால் கைகளை கவுவவும் • தேவையான அளவு மருந்தினை ஊசியில் ஏற்றவும். • ஊசி போடும் இடத்தை கிருமி நாசினி திரவம் கொண்டு சுத்தம் செய்யவும். • சதை பகுதியினை லேசாக கையால் பிடித்துக் கொள்ளவும். • குறைந்தபட்சம் 1 செ.மீ அளவு ஊசியினை உள் செலுத்தவும். • ஊசியினை மேலே இழுக்க வேண்டாம். • ஊசி மருத்து செலுத்திய பின்பு ஊசியை எடுத்து சுத்தமான பஞ்சினை வைத்து மூடவும். • ஊசி போட்ட இடத்தினை தேய்க்க வேண்டும். • உபயோகிக்க உபகரணங்களை திரும்ப உபயோகிக்க சுத்தம் செய்து அதனதன் இடத்தில் வைக்கவும்.	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	இன்சுலின் உட் செலுத்துதல் செயல்முறை படிகளை விளக்கவும்

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
10.	3 நிமி	இரத்தத்தில் குளுகோஸ் அளவை கட்டுப்படுத்த உடற்பயிற்சியின் முக்கியத் துவத்தை விவரித்தல்	**உடற்பயிற்சி** இரத்தத்தில் சர்க்கரை அளவை கட்டுப்படுத்துவதில் முக்கிய பங்கு வகிக்கிறது. இதன் காரணத்தினால் குழந்தைகள் தினமும் உடற்பயிற்சி செய்ய வலியுறுத்த வேண்டும். இதனால் 12 மணி நேரம் முதல் 72 மணி நேரம் வரை இரத்தத்தில் சர்க்கரையின் அளவு கட்டுப்பாட்டில் வைக்கப்படுகிறது. **உடற்பியிற்சியினால் ஏற்படும் நன்மைகள்** • இரத்தத்தில் சர்க்கரையின் அளவு சிறப்பாக கட்டுப்படுத்தப்படுகிறது. • எடையினை பராமரிக்கிறது. • இரத்த ஓட்டத்தினை அதிகரிக்கிறது. • வலிமை மற்றும் நல்ல இயக்கம் அளிக்கிறது. • இரத்தத்தில் சர்க்கரை அளவு கட்டுப்படுத்துவதற்காக எடுத்துக்கொள்ளும் மருந்தின் அளவினை குறைக்க உதவுகிறது.	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	இரத்தத்தில் குளுகோஸ் அளவை கட்டுப்படுத்த உடற் பயிற்சியின் முக்கியத் துவத்தினை விளக்கவும்?

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			உடற்பயிற்சிக்கான வழிமுறைகள் • மருத்துவரின் ஆலோசனையின்படி மட்டுமே எந்தவித உயற்பயிற்சி என தேர்வு செய்ய வேண்டும். முதலில் 5 முதல் 10 நிமிடங்கள் ஒரு நாளைக்கு என தொடங்கி பின்பு அதிகரிக்க வேண்டும். • தினமும் உடற்பயிற்சி செய்தல் வேண்டும். • பருத்தியினால் ஆன காலுறை, நல்ல அளவான பாதுகாப்பான காலணிகள் அணிய வேண்டும். • உடற்பயிற்சிக்கு முன்னும் பின்னும் இரத்தத்தில் சர்க்கரையின் அளவை பரிசோதிக்க வேண்டும். சர்க்கரையின் அளவு குறைந்திருப்பின் ஏதேனும் உட்கொள்ள வேண்டும்.				
11	3 நிமி	பல் பாதுகாப்பு தோல் மற்றும் கால் பாதம் பராமரிப்பின் முக்கியத் துவத்தினை குறிப்பிடுதல்	**பல் பாதுகாப்பு** நீரிழிவு நோய் வகை-1 குழந்தைகளுக்கு மற்றவரை விட பல் பிரச்சனை வர அதிக வாய்ப்பு உள்ளது. நீரிழிவு நோய் வகை-1 குழந்தைகளுக்கு ஒரு வழக்கமான இடைவெளியில் பல் பரிசோதனை செய்ய வேண்டும்.	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	பல், தோல் மற்றும் கால், பாதத்தில் பிரச்சனை ஏற்படாமல் தடுக்கும் முறைகள் என்ன?

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			<u>பல் பிரச்சனைகளை தவிர்க்க பின்பற்ற வேண்டியவை</u> ஒரு நாளைக்கு இருமுறை பல் துலக்க வேண்டும். ஆண்டுக்கு இருமுறை பல் மருத்துவரிடம் பரிசோதனை செய்ய வேண்டும். வீக்கம், ஈறு பிரச்சனைகள், வலி, கெட்ட சுவாசம், மெல்லும் போது வலி, ஓட்டை, இரத்தக் கசிவு போன்ற பிரச்சனைகளுக்கு உடனே பல் மருத்துவரை அணுக வேண்டும். **<u>தோல் மற்றும் கால் பாதம் பராமரிப்பு</u>** நீரிழிவு நோய் வகை–1 குழந்தைகள் தோலை ஆரோக்கியமாக வைத்திருக்க வேண்டும், ஏனெனில் தொற்று நோய் வர அதிக வாய்ப்பு உள்ளது. **<u>சரும பிரச்சனைகள் வராமல் தவிர்ப்பதற்கு வழிகள்</u>** இரத்தத்தில் சர்க்கரையின் அளவை நன்கு பராமரிக்கவும் சர்க்கரையின் அளவு அதிகரிக்கும் போது எதிர்ப்பு சக்தி குறைபாடு ஏற்பட்டு தொற்று				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			நோய், பாக்டீரியாவினால் தீங்கு ஏற்பட வாய்ப்பு உள்ளது. தோல் பகுதியை சுத்தமாகவும், ஈரப்பதம் இல்லாமலும் பாதுகாப்பாக வைப்பதற்காக டால்கம் பவுடர் உபயோகிக்கவும். மிகவும் சூடான நீரில் குளிப்பதை தவிர்க்கவும். கால் விரல்களுக்கிடையே லோஷன்கள் வைப்பதை தவிர்க்கவும். கூடுதல் ஈரப்பதம், பூஞ்சை தொற்றை ஊக்குவிக்கும். வெட்டுக்காயங்கள் ஏற்பட்டால் ஆன்டிசெப்டிக் மருந்து கொண்டு சுத்தம் செய்யவும். ஏதேனும் பிரச்சனைகள் ஏற்பட்டால் தோல் மருத்துவரை அணுகவும். பாதங்களை அடிக்கடி பரிசோதிக்கவும், சரியான அளவு காலனிகள் பொருந்தும்படி அணியவும்.				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
12	9 நிமி	நீரிழிவு நோய் வகை-1 ஆல் ஏற்படும் இன்னல்கள் மற்றும் மேலாண்மை முறைகளை பட்டியலிடுதல்	**சிக்கல்கள்** • உடல் சிக்கல்கள் • மன சிக்கல்கள் **<u>உடல் சிக்கல்கள்</u>** • உடனடி சிக்கல்கள் • நாள்பட்ட சிக்கல்கள் **<u>உடனடி சிக்கல்கள்</u>** • ஹைபோகிளைசீமியா • ஹைபர்கிளைசீமியா **<u>நாள்பட்ட சிக்கல்கள்</u>** • கண் சேதம்- ரெட்டினோபதி • காது கேட்டல் குறைபாடு • இயத ரத்த நாளங்கள் சேதம்- கார்டியோ மையோகிபதி • நரம்பு சேதம்- நியூரோபதி • சிறுநீரக சேதம்- நெப்ரோபதி	விளக்கம் அளித்தல்	கவனித்தல்	செய்தி பரப்பு அட்டை	நீரிழிவு நோய் வகை-1ஆல் ஏற்படும் இன்னல்கள் மற்றும் மேலாண்மை முறைகளை பட்டியலிடுக?

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			• எலும்பு தேய்மானம்- ஆஸ்டியோபோரோசிஸ் • திடீரென அதிக மயக்கம், சுய நினைவு இழப்பு- கீட்டோ அசிடோசிஸ் • சுய நினைவு இழத்தல்- கோமா நிலை **மேலாண்மை முறைகள்** **<u>ஹைபோகிளைசீமியா</u>** • இரத்ததத்தில் சர்க்கரையின் அளவு குறைந்த நிலை. • நீரிழிவு நோய் வகை-1 குழந்தைகளுக்கு 50 மி.கி. கீழே இரத்தத்தின் சர்க்கரை அளவு குறையும் போது ஏற்படும் சிக்கல் **<u>காரணங்கள்</u>** சரியான அளவு ஆகாரம் உட்கொள்ளாததன் ஏற்படுகிறது. **<u>அறிகுறிகள்</u>** • அதிக வியர்வை • தலைவலி				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			• தலை சுற்றல் • மயக்கம் • சோர்வு • குமட்டல் • குழப்பம் • ஒருங்கிணைப்பின்மை • எரிச்சல் தன்மை • பார்வை தெளிவின்மை **<u>ஹைபர் கிளைசீமியா</u>** இரதத்தில் சர்க்கரை அளவு அதிகரித்தல், போதிய இன்சுலின் இல்லாததன் காரணத்தினால் ஏற்படும். **<u>அறிகுறிகள்</u>** • அடிக்கடி சிறுநீர் கழித்தல் • தீவிர தாகம் • எடை இழப்பு				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சி யாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			• பலவீனம் • உடல்நீர் வறட்சி • வாந்தி • சாதாரண பசி • சோர்வு • மங்கலான பார்வை • குமட்டல் • பழ-மன சுவாசம் • அடிவயிறு வலி • மயக்கம் • சுயநினைவு இழப்பு **<u>ரெட்டினோபதி</u>** விழித்திரை பாதிப்பு, கண்களில் சிறிய இரத்த நாளங்கள் பாதிக்கப்படுகின்றன.				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			அறிகுறிகள் • மங்கலான பார்வை • பார்வையின் திறன் மாறுபாடு • பார்வை தெளிவின்மை • பொருட்களை கவனிக்க இயலாத நிலை **நரம்பு சேதம்– நியூரோபதி** கால்களில் உணர்ச்சி நரம்புகளை சேதப்படுதும், கால் விரல்கள் தொடங்கி படிப்படியாக பரவும். **அறிகுறிகள்** • தொடு உணர்வின்மை • எரிச்சல் • வலி • இயல்பு நிலை இல்லாமை **சிறுநீரக பாதிப்பு– நெப்ரோபதி** கை, கால், கணுக்கால் வீக்கம், இரத்த சோகை, உயர் இரத்த அழுத்தம், சிறுநீரக செயலிழப்பு.				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			<u>எலும்பு தேய்மானம்– ஆஸ்டியோபோரோசிஸ்</u> எலும்பு அடர்த்தி, தாது குறைபாடு ஏற்பட்டு எலும்பு முறிவு ஏற்பட வாய்ப்பு உள்ளது. **<u>கீட்டோ அசிடோசிஸ்</u>** • நீர் சத்து வறட்சி • அடி வயிற்று வலி • வாந்தி • காய்ச்சல் • மயக்கம் • குஸ்மால் சுவாசம் **<u>மன சிக்கல்கள்</u>** • மன அழுத்தம் • தனிமை நிலை • பள்ளி இடை நிறுத்தம் • படிப்பில் ஆர்வமின்மை • ஒருங்கிணைப்பின்மை				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			மேலாண்மை முறைகள் ஹைபோகிளைசீமியா, ஹைபர் கிளைசீமியா இன்சுலின் தட்டுப்பாடு மற்றும் அதிகரிப்பதால் ஏற்படும் தவிர்க்க முடியாத பிரச்சனைகள். இருப்பினும் சில முன்னெச்சரிக்கை நடவடிக்கைகள் மூலம் தவிர்க்கலாம். **முன்னெச்சரிக்கை நடவடிக்கைகள்** **கார்ட் மற்றும் கேண்டி** கேண்டி-இனிப்பு, வெல்லம் மற்றும் வேர் கடலை உருண்டை, தரமான சாக்லெட் வகைகள். உடனடி மயக்க நிலையை சமன் செய்வதற்காக எடுத்துக் கொள்ளலாம். கார்ட்- நீரிழிவு நோய் வகை-1 என குறிப்பிட்ட அடையாள அட்டை மற்றும் குடும்ப உறுப்பினர்கள் அவர்களது தொடர்பு எண்கள், விலாசம், மருத்துவம் பற்றிய குறிப்புகள், பிரச்சனைகள் மற்றும் அதற்கான முதலுதவி முறைகள், மருந்துவர் மற்றும் செவிலியர் தொடர்பு எண்கள் குறிப்பிடவும்.				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			<u>பிற மேலாண்மை முறைகள்</u> • இன்சுலின் மேலாண்மை முறைகள் • வாழ்க்கை முறை மாற்றம், உணவு பழக்க முறை மாற்றம். **<u>நவீன மருத்துவ முறைகள்</u>** • கணைய மாற்று அறுவை சிகிச்சை • ஐலெட் செல் மாற்று அறுவை சிகிச்சை **<u>நீரிழிவு நோய் வகை-1ன் தடுப்பு நடவடிக்கைகள்</u>** • நோய் தடுப்பு மூன்று மட்டங்களில் செய்யப்படலாம். • முதன்மை நிலை தடுப்பு • இரண்டாம் நிலை தடுப்பு • மூன்றாம் நிலை தடுப்பு **<u>முதன்மை நிலை தடுப்பு</u>** ஆரம்ப கால குழந்தை பருவத்தில் ஐலெட் செல்கள் மாற்று அறுவை சிகிச்சை முறைகள் மூலம் நோய் எதிர்ப்பு திறன் அதிகரிக்கும் சான்று உள்ளது.				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			இரண்டாம் நிலை தடுப்பு இந்த நிலை தடுப்பு முறைகள் உடலின் மரபியல் அமைப்பில் வளர்சிதை மாற்றம் மூலம் செயல்படுத்தப்படுகிறது. **மூன்றாம் நிலை தடுப்பு** இந்த நிலை தடுப்பு முறைகள் பீட்டா செல்கள் செயல்பாடுகளை நீட்டிக்கும் முயற்சி, செயல்திறன் கட்டுப்பாடு, மேலும் பீட்டா உயிரணு உயர் வாழ்வு நீட்டிப்பு, மீளுருவாக்கம், அதிகரிப்பு நடவடிக்கை மூலம் செய்யப்படுகிறது. **பின் பராமரிப்பு** உடல் கட்டுப்பாடு சர்க்கரையின் கட்டுப்பாடு அளவு மதிப்பீடு செய்யப்பட வேண்டும். வீட்டிலேயே தேவையெனில் (கேப்பிலரி) திசு இரத்தம் பரிசோதனை செய்து கொள்ள வேண்டும். மாதம் ஒரு முறை அல்லது இரு மாதத்திற்கு ஒரு முறை ஆய்வகத்தில் இரத்தத்தில் சர்க்கரை அளவு பரிசோதனை செய்துகொள்ள வேண்டும்.				

வ. எண்	நேரம்	துணை நோக்கங்கள்	பொருளடக்கம்	ஆராய்ச்சியாளரின் செயல்பாடு	நீரிழிவு நோய் குழந்தைகளின் தாய்மார்களின் செயல்பாடு	ஒலி, ஒளி சார் உபகரணங்கள்	மதிப்பீடு
			மூன்று மாதத்திற்கு ஒரு முறை Hb1Ac பரிசோதனை செய்து மருத்துவரின் ஆலோசனை பெற வேண்டும். சரியான உணவுமுறைகள் பின்பற்ற வேண்டும். தினமும் உடற்பயிற்சி மேற்கொள்ள வேண்டும். இன்சுலின் மருந்து சரியாக நேரத்திற்கு அறிவுரையின்படி எடுத்துக்கொள்ள வேண்டும். **<u>தீர்மானம்</u>** நீரிழிவு நோய் வகை-1 சர்க்கரை அளவை கட்டுப்பாடுக்குள் வைத்துக்கொள்ளும் போது சாதாரண ஆரோக்கியமான வாழ்க்கைக்கு வழி வகுக்கும். மருத்துவரின் ஆலோசனை தொடர்ந்து பின்பற்றுவதன் மூலம் உணவு, இன்சுலின் மருந்து உடற்பயிற்சி முறையாக செயல்படுத்துவதன் மூலம் நேர்மறையான இயல்பான வாழ்க்கை வாழலாலம்.				

முடிவுரை

குழந்தை பருவ நீரிழிவு நோய் ஒரு வாழ்வாதார நோய், இது வாழ்நாள் முழுவதும் தொடர்கிறது. எனவே நீரிழிவு நோய் வகை-1 வீட்டில் பராமரிப்பு மேலாண்மை பற்றி குழந்தைகளின் தாய்மார்களுக்கு கற்பிக்க வேண்டும். மேலும் 'சிக்கல் சமிக்ஞைகள்' மீதும் விழிப்புணர்வு ஏற்படுத்துதல் வேண்டும். உணவு மேலாண்மை, நோய் தடுப்பு முறைகள் ஏற்றுக்கொள்ள வேண்டும். பாதுகாப்பு முறைகள் பற்றிய அறிவுறுத்தல் வழங்கப்பட வேண்உடம். நீரிழிவு நோய் வகை-1 என அறியப்படும் நோய் நீரிழிவு நோயின் ஒரு வடிவமாகும்.

இது உடலில் போதுமான இன்சுலின் உற்பத்தி இல்லாததினால் இரத்தத்தில் அதிக சர்க்கரை அளவை ஏற்படுத்துகிறது. இரத்ததத்தில் சர்க்கரையின் அளவு குறைந்த நிலை, நீரிழிவு நோய் வகை-1 குழந்தைகளுக்கு 50 மி.கி. கீழே இரத்தத்தின் சர்க்கரை அளவு குறையும் போது ஏற்படும் சிக்கல், இரதத்தில் சர்க்கரை அளவு அதிகரித்தல், போதிய இன்சுலின் இல்லாததன் காரணத்தினால் ஏற்படும், விழித்திரை பாதிப்பு, கண்களில் சிறிய இரத்த நாளங்கள் பாதிக்கப்படுகின்றன. கால்களில் உணர்ச்சி நரம்புகளை சேதப்படுதும், கால் விரல்கள் தொடங்கி படிப்படியாக பரவும். கை, கால், கணுக்கால் வீக்கம், இரத்த சோகை, உயர் அழுத்தம், சிறுநீரக செயலிழப்பு. எலும்பு அடர்த்தி, தாது குறைபாடு ஏற்பட்டு எலும்பு முறிவு ஏற்பட வாய்ப்பு உள்ளது. ஹைபோகிளைசீமியா, ஹைபர் கிளைசீமியா இன்சுலின் தட்டுப்பாடு மற்றும் அதிகரிப்பதால் ஏற்படும் தவிர்க்க முடியாத பிரச்சனைகள். இருப்பினும் சில முன்னெச்சரிக்கை நடவடிக்கைகள் மூலம் தவிர்க்கலாம்.

உடல் கட்டுப்பாடு சர்க்கரையின் கட்டுப்பாடு அளவு மதிப்பீடு செய்யப்பட வேண்டும். வீட்டிலேயே தேவையெனில் (கேப்பிலரி) திசு இரத்தம் பரிசோதனை செய்து கொள்ள வேண்டும். மாதம் ஒரு முறை அல்லது இரு மாதத்திற்கு ஒரு முறை ஆய்வகத்தில் இரத்தத்தில் சர்க்கரை அளவு பரிசோதனை செய்துகொள்ள வேண்டும். மூன்று மாதத்திற்கு ஒரு முறை Hb1Ac பரிசோதனை செய்து மருத்துவரின் ஆலோசனை பெற வேண்டும். சரியான உணவுமுறைகள் பின்பற்ற வேண்டும். தினமும் உடற்பயிற்சி மேற்கொள்ள வேண்டும். இன்சுலின் மருந்து சரியாக நேரத்திற்கு அறிவுரையின்படி எடுத்துக்கொள்ள வேண்டும்.

INFORMATION TO PARTICIPANTS

Title: "A study to assess the effectiveness of planned teaching programme on knowledge among mothers of Children with Type-1 diabetes mellitus and its management regimen attending Diabetology Outpatient Department, Institute of Child Health and Hospital for Children, Chennai-08"

Investigator : T.Sudhagar

Name of Participant :

Age/Sex :

You are invited to take part in this research/ study /procedures. The information in this document is meant to help you to decide whether or not to take part. Please feel free to ask if you have any queries or concerns.

You are being asked to participate in this study conducted in diabetology outpatient department, Institute of Child Health and Hospital for Children, Egmore, Chennai-8.

What is the Purpose of the Research study? (Explain briefly)

1) Assessing mothers skills regarding home care management methods: diet, exercise, play, personal hygiene,insulin administration
2) Assess the psychological impact and burden of mothers who provides care to the children with type 1 diabetes mellitus
3) Implementing planning teaching programme to enhance mothers practice and adaptation to child care
4) Evaluating the effect of this planned teaching program on mothers' skill, psychological wellbeing and burden of caring child.

Obtained permission from the Institutional Ethics Committee.

The Study Design:

Pre experimental study - One group pre-test and post-test design.

Study procedure:

1. The study will be undertaken after the approval from institutional ethics committee.

2. Those who are willing to participate will be enrolled and informed consent will be obtained.

3. The mothers who fulfill the inclusion criteria are selected for the groups.

4. The level of awareness about home care management regimen is assessed with structured questionnaire pre-test to mothers of type 1 diabetes mellitus children.

5. Teach the mother about home care management regimen such diet, exercise, play, personal hygiene, insulin administration methods, sites, techniques, signs and symptoms and prevention of complications.

6. After that assess the knowledge regarding home care management regimen.

7. After seven days Analyze the effectiveness of planned teaching programme about home care management regimen, result of the study will be analyzed by using descriptive and inferential statistics.

Possible Risks to you -Briefly Mention

No risks involved in this study

Possible benefits to you

After finishing this study, investigator will provide adequate knowledge regarding home care management regimen of type 1 diabetes mellitus. It will improve the knowledge of the mothers; it will help to identify of the symptoms earlier and to reduce the complications of the illness.

Possible benefits to other people

The result of the research may provide benefits to the society in terms of advancement of medical knowledge about home care management regimen of type 1 diabetes mellitus in future

Confidentiality of the information obtained from you

You have the right to confidentiality regarding the privacy of your medical information (personal details, results of physical examinations, investigations and your medical history). The information from this study, if published in scientific journals or presented at scientific meetings, will not reveal your identity.

Your privacy in the research will be maintained throughout the study in the event of any publication or presentation resulting from research, no personally identifiable information will be shared.

How will your decision to not participate in the study affect you?

Your decisions to not participate in this research study will not affect your activity of daily living, medical care or your relationship with investigator or the institution.

Can you decide to stop participating in the study once you start?

The participation in this research is purely voluntary and you have the right to withdraw from this study at any time during the course of the study without giving any reasons.

However, it is advisable that you talk to the research team prior to stopping the treatment/ discontinuing of procedures etc

The result of this study will be informed to you at the end of the study

Signature of the investigator:	Signature of the parent /guardian
Date :	Date :

PATIENT CONSENT FORM

Name of the participant :

Date :

Age / sex :

Name of the principal :

Investigator : T.Sudhagar

Enrollment No :

Documentation of the informed consent:

(legal representative can sign if the participant is minor or incompetent).

- I ---------- have read the information in this from (or it has been read to me). I was free to ask any questions and they have been answered. I am above 20 years of age and exercising my free power of choice, hereby give my consent to be included as a participant in the study.
- I have read and understood this consent form and the information provided to me.
- I had the consent document explained in detail to me.
- I have been explained about the nature of my study.
- My rights and responsibilities have been explained to me by the investigator. .
- I aware the fact that I can opt out of the study at any time without having to give any reason and this will not affect my future treatment in this hospital.
- I hereby give permission to the investigator to release the information obtained from me as result of participation in this study to the sponsors, regulatory authorities, Govt, agencies, and IECI, understand that they are publicly presented.
- I have understood that my identity will be kept confidential if my data are publicly presented.
- I have had my questions answered to my satisfaction.
- I have decided to be in the research study

I am aware that if I have any question during this study, I should contact the investigator. By signing this consent from I attest that the information given in this document has been clearly explained to me and understood by me, I will be given a copy of this consent document.

1. Name and Signature / thumb impression of the participant (or legal representative if participant incompetent)

Name: ---------- Signature ----------

Date ----------

2. Name and signature of impartial witness (required for illiterate parents)

Name: ---------- Signature ----------

Date ----------

Address and contact number of the impartial witness

Name and signature of the investigator or his representative obtaining consent Signature

Name: ---------- Signature ----------

Date ----------

ஆராய்ச்சி தகவல் தாள்

ஆராய்ச்சி தலைப்பு : நீரிழிவு நோய் வகை 1 பற்றிய அறிவு திறன் மற்றும் மேலாண்மை திட்ட முறைகளை, நீரிழிவு நோய் வகை 1 குழந்தைகளின் தாய்மார்களுக்கு சொற்பொழிவு மற்றும் கலந்துரையாடல் மூலம் பாடம் கற்பித்தல்

ஆராய்ச்சியாளர் பெயர் :

ஆராய்ச்சியில் பங்கேற்பாளர் பெயர் : வயது :

ஆராய்ச்சியில் பங்கேற்பாளர் சேர்க்கை எண் : தேதி :

நான் அரசு குழந்தைகள் நல மருத்துவமனையில் நீரிழிவு நோய் வகை - 1 பாதிக்கப்பட்ட குழந்தைகளின் தாய்மார்களின், நீரிழிவு நோய் வகை 1 பற்றிய அறிவு திறன் மற்றும் மேலாண்மை திட்ட முறைகளை பற்றி திறனாய்வு மேற்கொள்கிறேன்

இந்த செயல்முறையின் மூலம் நீரிழிவு நோயினால் பாதிக்கப்பட்ட குழந்தைகளின் தாய்மார்களுக்கு நோய் பற்றிய அறிவு திறன் மற்றும் மேலாண்மை திட்ட முறைகளை பற்றி அனைத்து விவரங்களும் புரியும் என நம்புகிறேன்

இதிலுள்ள விவரங்களை தாய்மார்கள் குழந்தைகளை தங்கள் மருத்துவமனையிலிருந்து அழைத்து சென்ற பிறகும் பின்பற்ற வேண்டும் என்று கேட்டுக்கொள்கிறேன்

தாய்மார்கள் தங்கள் சொந்த விருப்பத்தின் பேரில் ஆராய்ச்சியில் இணைக்கப்படுவர் விருப்பமில்லை எனில் எந்த நேரமும் விலகிக் கொள்ளலாம், இதனால் ஆராய்ச்சிக்கு எந்த வித பாதிப்பும் ஏற்படாது

தாய்மார்கள் பெயரையோ வெளியிடும் கருத்துக்களையோ அல்லது முடிவுகளையோ மற்றும் அடையாளங்களையோ வெளியிடமாட்டோம் என்பதனை தெரிவித்துக் கொள்கிறேன்

ஆராய்ச்சியாளர் கையொப்பம் பங்கேற்பாளர் கையொப்பம்

தேதி : தேதி :

சுய ஒப்புதல் படிவம்

ஆராய்ச்சி தலைப்பு : நீரிழிவு நோய் வகை 1 பற்றிய அறிவு திறன் மற்றும் மேலாண்மை திட்ட முறைகளை, நீரிழிவு நோய் வகை 1 குழந்தைகளின் தாய்மார்களுக்கு சொற்பொழிவு மற்றும் கலந்துரையாடல் மூலம் பாடம் கற்பித்தல்

ஆராய்ச்சியாளர் பெயர் :

ஆராய்ச்சியில் பங்கேற்பாளர் பெயர் : வயது :

ஆராய்ச்சியில் பங்கேற்பாளர் சேர்க்கை எண் : தேதி :

ஆராய்ச்சி நடைபெறும் இடம்

.....என்பவராகிய நான் இந்த ஆராச்சியின் விவரங்களும் அதன் நோக்கங்களும் முழுமையாக அறிந்து கொண்டேன். எனது சந்தேகங்கள் அனைத்திற்கும் தகுந்த விளக்கம் அளிக்கப்பட்டது இந்த ஆராய்ச்சியில் முழு சுதந்திரத்துடன் மற்றும் சுயநினைவுடன் பங்கு கொள்ள சம்மதிக்கிறேன்

- நான் இந்த ஒப்புதல் தகவல் தாள் படித்து புரிந்து கொண்டேன்
- இந்த சுயஒப்புதல் தகவல் தாள் படிவத்தை பற்றி எனக்கு விளக்கப்பட்டது
- எனக்கு விளக்கப்பட்ட விவரங்களை நான் புரிந்து கொண்டேன், நான் எனது முழு சம்மதத்தை தெரிவிக்கிறேன்

DEMOGRAPHIC VARIABLE OF MOTHER AND CHILD

S.No	GENDER	AGE-CHILD	EDU-CHILD	DURATION	TYPE OF TREATMENY	RELIGION	EDU-FATHER	EDU-MOTHER	OCCU-FATHER	OCCU-MOTHER	AGE-MOTHER	INCOME	FAMILY HIS OF DIAB	PREV KNOWLEDGE - INSULIN
1	a	b	b	b	a	a	c	c	c	d	b	a	d	a
2	a	c	b	b	a	a	c	b	b	d	b	a	d	b
3	a	b	a	b	a	a	c	b	b	d	b	a	a	b
4	b	b	b	a	a	b	d	b	b	d	c	b	a	b
5	a	c	b	a	a	a	d	d	b	d	b	b	a	a
6	a	b	a	a	a	b	d	c	b	d	c	b	a	d
7	b	c	b	b	a	a	c	b	c	d	b	a	a	d
8	b	c	a	a	a	b	b	a	b	d	c	b	d	b
9	b	b	b	b	a	b	d	c	b	d	b	b	a	a
10	a	b	b	b	a	b	d	d	c	b	c	b	a	c
11	a	c	b	b	a	b	d	d	b	b	c	b	a	c
12	a	b	a	b	a	a	d	d	b	b	c	b	a	c
13	a	b	a	b	a	a	c	b	b	d	b	a	a	b
14	a	c	b	a	a	a	d	d	b	b	b	b	a	c
15	b	b	b	a	a	b	c	b	b	c	b	a	d	d
16	b	c	b	b	a	a	c	c	b	b	c	b	d	d
17	b	c	b	b	a	b	d	d	b	b	c	b	d	a
18	a	b	a	a	a	a	d	d	b	d	c	b	d	a
19	b	b	b	a	a	a	c	c	b	b	b	a	d	a
20	b	c	b	b	b	c	c	b	b	d	b	a	a	d
21	b	b	a	b	a	a	c	b	b	d	b	a	a	b
22	a	b	b	a	a	a	d	d	b	b	c	b	a	c
23	a	d	b	b	a	a	c	c	b	b	c	b	a	c
24	a	d	b	b	a	b	c	c	c	d	b	a	b	b
25	a	b	b	a	a	b	d	d	c	b	d	b	a	b
26	a	d	c	b	a	a	b	b	b	d	b	b	a	a
27	b	b	b	a	a	a	b	b	d	d	c	a	d	a
28	b	b	b	a	b	b	c	b	b	d	c	a	b	b
29	a	c	b	a	a	a	d	c	b	d	b	a	a	a
30	a	b	b	a	a	c	c	b	b	d	b	a	a	a
31	b	c	b	b	b	b	c	b	b	d	b	a	d	a
32	b	d	b	a	b	c	d	c	c	d	c	b	b	a
33	a	b	b	a	a	a	c	b	b	c	c	a	d	a
34	a	c	b	b	b	b	c	b	b	c	c	a	a	b
35	b	b	a	a	a	a	c	d	b	b	b	a	d	a
36	b	c	b	b	a	a	b	b	d	d	c	a	d	a
37	a	d	c	d	a	a	c	c	b	d	c	a	d	a
38	a	b	b	a	a	a	b	b	d	c	b	a	b	a

S.No	GENDER	AGE-CHILD	EDU-CHILD	DURATION	TYPE OF TREATMENY	RELIGION	EDU-FATHER	EDU-MOTHER	OCCU-FATHER	OCCU-MOTHER	AGE-MOTHER	INCOME	FAMILY HIS OF DIAB	PREV KNOWLEDGE - INSULIN
39	b	c	b	a	a	a	c	b	b	c	c	a	d	b
40	a	d	b	b	b	a	b	c	b	d	c	a	d	d
41	b	b	b	a	a	c	b	b	b	d	c	a	a	d
42	a	b	a	a	a	a	a	a	d	d	b	a	d	d
43	b	d	c	b	b	a	c	b	b	c	c	b	b	a
44	a	c	b	b	a	b	d	b	c	d	c	b	d	c
45	a	d	c	b	a	c	b	b	b	d	c	b	a	a
46	a	b	b	a	a	a	d	c	b	b	b	a	b	c
47	a	c	b	b	a	b	c	b	b	d	c	b	d	d
48	a	b	b	a	a	a	d	c	b	b	b	a	a	a
49	a	c	b	b	a	b	d	d	b	b	c	b	a	d
50	b	b	b	b	a	b	d	c	b	d	b	b	a	a
51	a	b	b	b	a	b	d	d	c	b	c	b	b	d
52	b	c	a	a	a	b	b	d	b	d	c	b	d	b
53	b	b	b	b	a	b	d	c	b	d	b	b	a	a
54	a	c	b	b	a	b	d	d	b	b	c	b	a	c
55	a	d	b	b	a	b	c	c	c	d	b	a	d	b
56	a	c	b	a	a	a	d	b	b	b	b	b	d	b
57	b	d	b	b	b	a	d	c	a	d	c	b	b	a
58	a	d	c	b	b	a	c	c	d	d	c	a	d	d
59	a	c	b	a	a	a	d	c	c	d	c	a	b	a
60	b	b	b	b	b	c	c	c	b	c	b	a	d	c

PRETEST

S. No	KNOWLEDGE ABOUT ILLNESS			SIGNS AND SYMPTOMS		DIAGNOSTIC MEASURES		INSULIN AND ITS ACTION				CHARACTERISTICS OF INSULIN			SITE OF INSULIN ADMINISTRATION		METHODS OF INSULIN ADMIN		AFTER CARE OF INSULIN INJ			ADVERSE EFFECTS OF INSULIN INJECTION		PRECAUTIONS OF TYPE I DM				DIET FOR TYPE I DM		
	QI	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	1	0	0	0	1	1	0	0	1	1	1	1	0	1	1	0	0	1	0	0	0	1	0	1	1	0	0	1	0	1
2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0
3	1	0	0	1	1	1	0	0	0	0	1	1	0	1	1	0	0	0	1	0	0	0	0	1	1	0	1	0	1	0
4	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0
5	1	0	1	1	0	1	0	0	0	1	1	1	0	0	0	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0
6	0	0	0	0	1	0	1	0	0	1	1	0	1	0	1	0	1	1	0	0	1	0	0	1	0	1	1	0	0	1
7	1	0	0	1	1	1	0	0	1	1	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0
8	1	0	0	0	0	1	1	1	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
9	1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	0	0
10	0	1	1	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
11	1	1	0	0	1	1	1	0	0	1	0	0	0	0	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	0
12	0	1	0	0	0	0	0	0	1	0	1	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
13	1	1	1	0	0	1	0	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1
14	1	0	0	1	1	1	0	0	1	1	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	1	1	0	0	0	1	1	0	0	0	0	0	0
16	1	0	0	1	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0
17	1	1	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1	0	0	0	0
18	0	0	0	0	1	1	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
19	0	1	0	0	1	0	1	0	1	1	1	0	1	0	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	0
20	1	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1
21	1	1	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0
22	0	0	0	0	0	0	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
23	1	0	0	1	0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	1	1	1	0	0	0	1	0	0	0	0
24	0	1	0	1	0	1	0	0	10	0	1	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0
25	1	1	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	1
26	1	1	0	0	1	1	0	0	0	1	1	1	0	0	0	0	0	0	0	1	1	1	0	0	1	0	0	1	0	0
27	0	0	0	0	1	1	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0
28	1	1	0	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
29	1	1	0	1	0	1	1	0	0	1	0	0	0	1	0	1	1	1	0	0	0	0	0	1	1	1	0	0	1	0
30	0	0	1	0	0	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
31	1	1	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
32	1	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1
33	1	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
34	0	0	1	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0
35	1	1	0	0	1	0	0	0	0	1	0	0	0	1	1	1	0	0	0	0	0	1	0	1	0	0	0	1	0	0
36	1	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
37	0	1	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
38	1	0	0	1	0	1	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	1	1	1	1	0	0	0	0	0
39	0	1	1	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

S. No	KNOWLEDGE ABOUT ILLNESS			SIGNS AND SYMPTOMS		DIAGNOSTIC MEASURES		INSULIN AND ITS ACTION				CHARACTERISTICS OF INSULIN			SITE OF INSULIN ADMINISTRATION		METHODS OF INSULIN ADMIN		AFTER CARE OF INSULIN INJ			ADVERSE EFFECTS OF INSULIN INJECTION		PRECAUTIONS OF TYPE I DM				DIET FOR TYPE I DM		
	QI	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
40	1	0	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0
41	1	0	0	0	1	0	0	0	1	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
42	1	1	0	1	0	1	1	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
43	1	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
44	1	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0
45	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
46	1	1	0	1	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
47	1	1	0	0	0	1	0	1	0	0	1	0	1	1	0	0	0	1	0	1	0	0	0	0	1	0	0	1	0	1
48	1	0	0	0	0	1	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	1	1	0	0	0	0
49	0	0	0	1	1	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
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51	0	0	1	0	1	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	0	0
52	1	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
53	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1
54	1	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
55	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
56	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	1	0	0	0
57	1	1	0	1	0	0	1	1	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0
58	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
59	1	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1
60	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	1	0	0	1	0	0	0

POST TEST

S: NO	KNOWLEDGE ABOUT ILLNESS			SIGNS AND SYMPTOMS		DIAGNOSTIC MEASURES		INSULIN AND ITS ACTION				CHARACTERISTICS OF INSULIN			SITE OF INSULIN ADMINISTRATION		METHODS OF INSULIN ADMIN		AFTER CARE OF INSULIN INJ			ADVERSE EFFECTS OF INSULIN INJECTION		PRECAUTIONS OF TYPE I DM				DIET FOR TYPE I DM		
	QI	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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14	1	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1
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18	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1
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21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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28	1	1	1	0	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1
29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
30	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

S: NO	KNOWLEDGE ABOUT ILLNESS			SIGNS AND SYMPTOMS		DIAGNOSTIC MEASURES		INSULIN AND ITS ACTION				CHARACTERISTICS OF INSULIN			SITE OF INSULIN ADMINISTRATION		METHODS OF INSULIN ADMIN		AFTER CARE OF INSULIN INJ			ADVERSE EFFECTS OF INSULIN INJECTION		PRECAUTIONS OF TYPE I DM				DIET FOR TYPE I DM		
	QI	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
31	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
32	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1
33	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
34	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
35	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
36	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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38	1	1	1	1	1	1	0	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1	0	1
39	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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41	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
42	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1
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50	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
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53	1	1	1	1	1	1	1	0	1	0	1	0	1	0	0	1	1	1	0	1	1	1	1	0	1	0	1	0	1	0
54	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1
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56	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
57	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
58	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
59	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
60	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

From,

M.Sc (N) II year students,
Child Health Nursing,
College of Nursing,
Madras Medical College,
Chennai - 03.

To,

Director& Superintendent,
Institute of Child Health and Hospital for Children,
Egmore -08.

Through proper channel:

Principal, College of Nursing, Madras Medical College, Chennai – 03.

Sub : Requesting statistical census of diseases at ICH –for the year of 2014 to 2018 for M.Sc (N) Research Dissertation purpose – Regarding.

Respected Sir / Madam,

This is for your kind information that we, M.Sc (N) II year students doing Research Dissertation as a part of our curriculum requirement. So we are in need of statistical Census of Outpatients and Inpatient -Admissions of children with Bronchial asthma, Type - 1 Diabetes Mellitus, Dog bite from the year (2014 - 2018). So we kindly request you to issue the statistical census and do the needful.

Thanking you

Place: chennai.

Your's faithfully

Date: 28.04.2018.

T. Sivakumar

CERTIFICATE OF ENGLISH EDITING

This is to certify that the dissertation work topic **"A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 8",** done by Mr. T.Sudhagar, M.Sc Nursing II nd Year Student, College of Nursing, Madras Medical College, Chennai-03 was edited for English language appropriateness.

NAME : A. JOSEPH SANTHA SEELAN.

DESIGNATION : B.T. ASST. (ENGLISH)

DATE : 19.06.2018.

PLACE : VITTALAPURAM.

SIGNATURE WITH SEAL :

A. 19/06/18

A.Joseph Santha Seelan, M.A., M.A., B.Ed., M.Phil.,
B.T. Assistant (English)
Govt. High School
Vittalapuram-604 002., Vpm. Dt.

GOVT. HIGH SCHOOL * VITTALAPURAM-604002 * Date: 19/06/18

CERTIFICATE OF TAMIL EDITING

This is to certify that the dissertation work topic **"A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 8",** done by **Mr. T.Sudhagar,** M.Sc - Nursing II year student, College of Nursing, Madras Medical College, Chennai-03 was edited for Tamil language appropriateness.

NAME : K. SHAMEEM BANU, M.A, B.Ed, M.Phil

DESIGNATION : B.T. ASST, (TAMIL)

DATE : 14.06.2018.

PLACE : THIRUVANNAMALAI

SIGNATURE WITH SEAL :

கு. ஷரீம்பானு,
எம்.ஏ.,பி.எட்.,எம்.ஃபில்.,
தமிழாசிரியை,
நகராட்சி மேனிலைப் பள்ளி,
திருவண்ணாமலை

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Mr.T.Sudhagar, M.Sc Nuring, II Year Student, College of Nursing, Madras Medical College, which is to be used in his study titled: "A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 8" has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then he can proceed to do the research study.

R. Sudha

Signature with Seal

Name : Dr.R.Sudha, M.Sc (N)., Ph.D.,

Prof. Dr. (Mrs). R. SUDHA, M.Sc (N)., Ph.D.,
PRINCIPAL
M.A. Chidambaram College of Nursing
VHS Campus, Chennai - 600 113.

Designation : Principal,

College : M A C College of Nursing, Taramani, Chennai

Place : Chennai – 113

Date : 08/01/2018

M.A.C. COLLEGE OF NURSING
Chennai-113

MOBILE : 9444259807

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

From

Mr.T.Sudhagar,
M.Sc Nursing II Year Student,
College of Nursing,
Madras Medical College,
Chennai – 03.

To

Dr.R.Sudha, M.Sc(N)., Ph.D(N).,
Prinicipal,
M A C College of Nursing,
Chennai

Prof. Dr. (Mrs). R. SUDHA, M.Sc (N)., Ph.D.,
PRINCIPAL
M.A. Chidambaram College of Nursing
VHS Campus, Chennai - 600 113.

Through

Principal
College of nursing,
Madras Medical college
Chennai.

PRINCIPAL
COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE
CHENNAI - 600 003.

Sub: Requisition for expert opinion on suggestion for content validity of the tools.

Respected Madam,

I, Mr.T.Sudhagar, M.Sc Nursing II Year Student at College of Nursing, Madras Medical College, Chennai – 03, affiliated to T.N. Dr.M.G.R. Medical University, Chennai. As a partial fulfillment of the requirement in the M.Sc Nursing Programme, I Have to complete my dissertation and the topic I have selected is titled :"A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 8". Herewith, I enclosed the developed tool for content validity and for your expert opinion and valuable suggestions.

Thanking You,

Your's Sincerely,

(T.Sudhagar)

Signature of H.O.D 16/11/17
K. KANNAN

Enclosures :

1. Statement and objectives of the research study
2. Blueprint of the tools
3. Content Validity Certificate

CERTIFICATE OF CONTENT VALIDITY

This is to certify that the tool constructed by Mr.T.Sudhagar, M.Sc Nuring, II Year Student, College of Nursing, Madras Medical College, which is to be used in his study titled: "A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 8" has been validated by the undersigned. The suggestions and modifications given by me will be incorporated by the investigator in concern with their respective guide. Then he can proceed to do the research study.

19/12/17

Signature with Seal

HOD-CHILD HEALTH NURSING
MMM COLLEGE OF NURSING
No. 131, SAKTHI NAGAR,
NOLAMBUR,
CHENNAI - 600 095.

Name : Dr.Zealous Mary, M.Sc (N)., Ph.D.,

Designation : H.O.D & Professor,
Department of Child Health Nursing,

College :College of Nursing, Madras Medical Mission, Nulambur, Chennai

Place : Nolambur, Chennai

Date : 19/12/17

MMM COLLEGE OF NURSING
No. 131, Sakthi Nagar, Nolambur, Mugappair West.
CHENNAI - 600 095.

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

From

Mr.T.Sudhagar,
M.Sc Nursing II Year Student,
College of Nursing,
Madras Medical College,
Chennai – 03.

To

Dr.Zealous Mary, M.Sc(N)., Ph.D(N).,
H.O.D & Professor,
Department of Child Health Nursing,
College of Nursing,
Madras Medical Mission,
Chennai

Through

Principal
College of nursing,
Madras Medical college
Chennai.

PRINCIPAL
COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE
CHENNAI - 600 003

Sub: Requisition for expert opinion on suggestion for content validity of the tools.

Respected Madam,

I, Mr.T.Sudhagar, M.Sc Nursing II Year Student at College of Nursing, Madras Medical College, Chennai – 03, affiliated to T.N. Dr.M.G.R. Medical University, Chennai. As a partial fulfillment of the requirement in the M.Sc Nursing Programme, I Have to complete my dissertation and the topic I have selected is titled : "A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 8". Herewith, I enclosed the developed tool for content validity and for your expert opinion and valuable suggestions.

Thanking You,

Your's Sincerely,

T. Sudhagar.

(T.Sudhagar)

Signature of the H.O.D.,

KKANNAN

Enclosures :

1. Statement and objectives of the research study
2. Blueprint of the tools
3. Content Validity Certificate

REQUISITION LETTER

From

T. Sudhagar,
M.Sc (N) - II Year Student,
College of Nursing,
Madras Medical College,
Chennai – 600 003.

To

Head of the Department,
Department of Diabetology,
Institute of Child Health and Hospital for Children,
Egmore,
Chennai – 600 008.

Through Proper Channel

The Principal,
College of Nursing,
Madras Medical College,
Chennai – 600 003

Respected Sir/Madam,

Sub: Requesting permission to conduct research at Institute of Child Health and Hospital for Children, Egmore, Chennai – 600 008 – Regarding

I, M. Sc Nursing II year student have to conduct the research study for the partial fulfillment of M. Sc (N) Programme. My topic is titled "A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 8". The data collection period is from 02/01/2018 to 27/01/2018 at 8am -4pm. I assure that I will not disturb the routine activities of Out Patient Department.

Thanking You

Signature of H.O.D 6/12/17

Yours's faithfully,

T. Sudhagar.

(T. SUDHAGAR)

Encl: Copy of Institutional Ethical Committee Approval Letter

forwarded
6.12.17

PRINCIPAL
COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE
CHENNAI - 600 003.

8/12/21

Director and Superintendent
Institute of Child Health and
Hospital for Children
Egmore, Chennai - 600 008

8/12/17

Senior Civil Surgeon
Institute of Child Health and
Hospital for Children
Egmore, Chennai-600 008

REQUISITION LETTER

Director and Superintendent
Institute of Child Health and
Hospital for Children
Egmore, Chennai - 600 008

From

T. Sudhagar,
M.Sc (N) - II Year Student,
College of Nursing,
Madras Medical College,
Chennai – 600 003.

To

The Director,
Institute of Child Health and Hospital for Children,
Egmore,
Chennai – 600 008.

Through Proper Channel
The Principal,
College of Nursing,
Madras Medical College,
Chennai – 600 003

Forwarded
L. Shanthi
6.12.17
for

PRINCIPAL
COLLEGE OF NURSING
MADRAS MEDICAL COLLEGE
CHENNAI-600 003.

Respected Sir/Madam,

Sub: Requesting permission to conduct research at Institute of Child Health and Hospital for Children, Egmore, Chennai – 600 008 – Regarding

I, M. Sc Nursing II year student have to conduct the research study for the partial fulfilment of M. Sc (N) programme. My topic is titled "A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI – 8". The data collection period is from 02/01/2018 to 27/01/2018 at 8am -4pm. I assure that I will not disturb the routine activities of Out Patient Department.

Thanking You

Signature of H.O.D

Yours's faithfully,
T. Sudhagar.
(T. SUDHAGAR)

Encl: Copy of Institutional Ethical Committee Approval Letter

Senior Civil Surgeon
Institute of Child Health and
Hospital for Children
Egmore, Chennai-600 008

INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE, CHENNAI 600 003

EC Reg.No.ECR/270/Inst./TN/2013
Telephone No.044 25305301
Fax: 011 25363970

CERTIFICATE OF APPROVAL

To

T.Sudhagar
M.Sc. (N) I Year Student
College of Nursing
Madras Medical College
Chennai 600 003

Dear T.Sudhagar,

The Institutional Ethics Committee has considered your request and approved your study titled **"A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON THE KNOWLEDGE AMONG MOTHERS OF CHILDREN WITH TYPE 1 DIABETES MELLITUS AND ITS MANAGEMENT REGIMEN ATTENDING DIABETOLOGY OUTPATIENT DEPARTMENT, INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN, EGMORE, CHENNAI 8 " - NO.14072017**

The following members of Ethics Committee were present in the meeting hold on **11.07.2017** conducted at Madras Medical College, Chennai 3

1. Prof.Dr.C.Rajendran, MD., :Chairperson
2. Prof.R.Narayana Babu,MD.,DCH.,Dean,MMC,Ch-3 : Deputy Chairperson
3. Prof.Sudha Seshayyan,MD., Vice Principal,MMC,Ch-3 :Member Secretary
4. Prof.S.Mayilvahanan,MD,Director,Inst. of Int.Med,MMC, Ch-3 : Member
5. Prof.A.Pandiya Raj,Director, Inst. of Gen.Surgery,MMC : Member
6. Prof.Rema Chandramohan,Prof.of Paediatrics,ICH,Chennai : Member
7. Prof. Susila, Director, Inst. of Pharmacology,MMC,Ch-3 : Member
8. Thiru S.Govindasamy, BA.,BL,High Court,Chennai : Lawyer
9. Tmt.Arnold Saulina, MA.,MSW., :Social Scientist
10. Tmt.J.Rajalakshmi, JAO,MMC, Ch-3 : Lay Person

We approve the proposal to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study and SAE occurring in the course of the study, any changes in the protocol and patients information/informed consent and asks to be provided a copy of the final report.

Member Secretary – Ethics Committee

MEMBER SECRETARY
INSTITUTIONAL ETHICS COMMITTEE
MADRAS MEDICAL COLLEGE
CHENNAI-600 003

INSTITUTE OF CHILD HEALTH AND HOSPITAL FOR CHILDREN

EGMORE, CHENNAI -08

STATISTICS OF DIABETES MELLITUS (TYPE-I)

(2014 – 2017)

YEAR	OUTPATIENT CENSUS	INPATIENT CENSUS
2014	1514	37
2015	1805	41
2016	2094	72
2017	2119	87

குழந்தைகள் நல மருத்துவமனை (ம) ஆராய்ச்சி நிறுவனம்
எழும்பூர்
04 MAY 2018
சென்னை-8

S. PUNITHAVATHY
SENIOR MEDICAL RECORD OFFICER
INSTITUTE OF CHILD HEALTH AND
HOSPITAL FOR CHILDREN,
EGMORE, CHENNAI-600 008.

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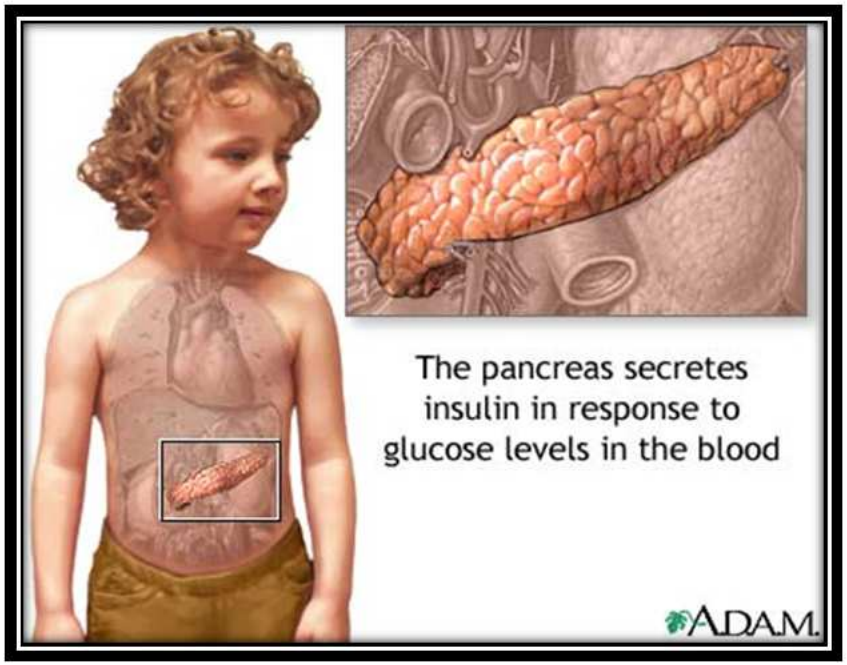

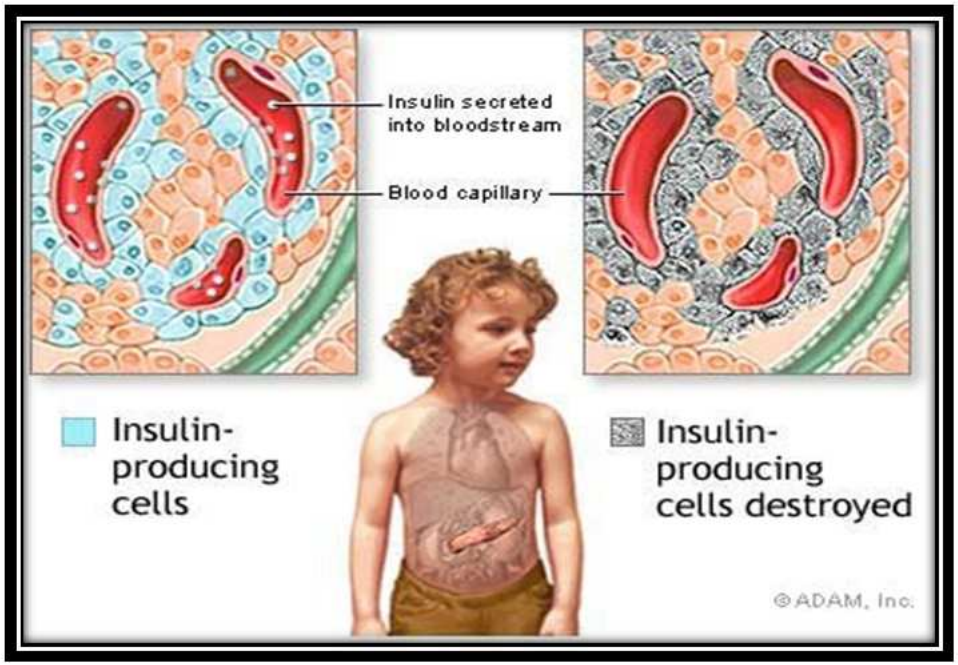

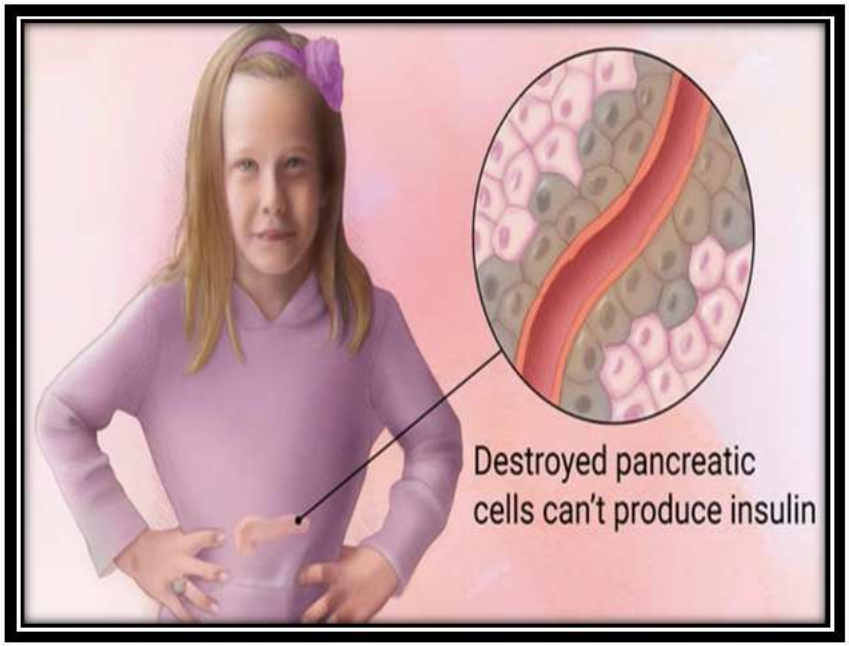

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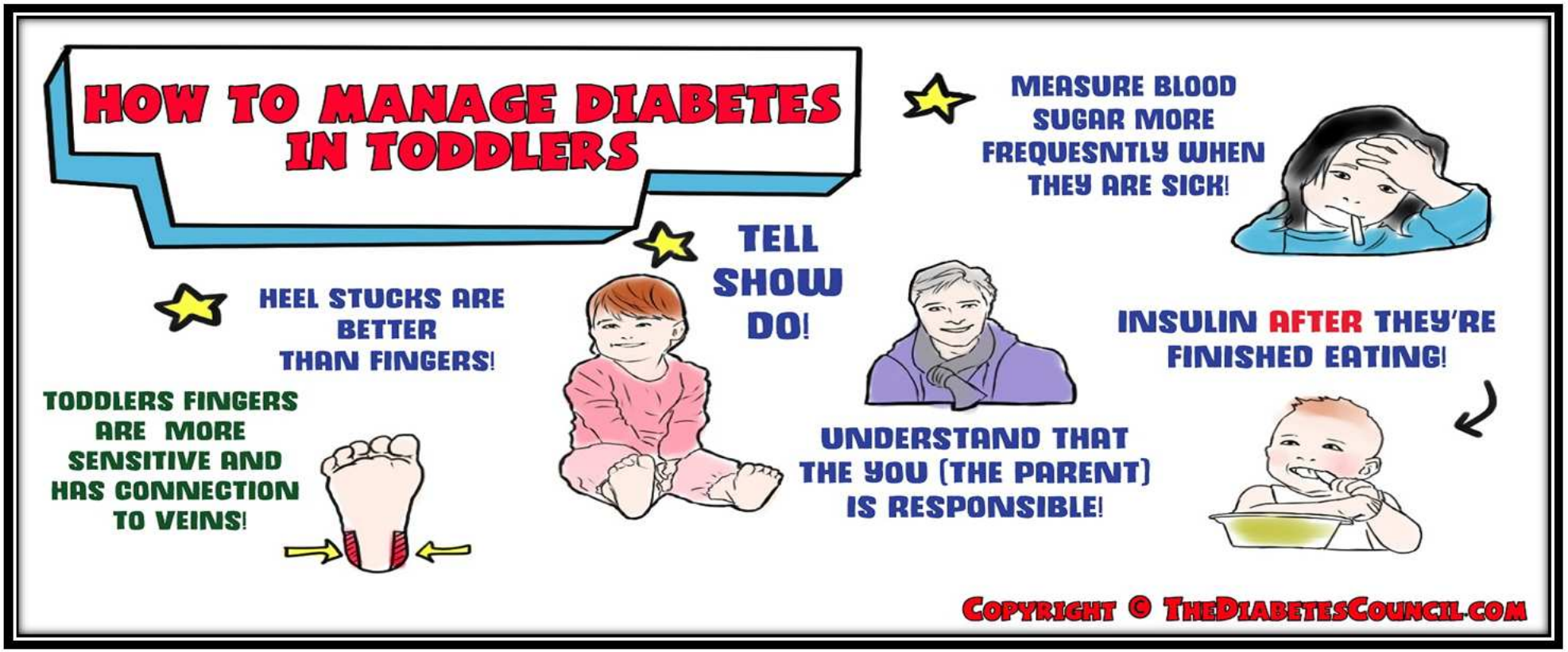

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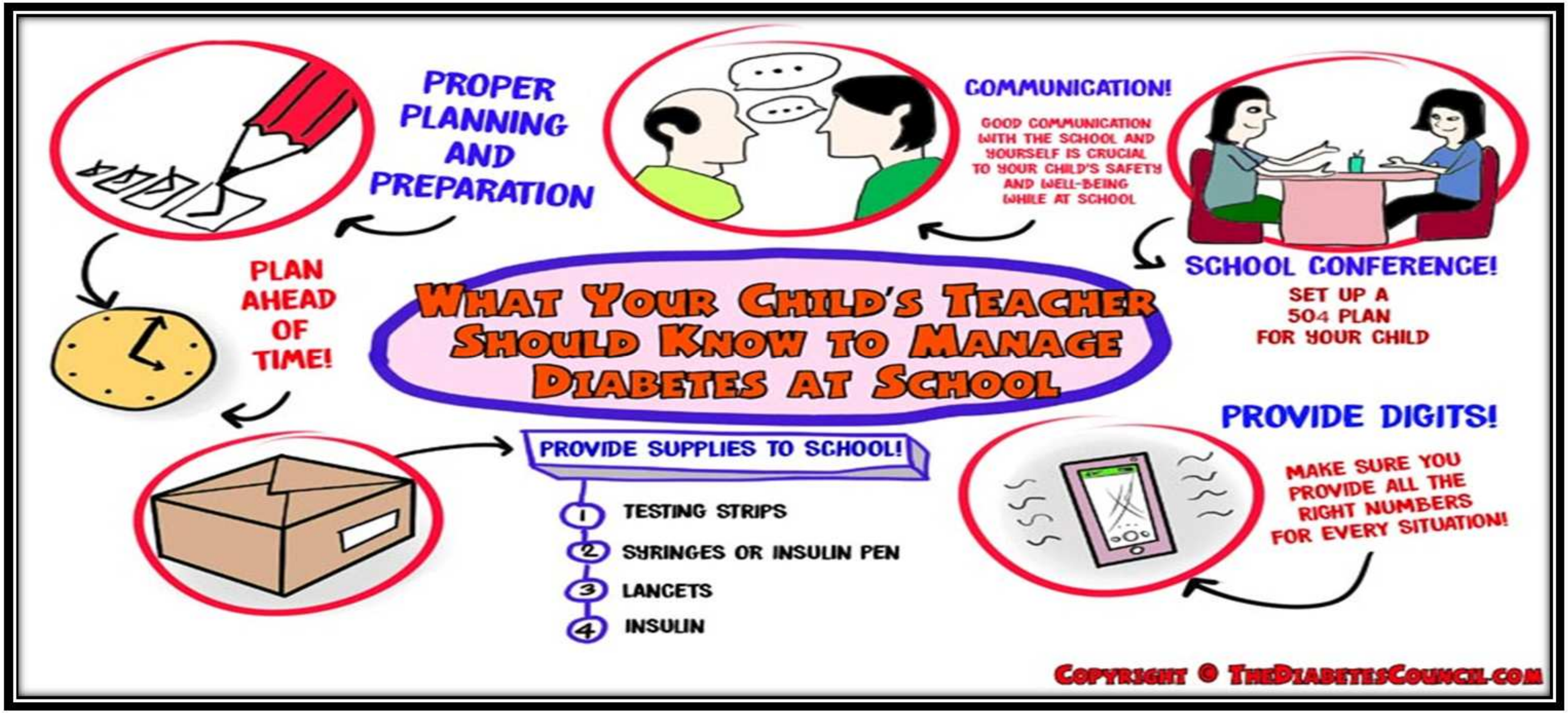

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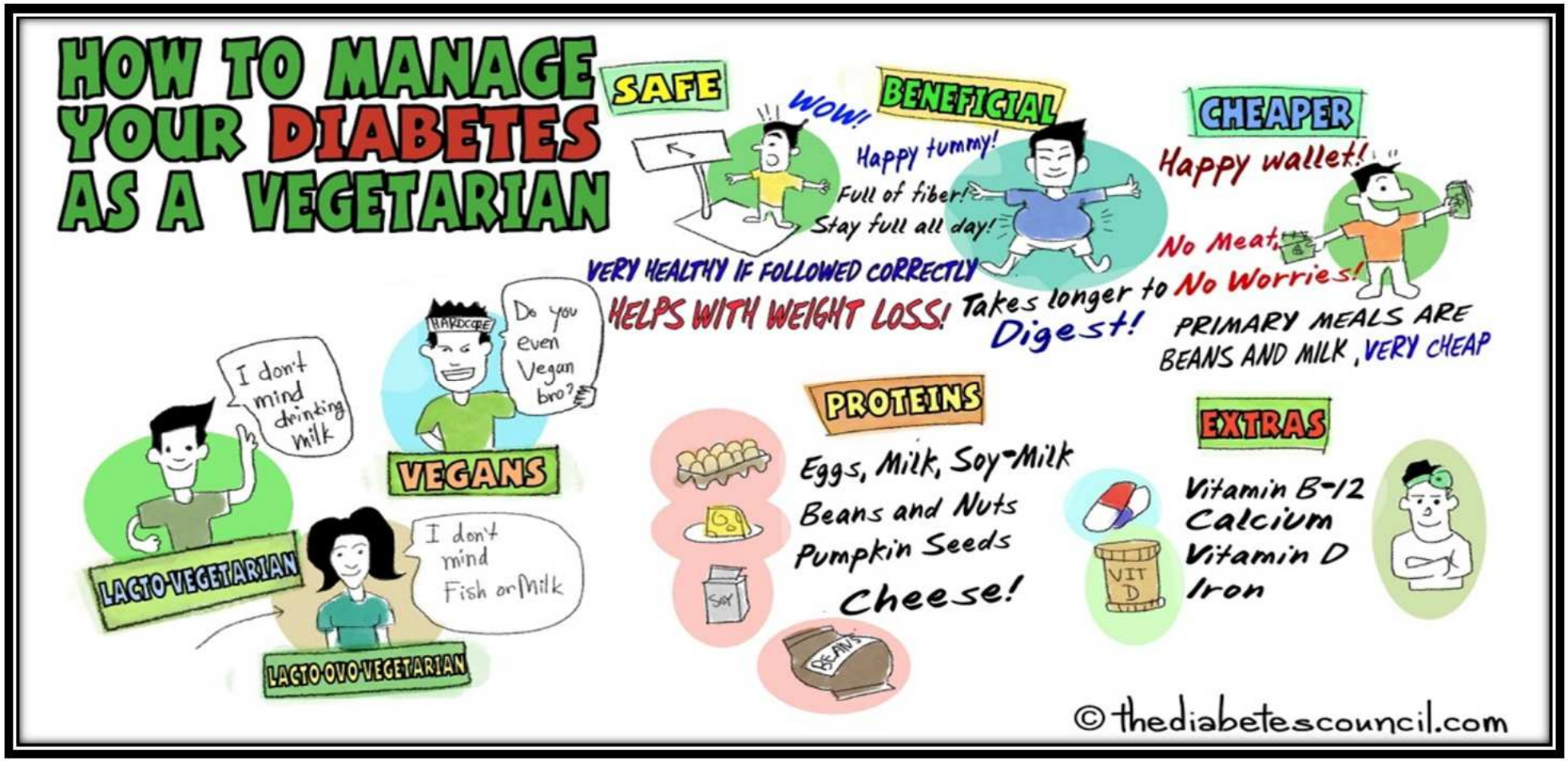

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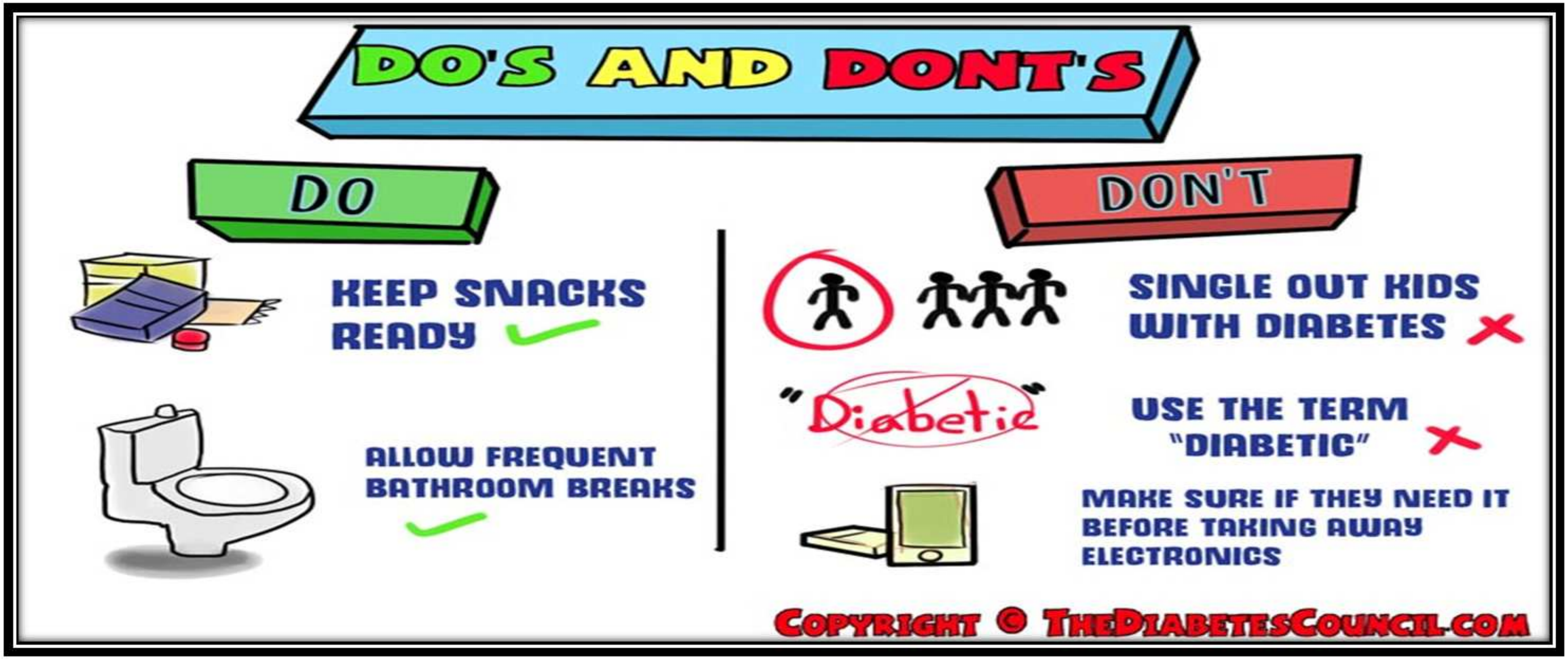

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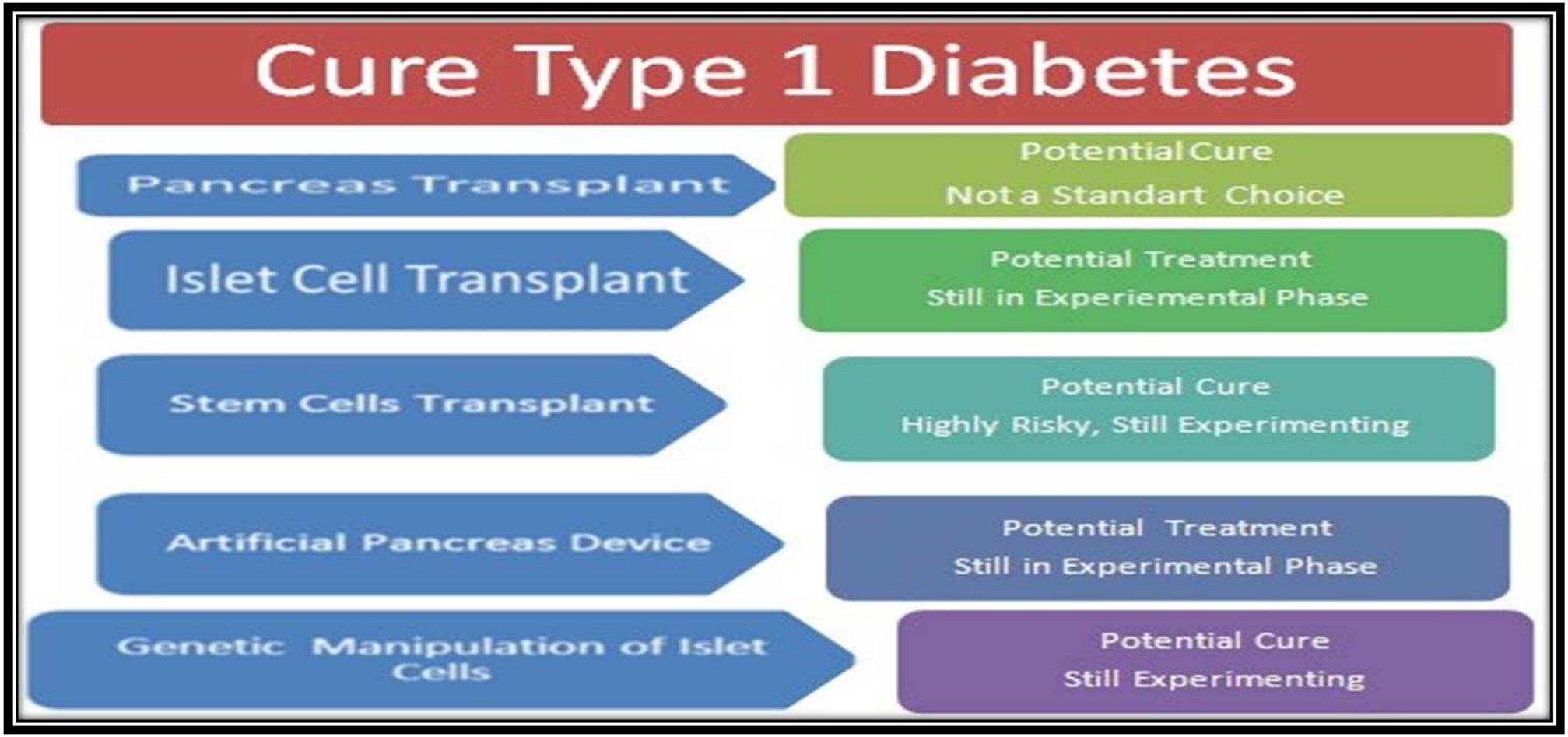

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þøÄ¡¾ ÒÐ ¯Ä ¨ ¸ À ¨¼ô§À¡õ

Gary Hall Jr.

Olympic swimming medalist

Type 1 diabetes

Nicole Johnson

Miss America 1999

Type 1 diabetes

Halle Berry

Actress

Type 1 diabetes

Jason Johnson

Detroit Tigers Pitcher

Type 1 diabetes diagnosed age 11

Wears insulin pump on field

Mary Tyler Moore

Type 1 diabetes

நீரிழிவு நோய் வகை 1 பெறும் பிரபலங்கள் அனைத்து துறைகளிலும் வெற்றி பெற்று உள்ளனர்,

நம்மாலும் (முடியும்

இன்சுலின் ஊசியினை திரும்ப திரும்ப ஏற்கனவே போட்ட இடத்தில் போட்டுகொள்வதனால் ஆறாத புண் ஏற்படும்

Ätô§À¡ÊŠÊ§Ã¡À! -

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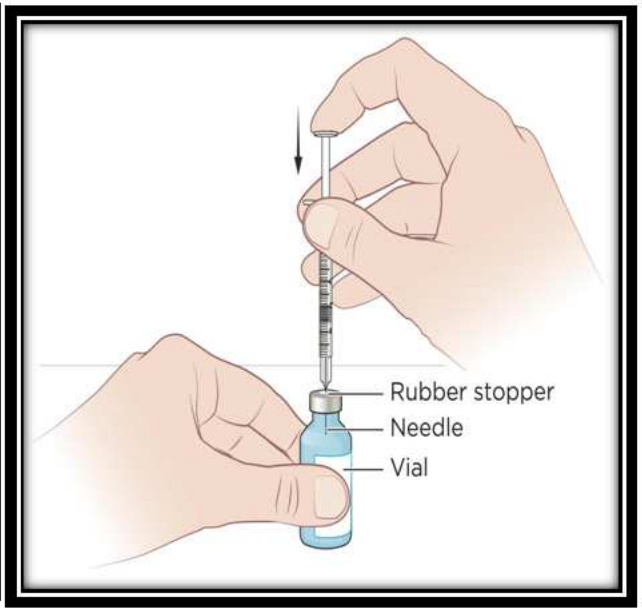

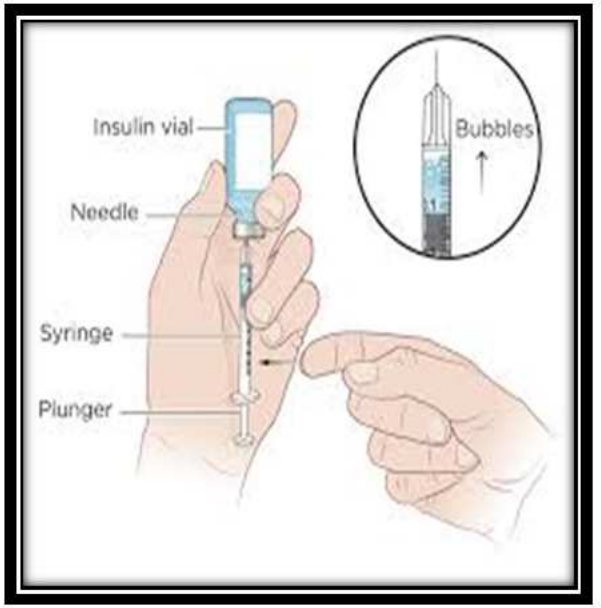

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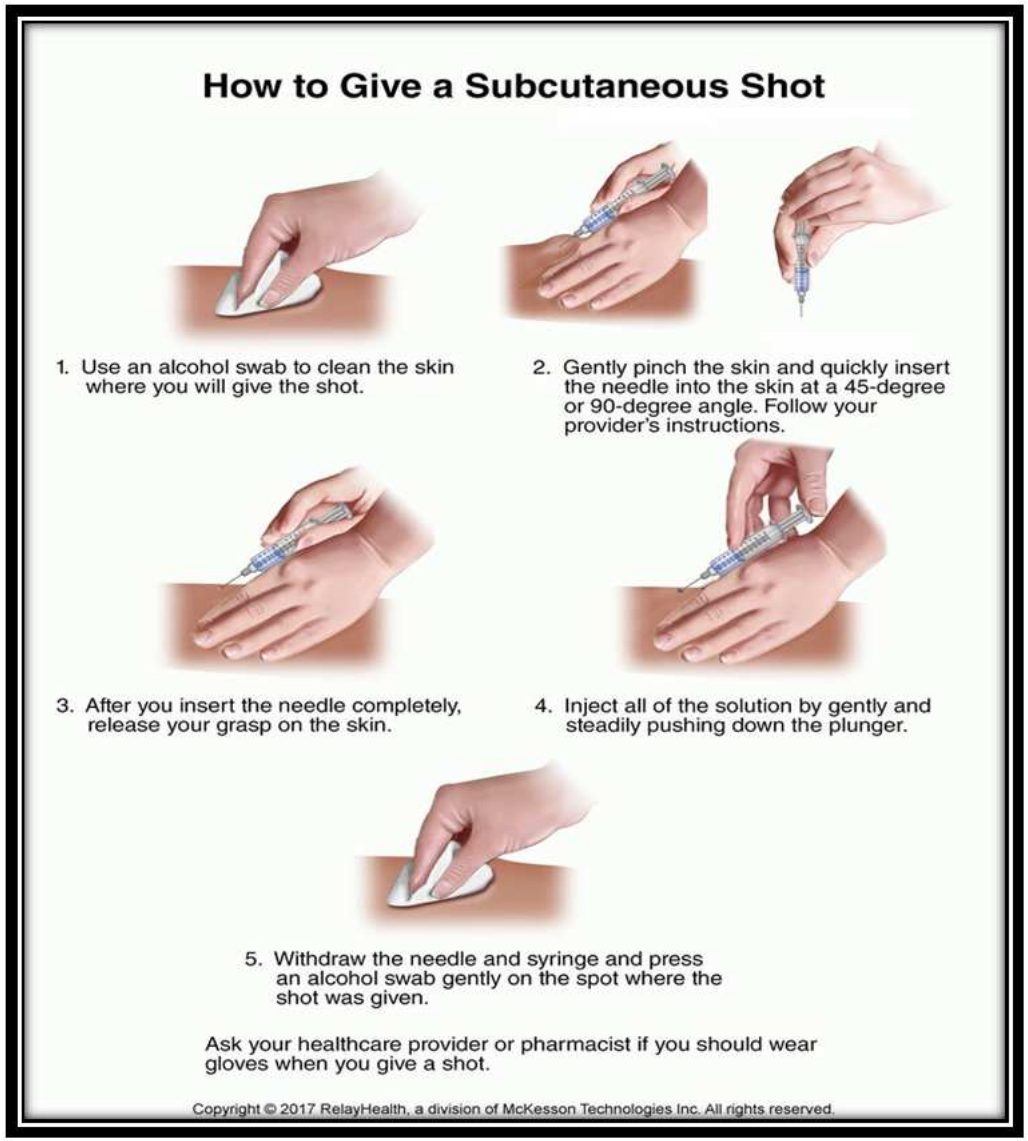

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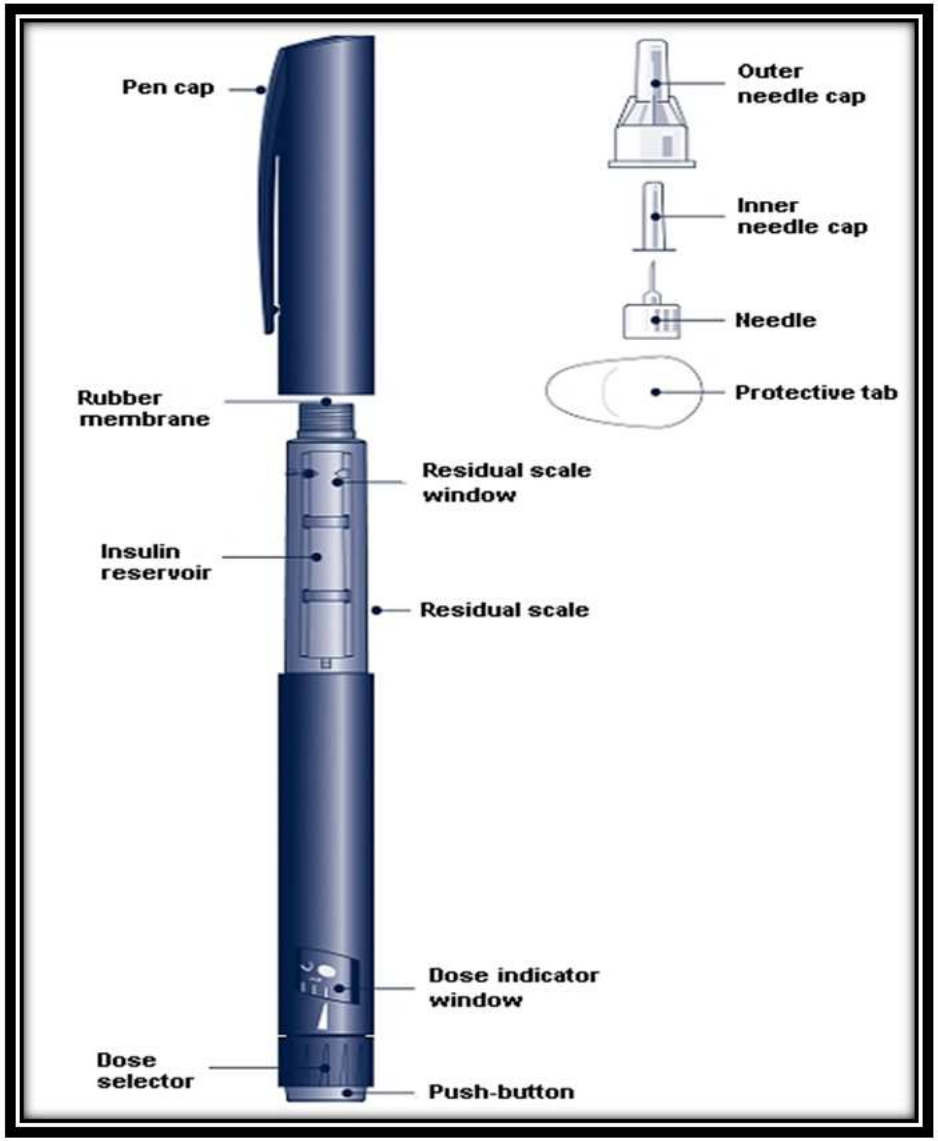

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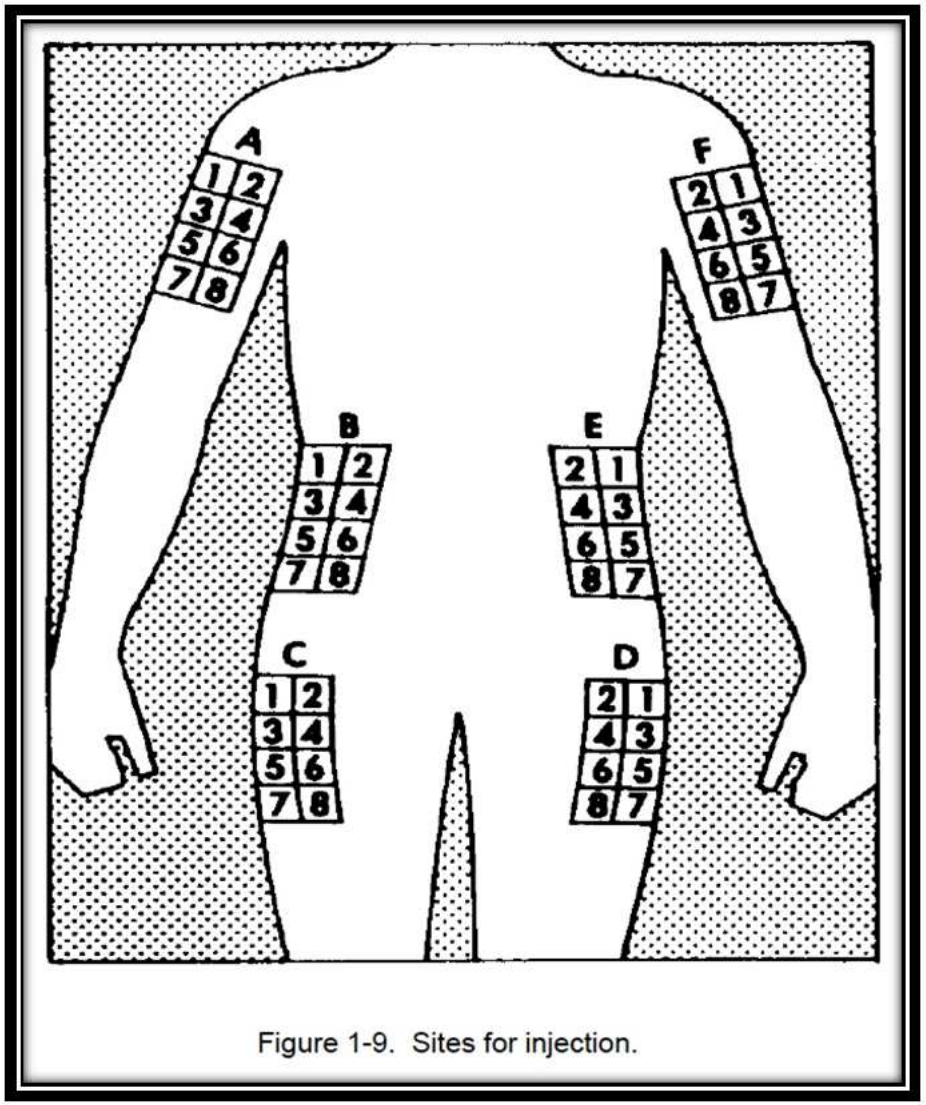
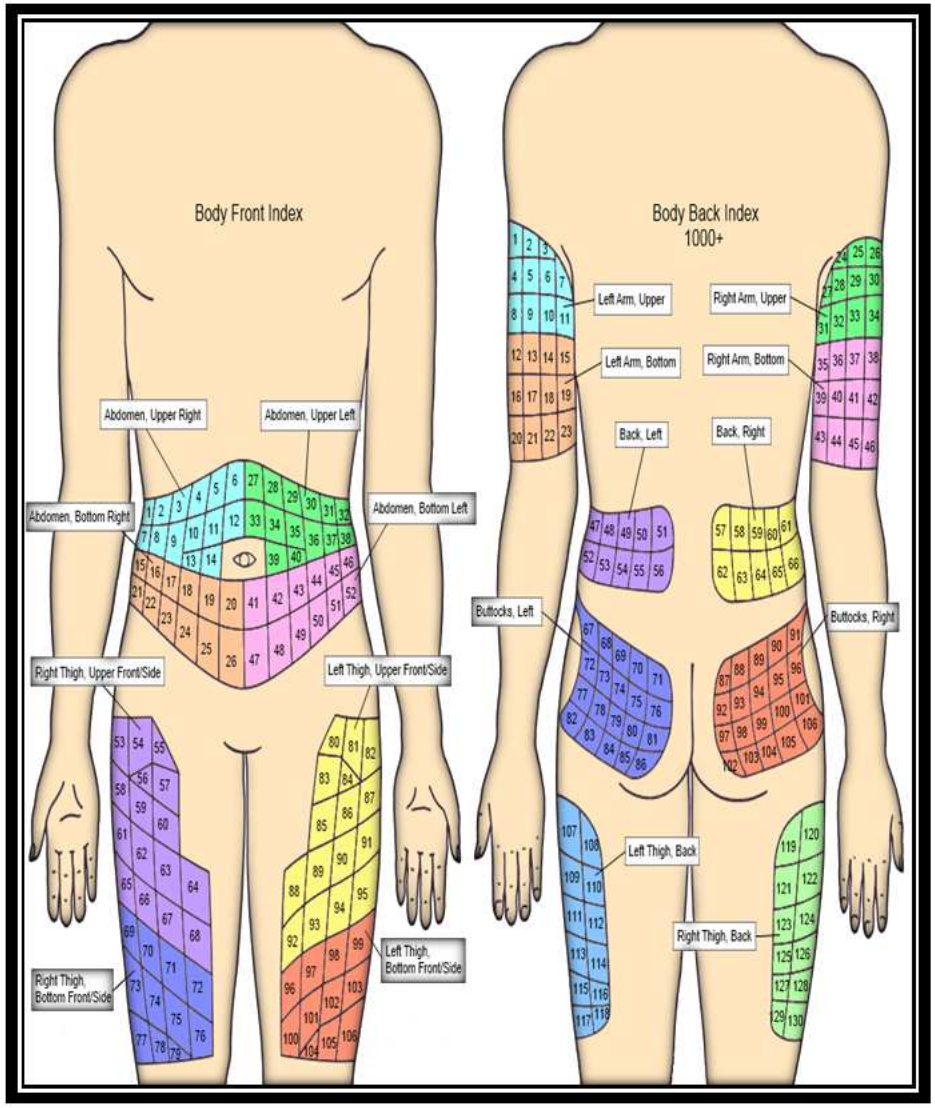


Figure 1-9. Sites for injection.



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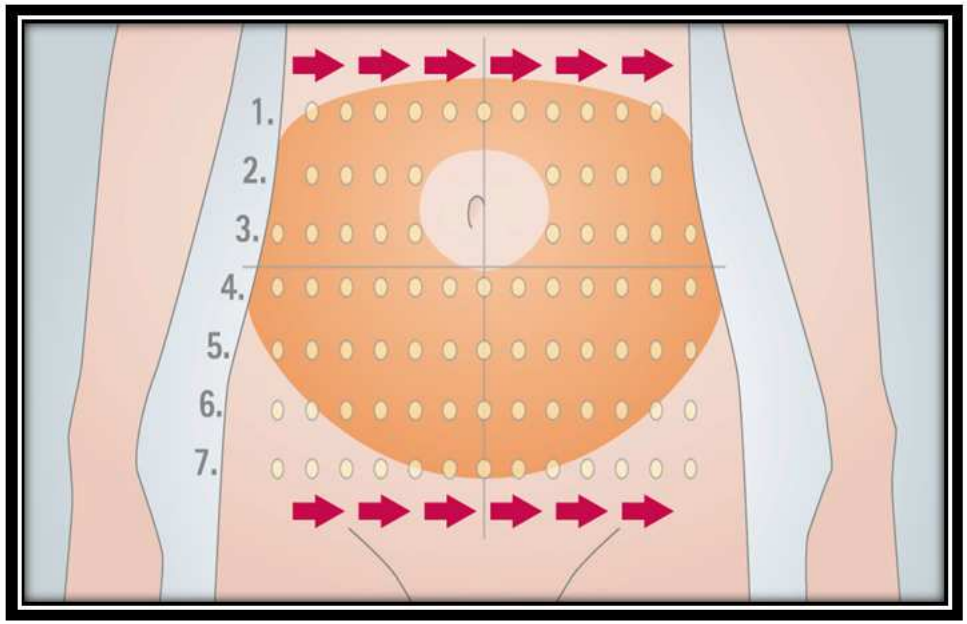
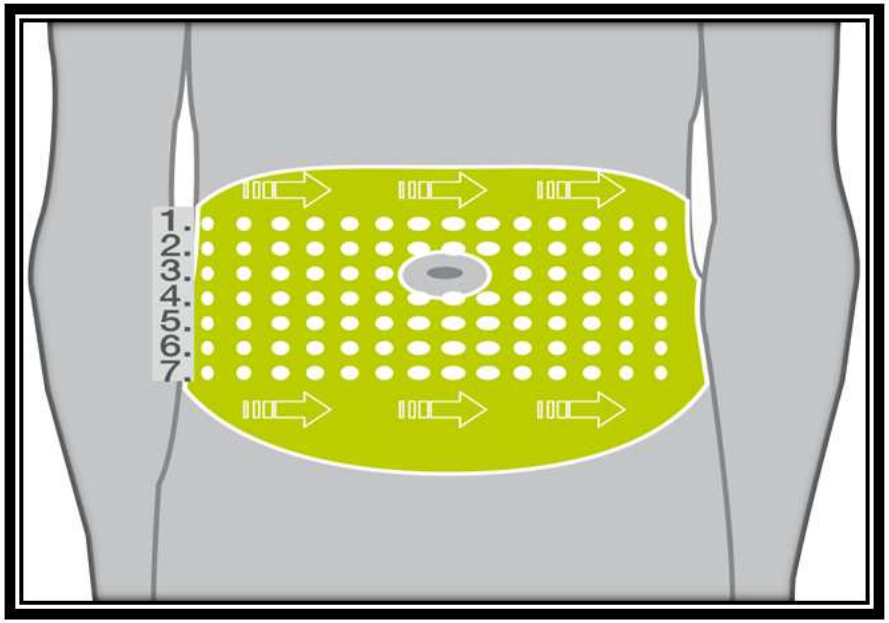
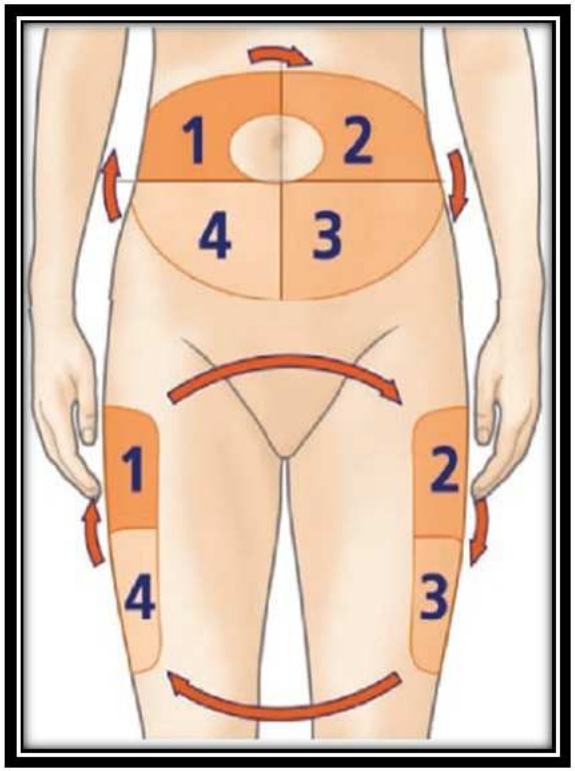
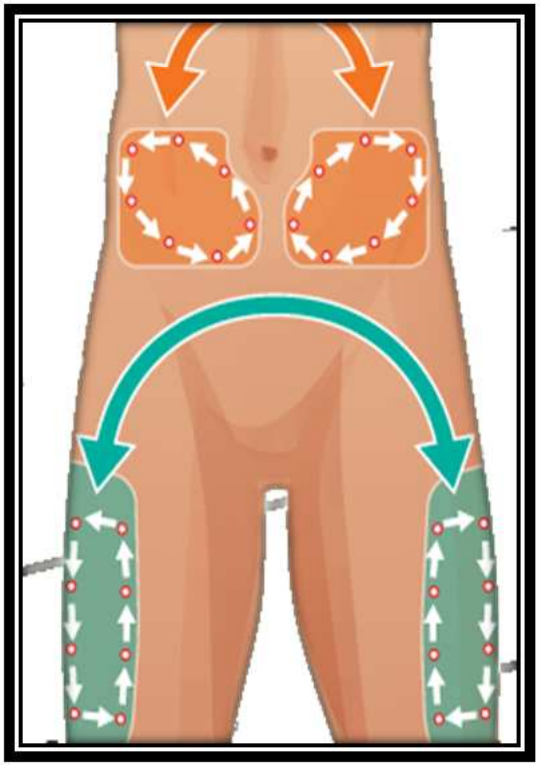
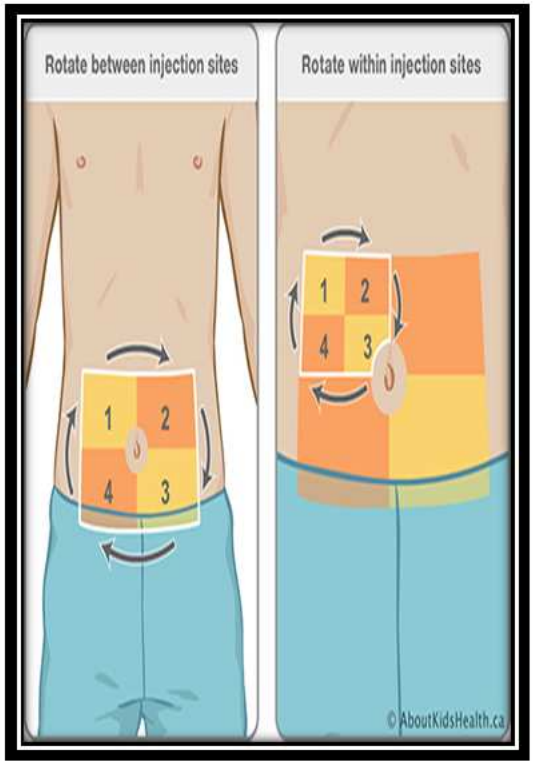


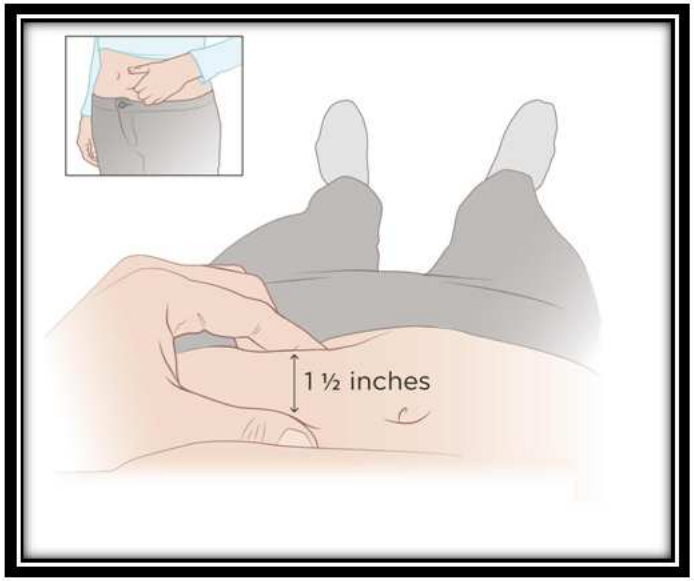


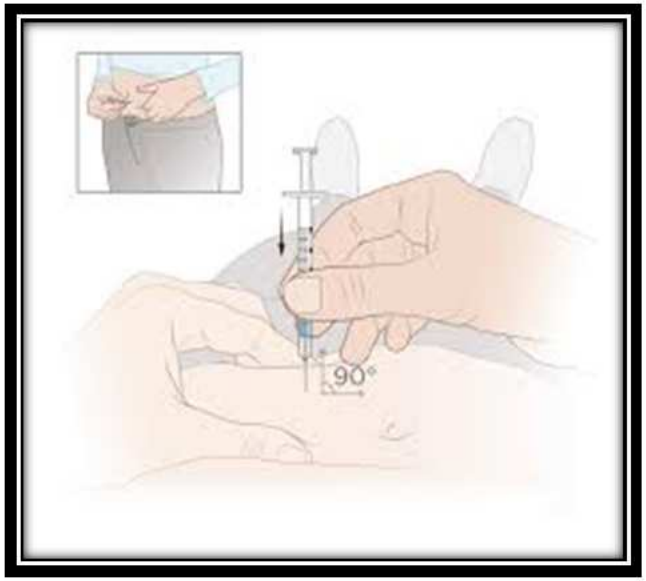


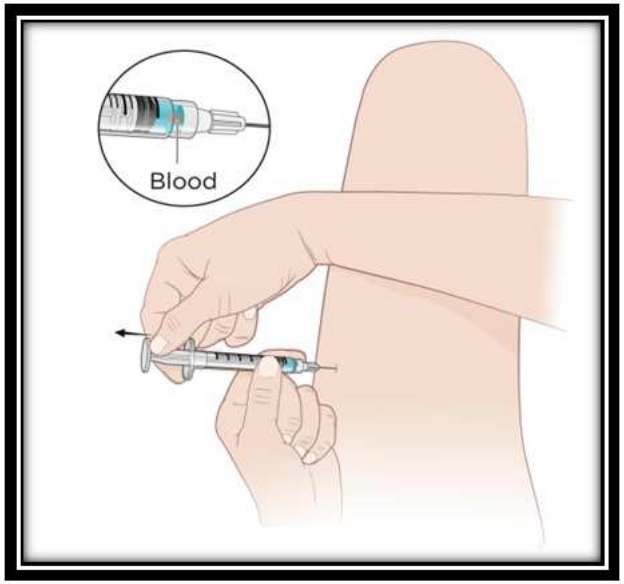




இன்சுலின் ஊசி மருந்து போட்டுக் கொள்ள வேண்டிய இடங்கள்







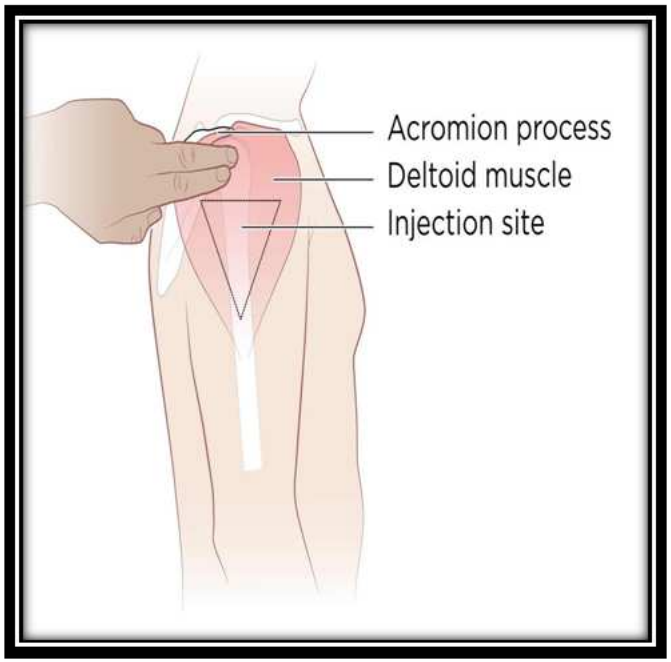


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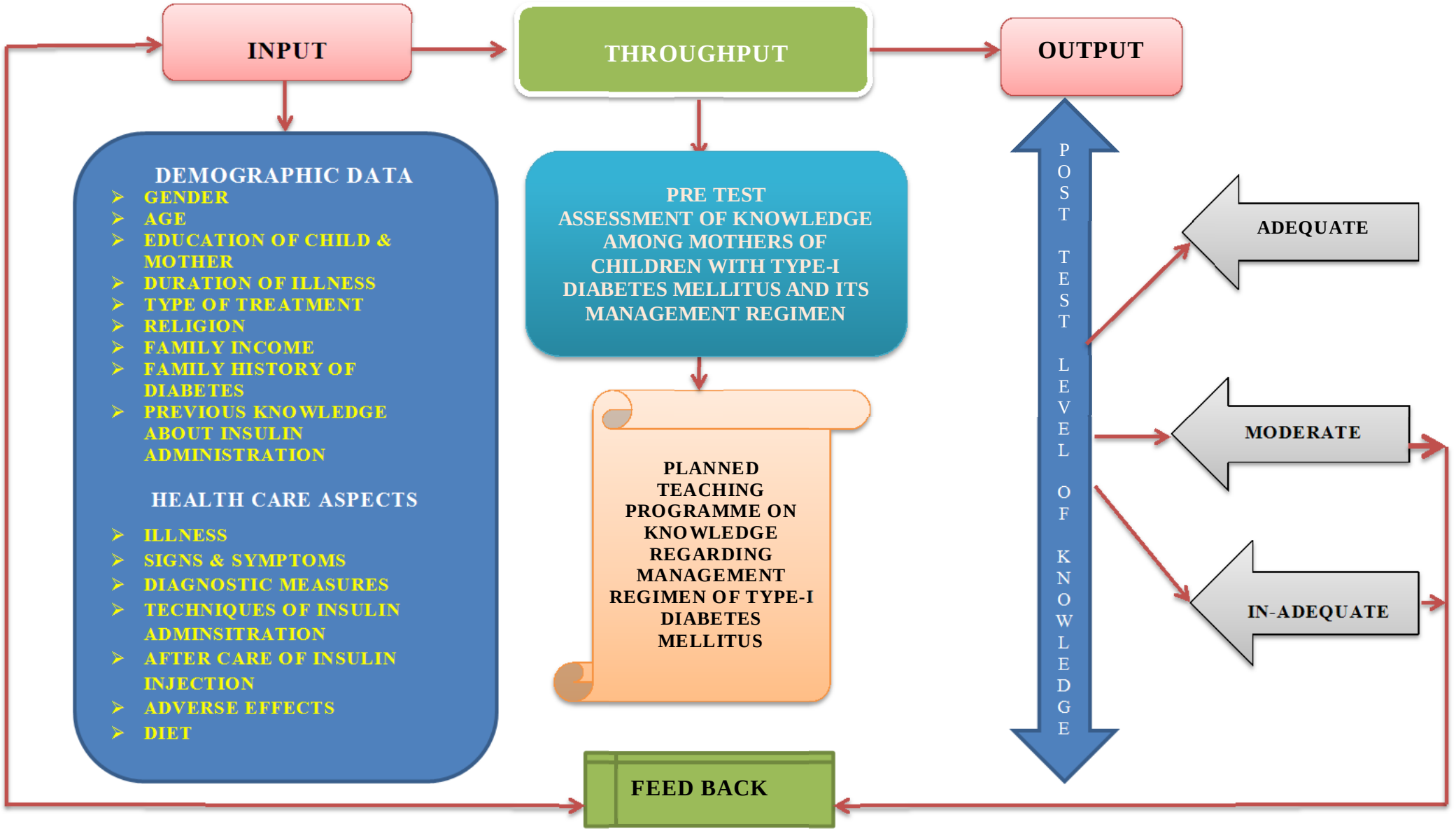
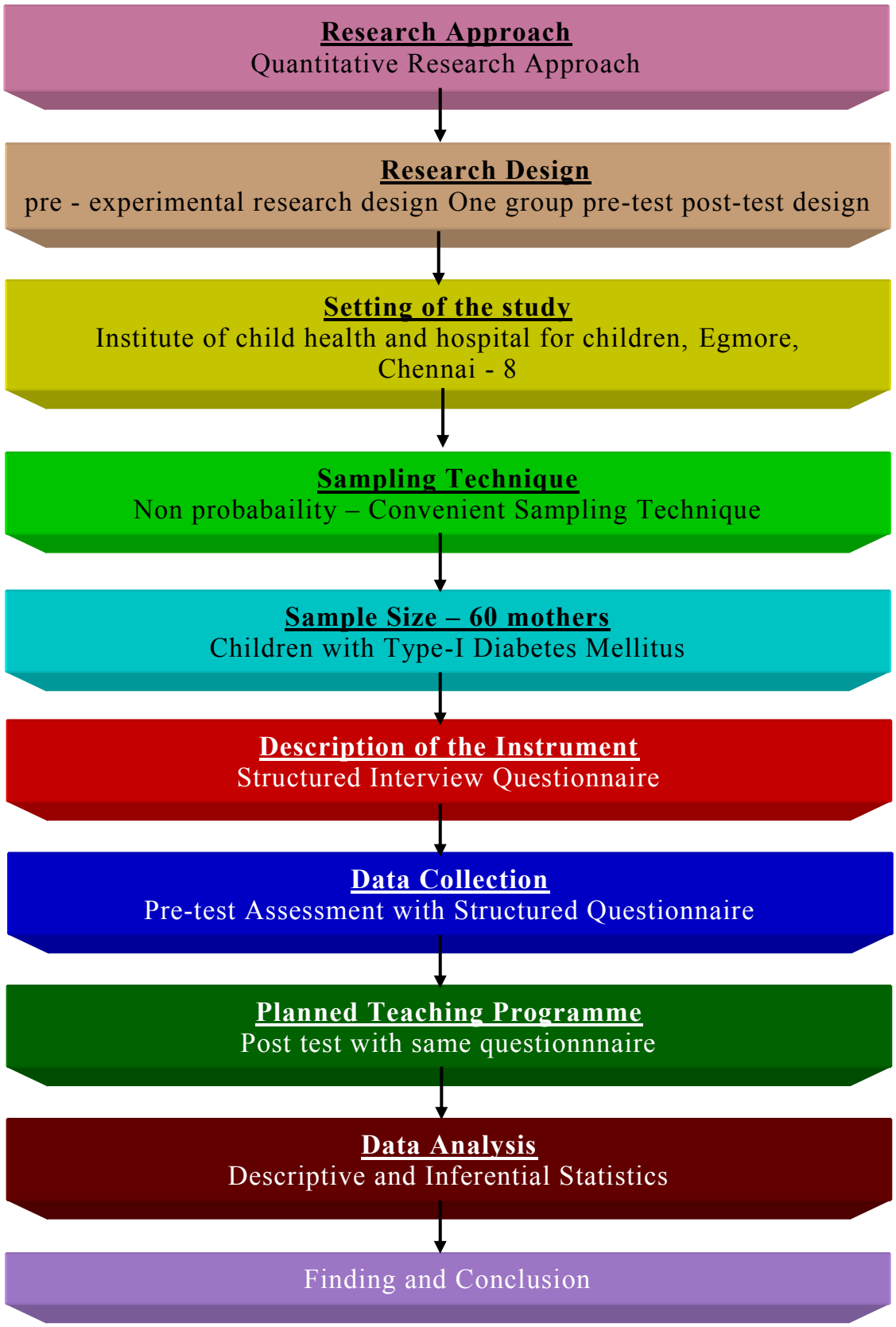
FIGURE: 2.1: CONCEPTUAL FRAMEWORK (OPEN SYSTEM THEORY J.W.KENNEY)



3.18. SCHEMATIC REPRESENTATION OF RESEARCH METHODOLOGY



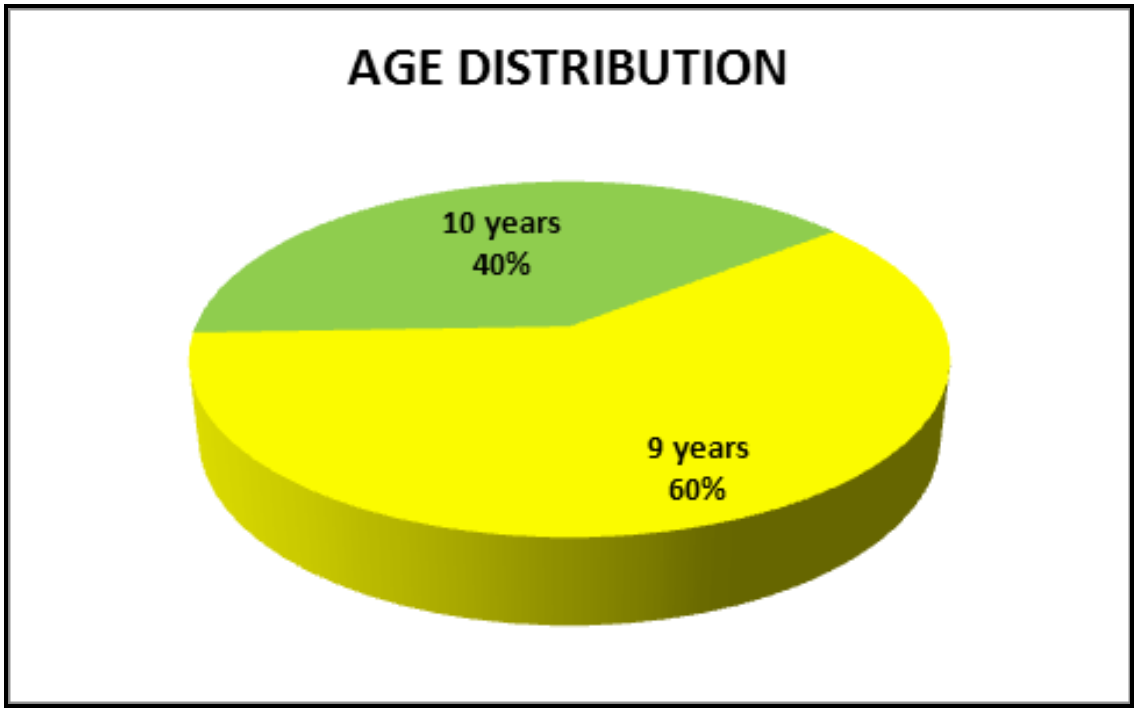


Figure 4.1 Percentage distribution age of children.

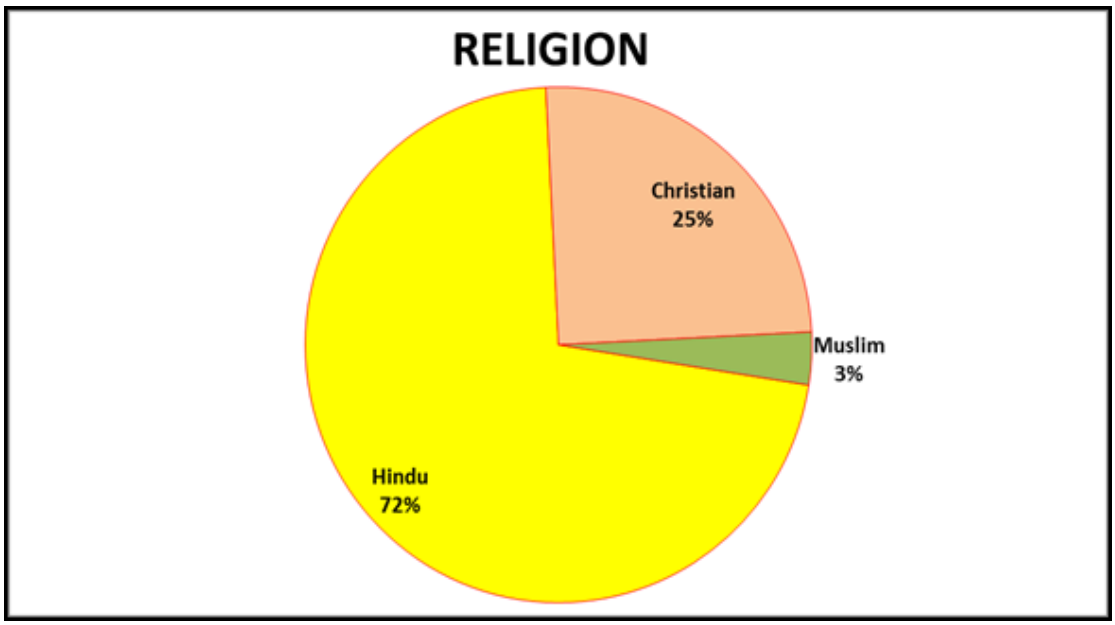


Figure 4.2 – Percentage distribution of religion of mothers

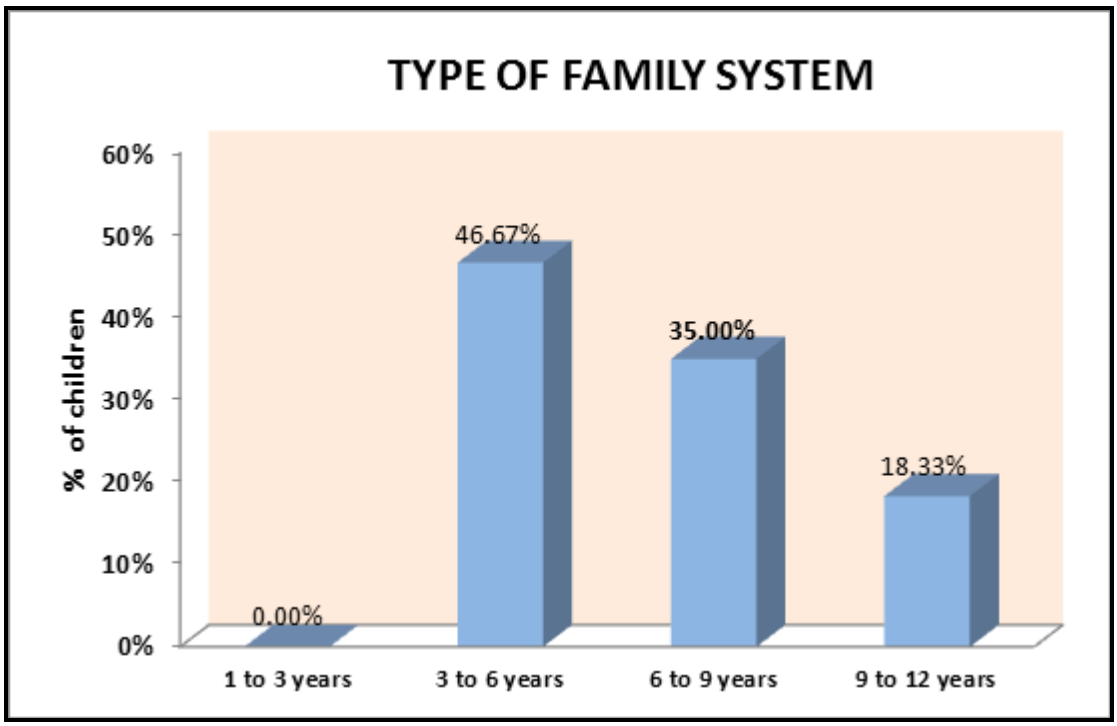


Figure 4.3 - Percentage distribution of type of family system.

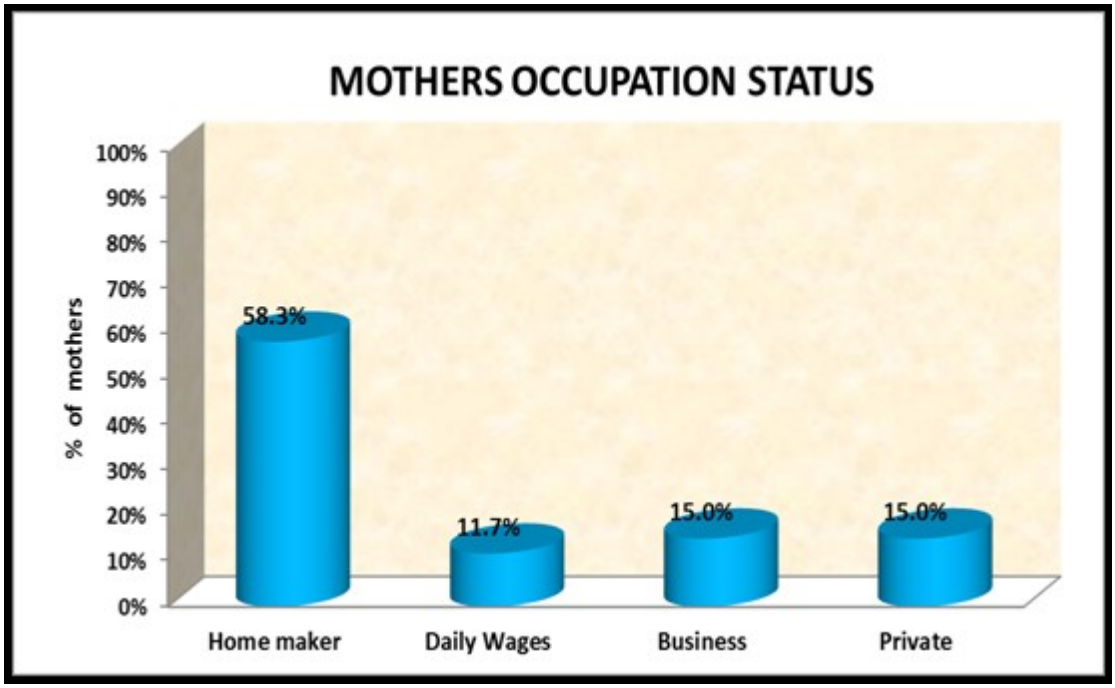


Figure 4.4 - Percentage distribution of occupational status of mothers

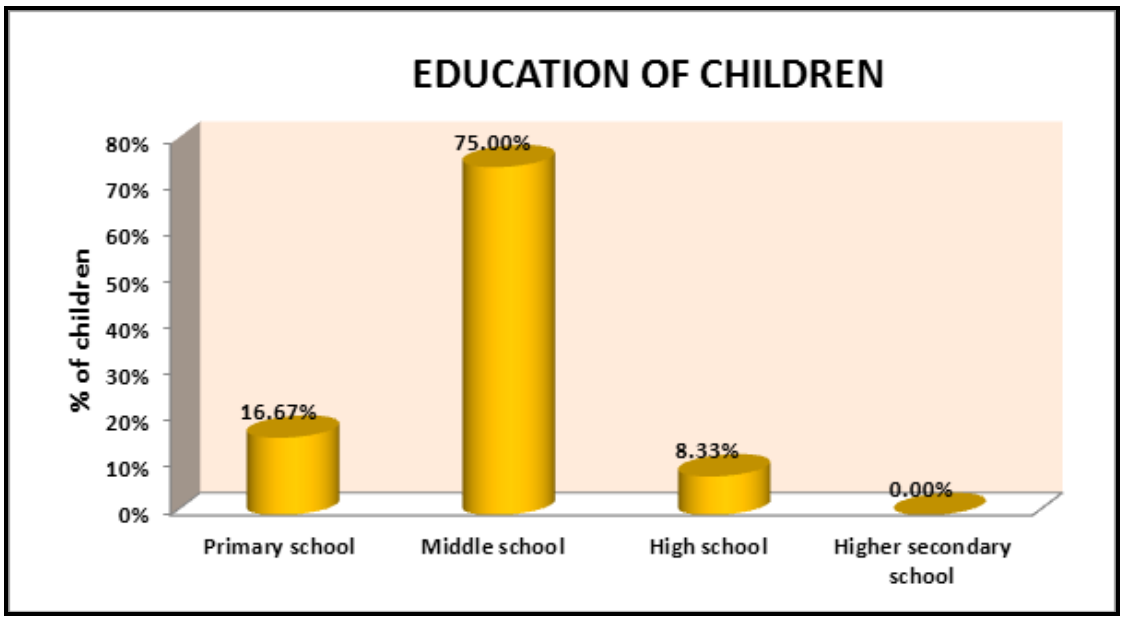


Figure 4.5 - Percentage distribution of education of children.

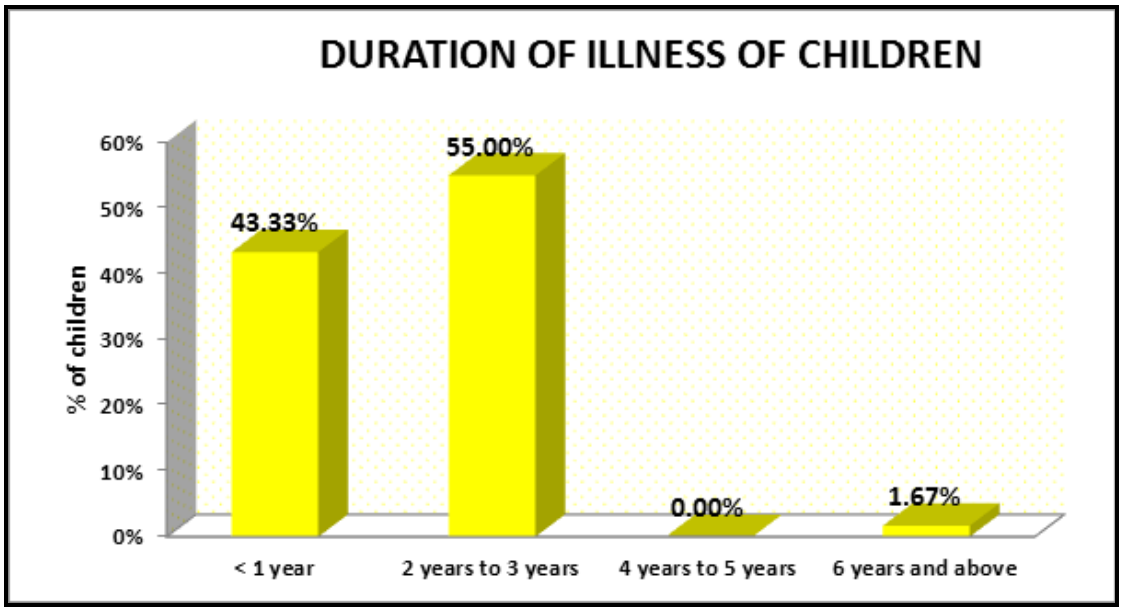


Figure 4.6 - Percentage distribution of duration of illness of children

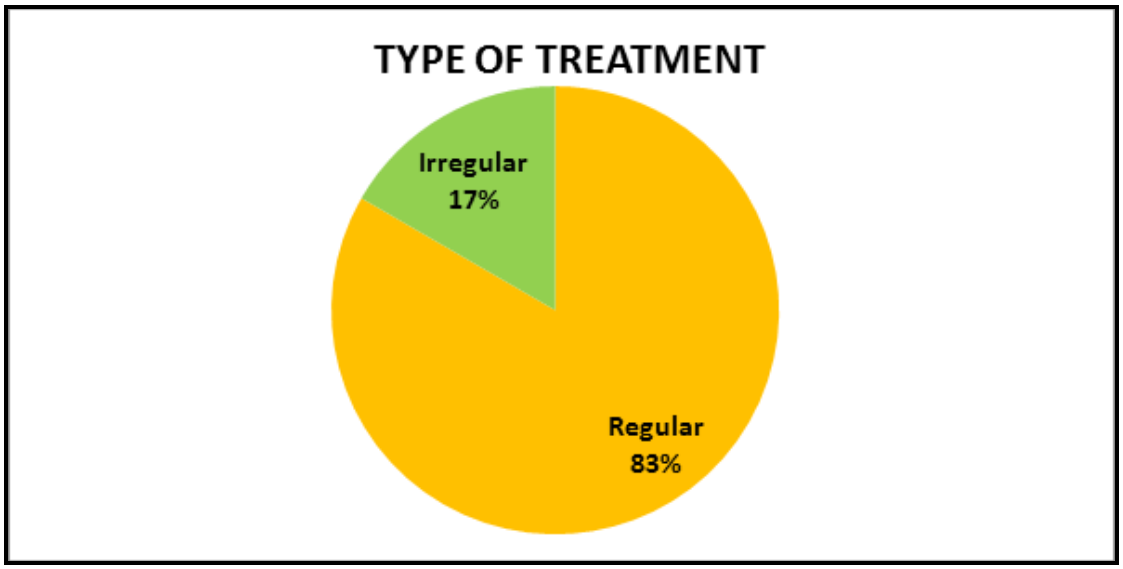


Figure 4.7 - Percentage distribution of type of treatment..

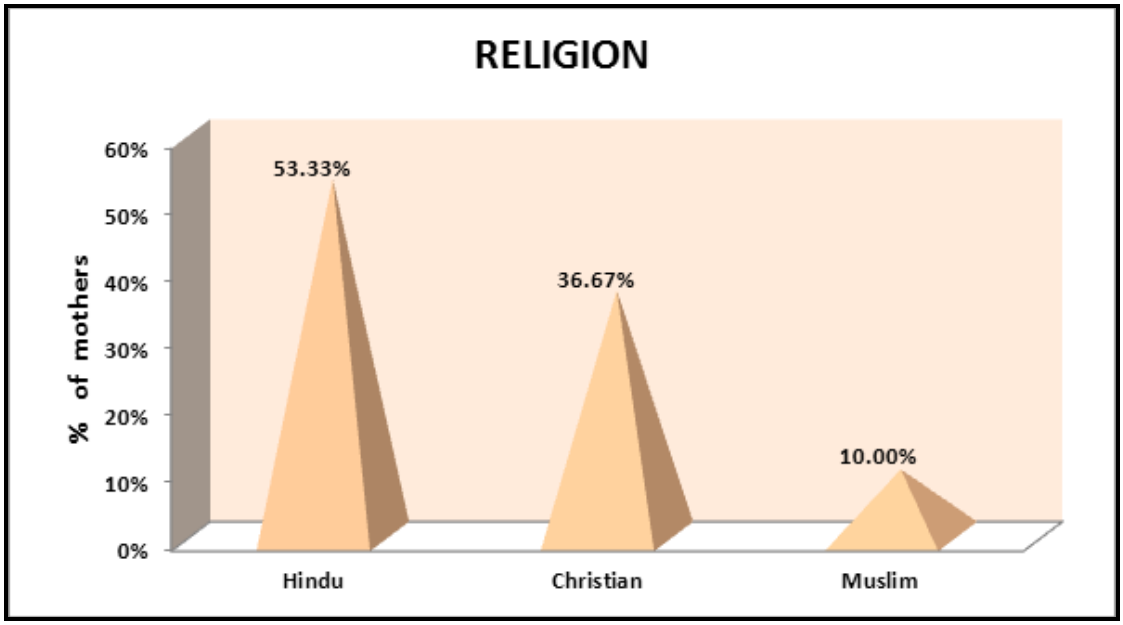


Figure 4.8- Percentage distribution of religion of the mothers.

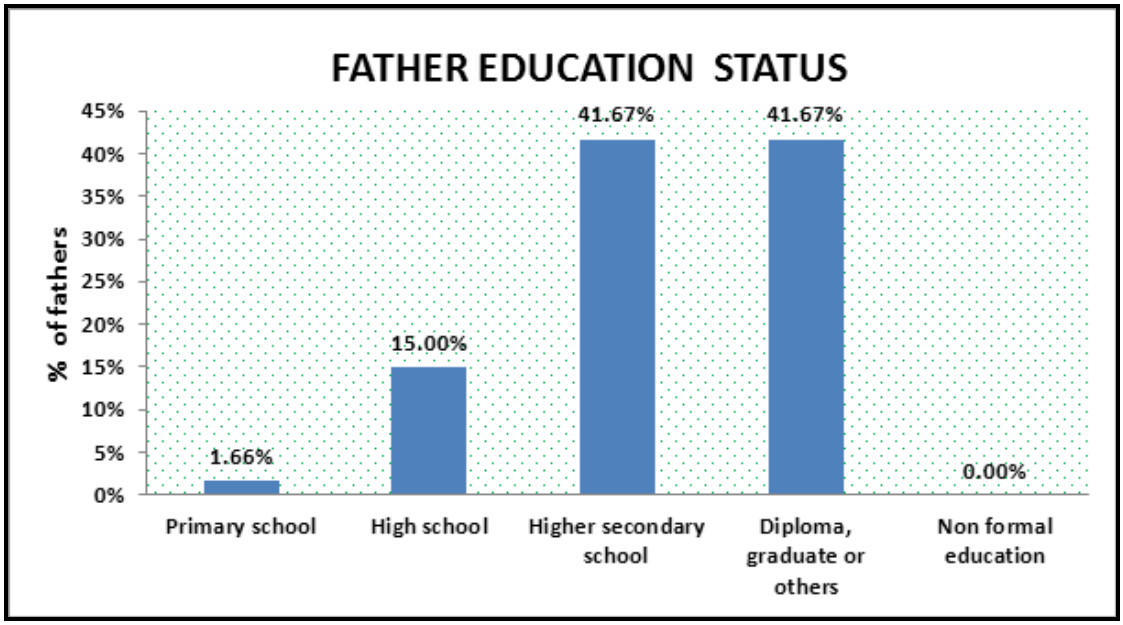


Figure 4.9 - Percentage distribution of educational status of fathers

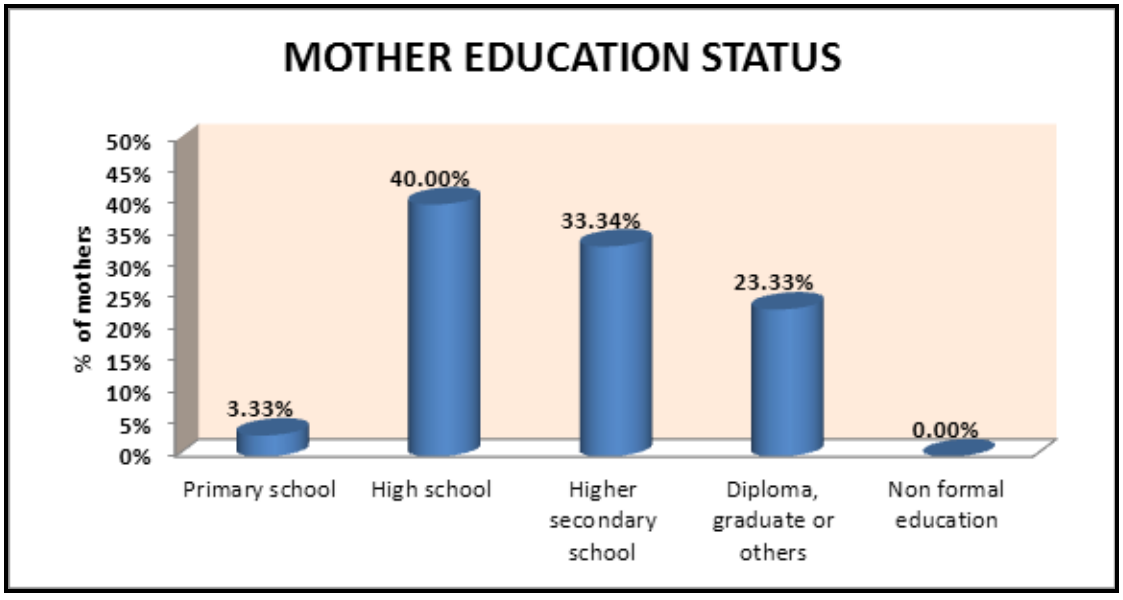


Figure 4.10- Percentage distribution of educational status of mothers.

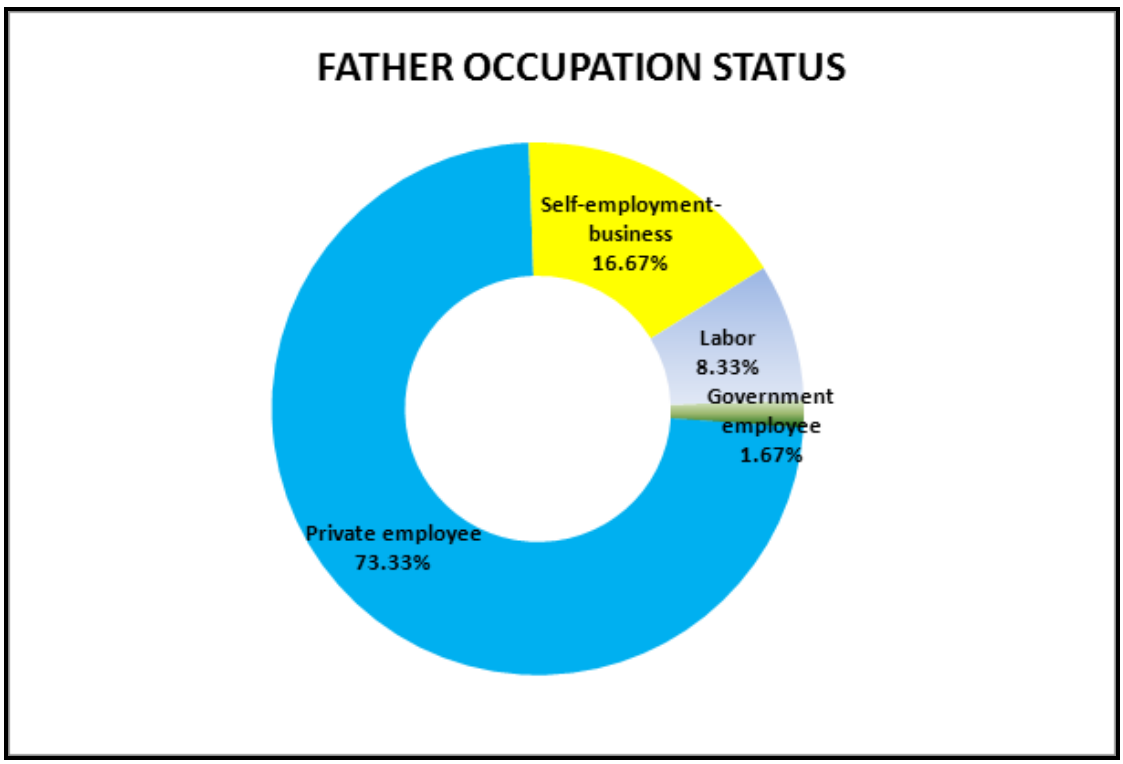


Figure 4.11 - Percentage distribution of occupational status of fathers

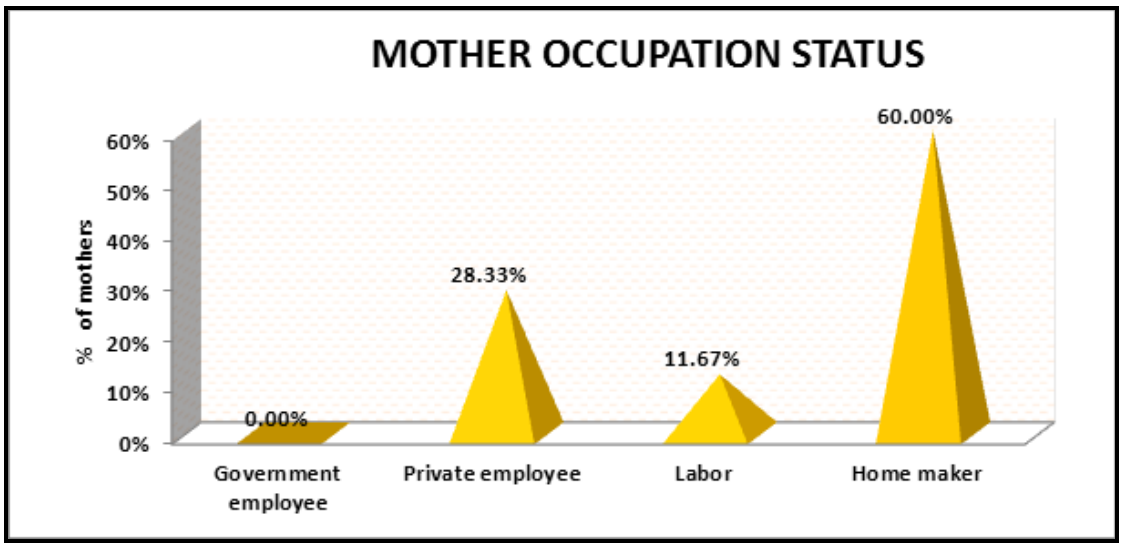


Figure 4.12 - Percentage distribution of occupational status of mothers

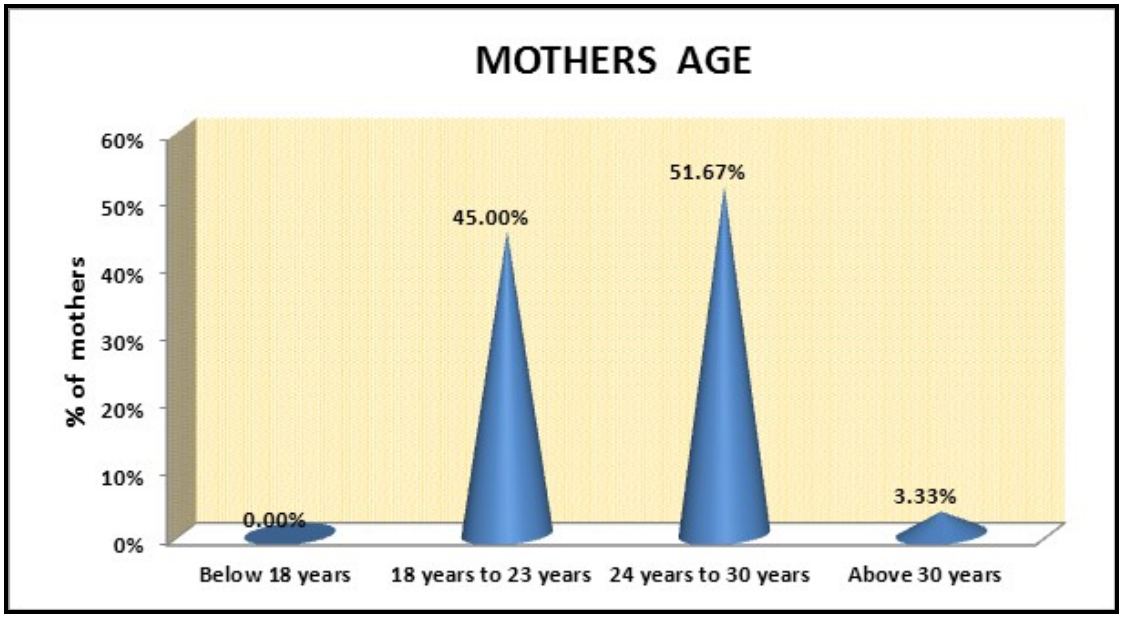


Figure 4.13 - Percentage distribution of mothers age.

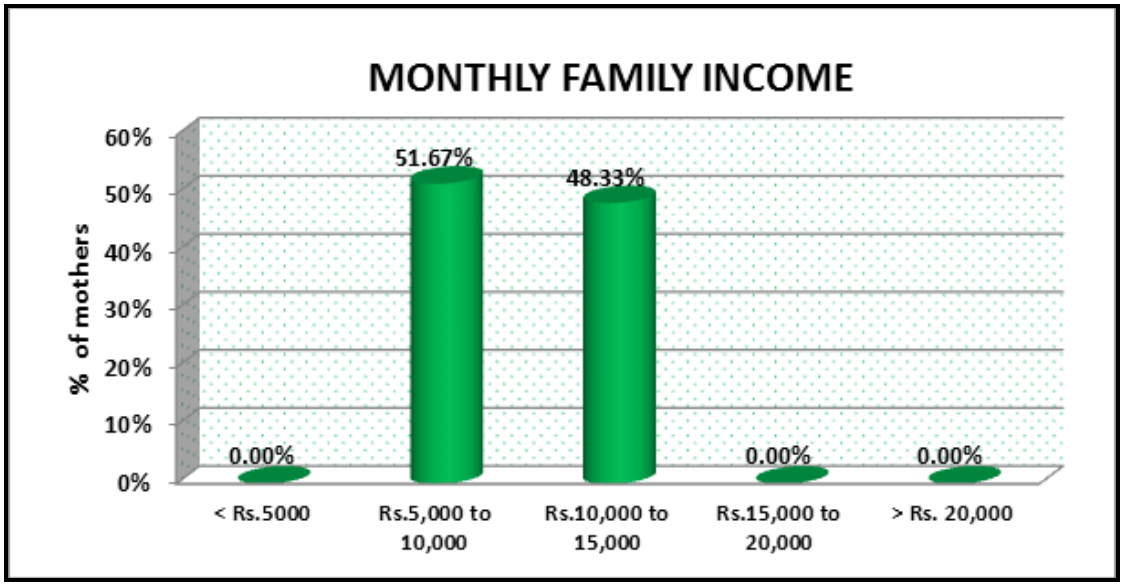


Figure 4.14 - Percentage distribution of monthly family income.

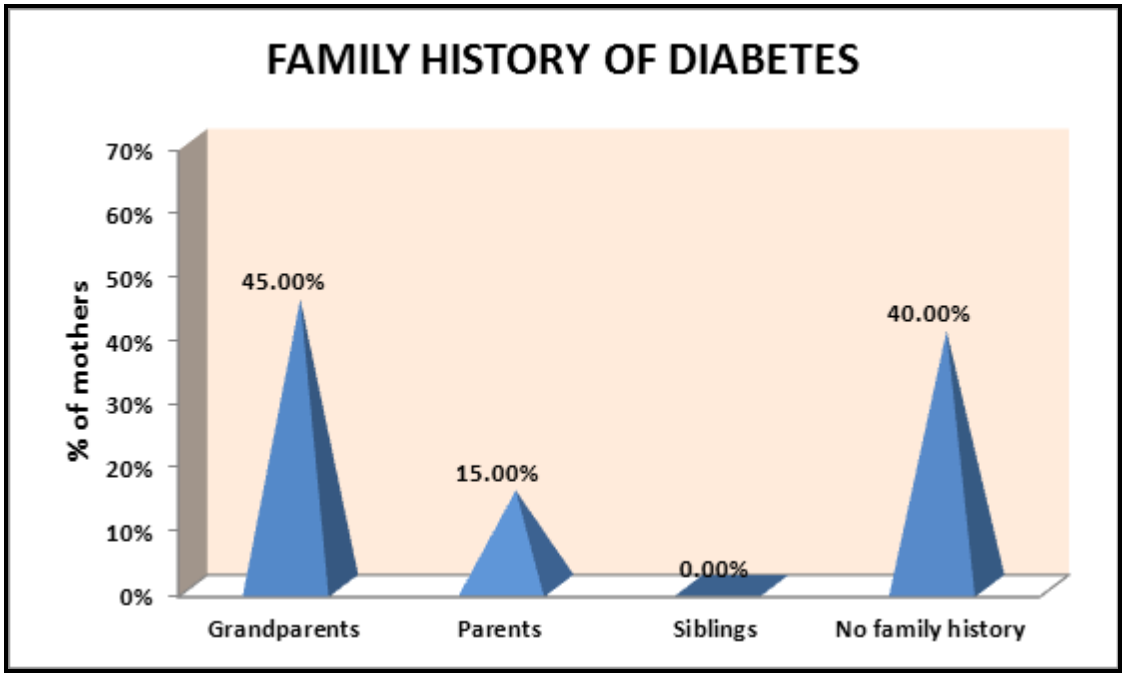


Figure 4.15 - Percentage distribution of family history of Diabetes.

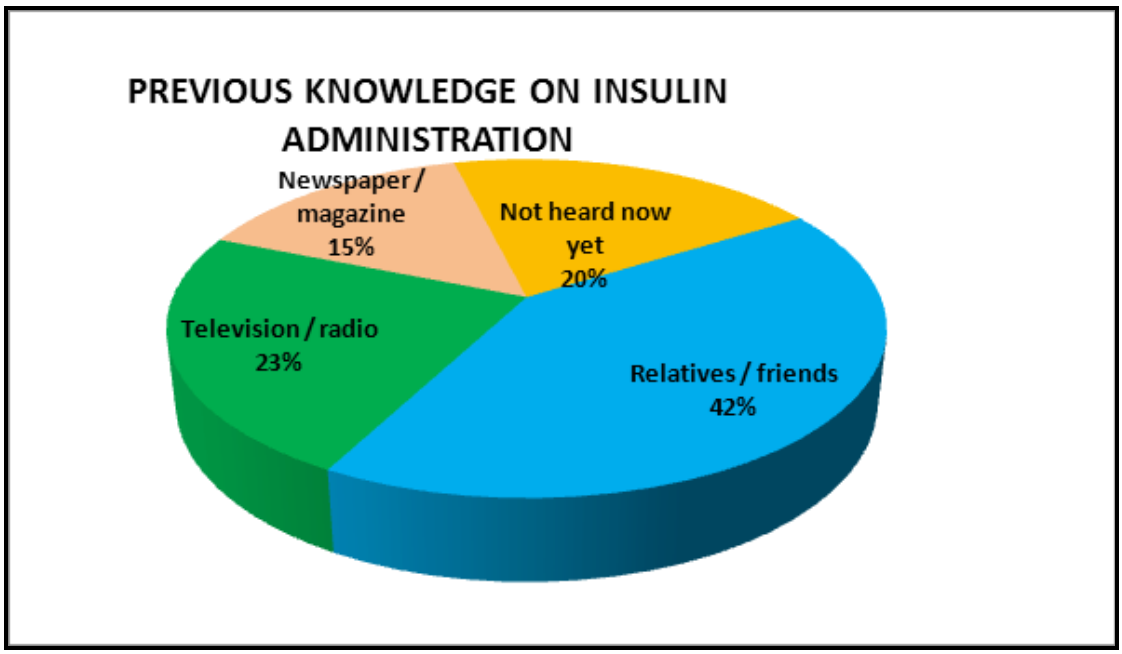


Figure 4.16 - Percentage distribution of previous knowledge on insulin administration

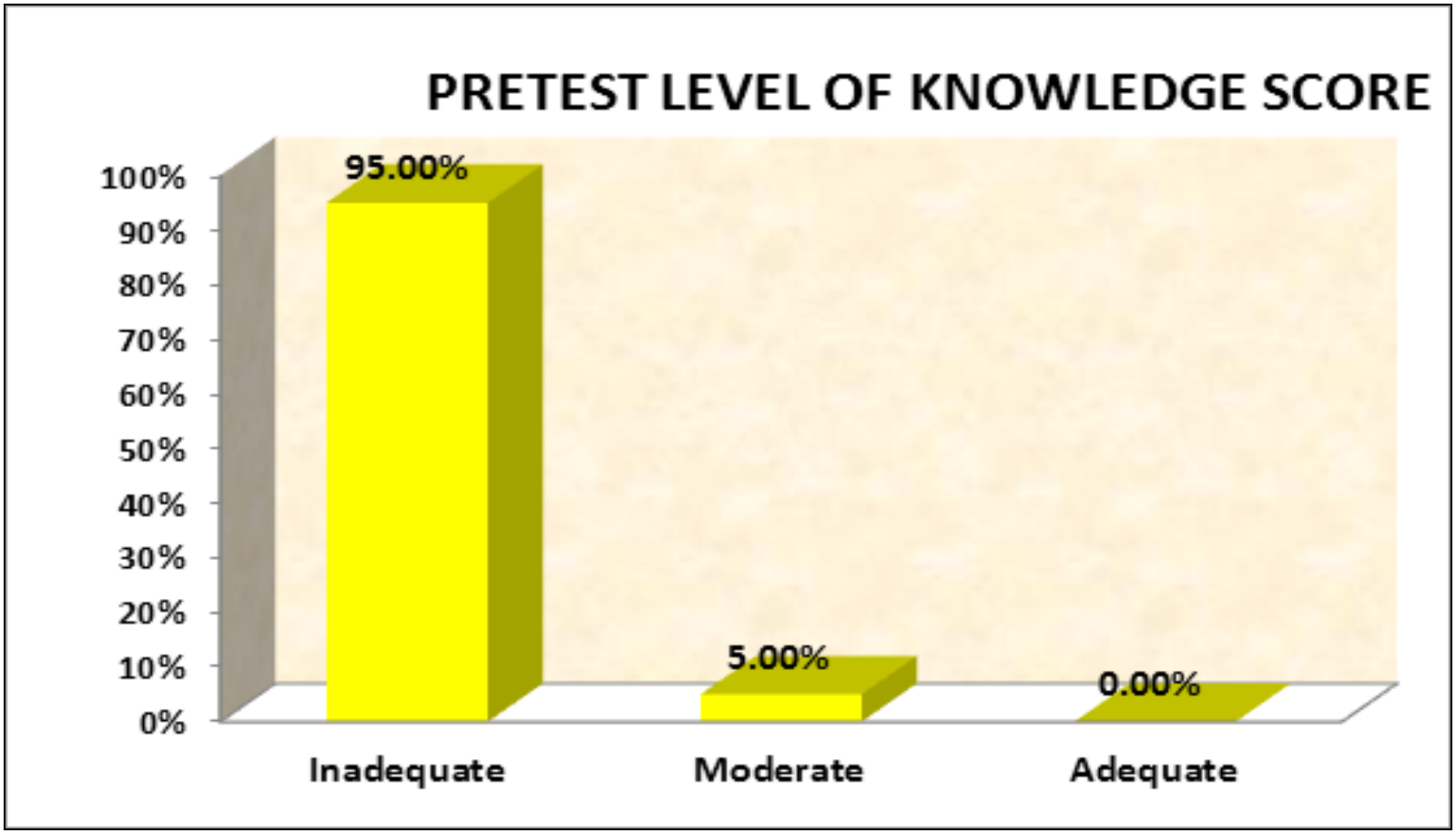


Figure 4.17 - Percentage distribution of pretest level of knowledge score.

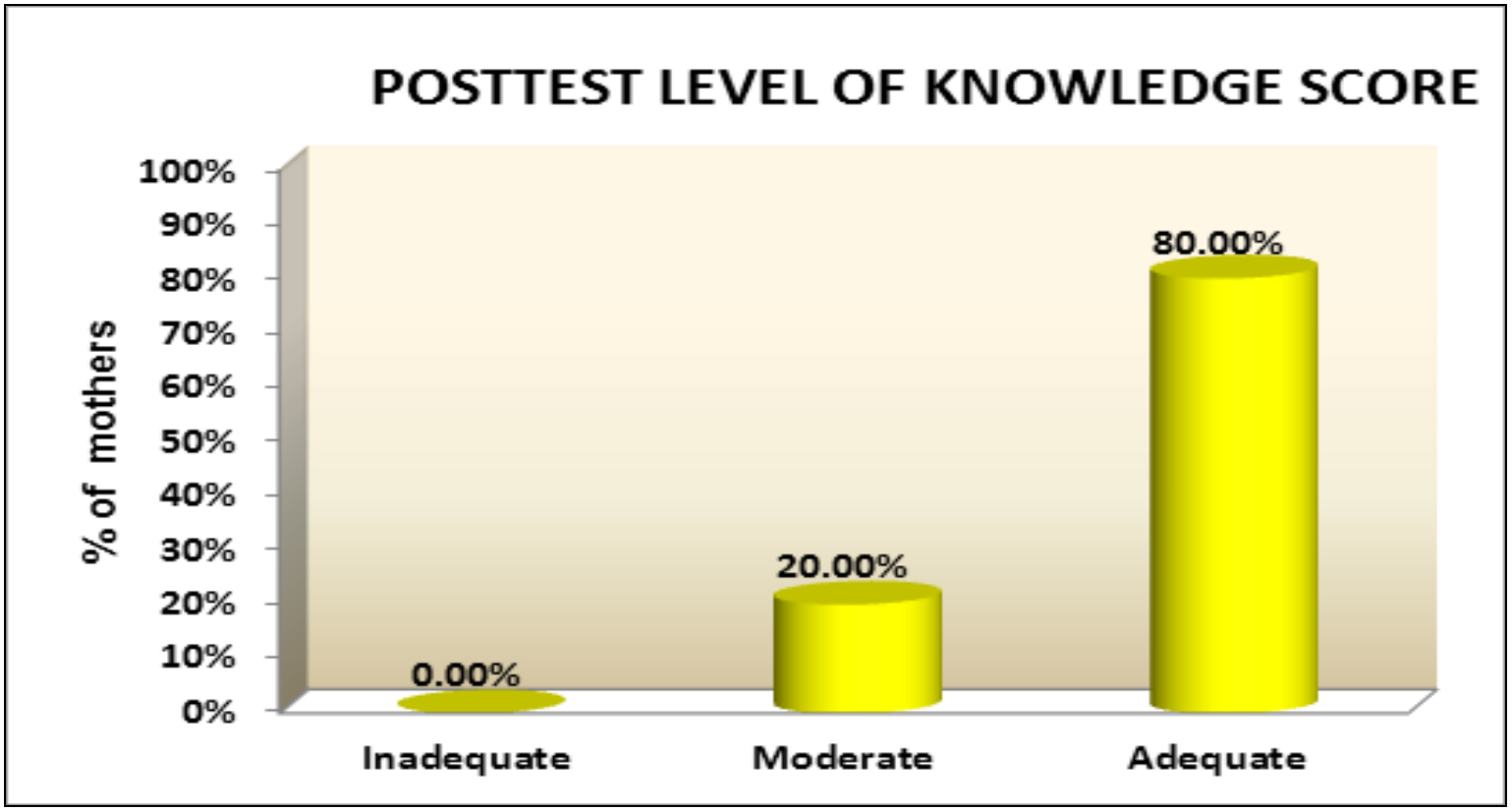


Figure 4.18 - Percentage distribution of posttest level of knowledge score.

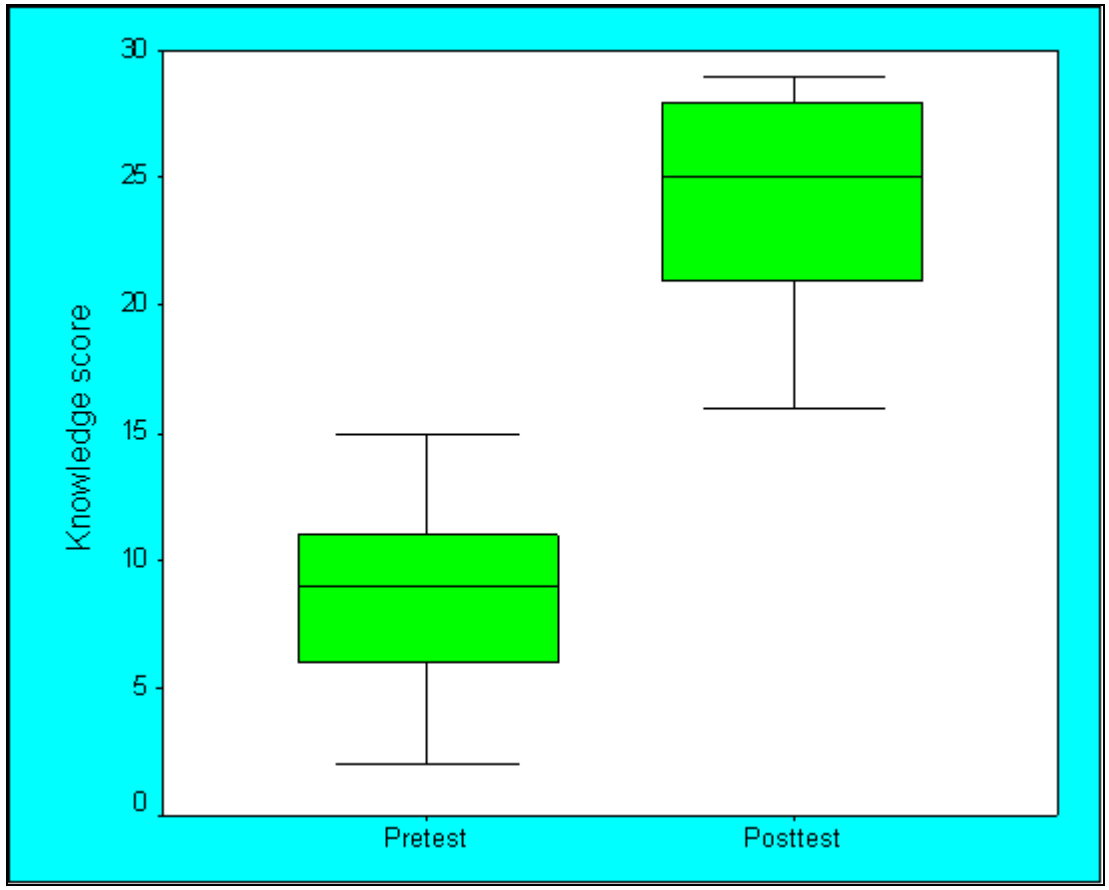


Fig 4.19: Box Plot Compares the mothers pre-test and post-test knowledge score

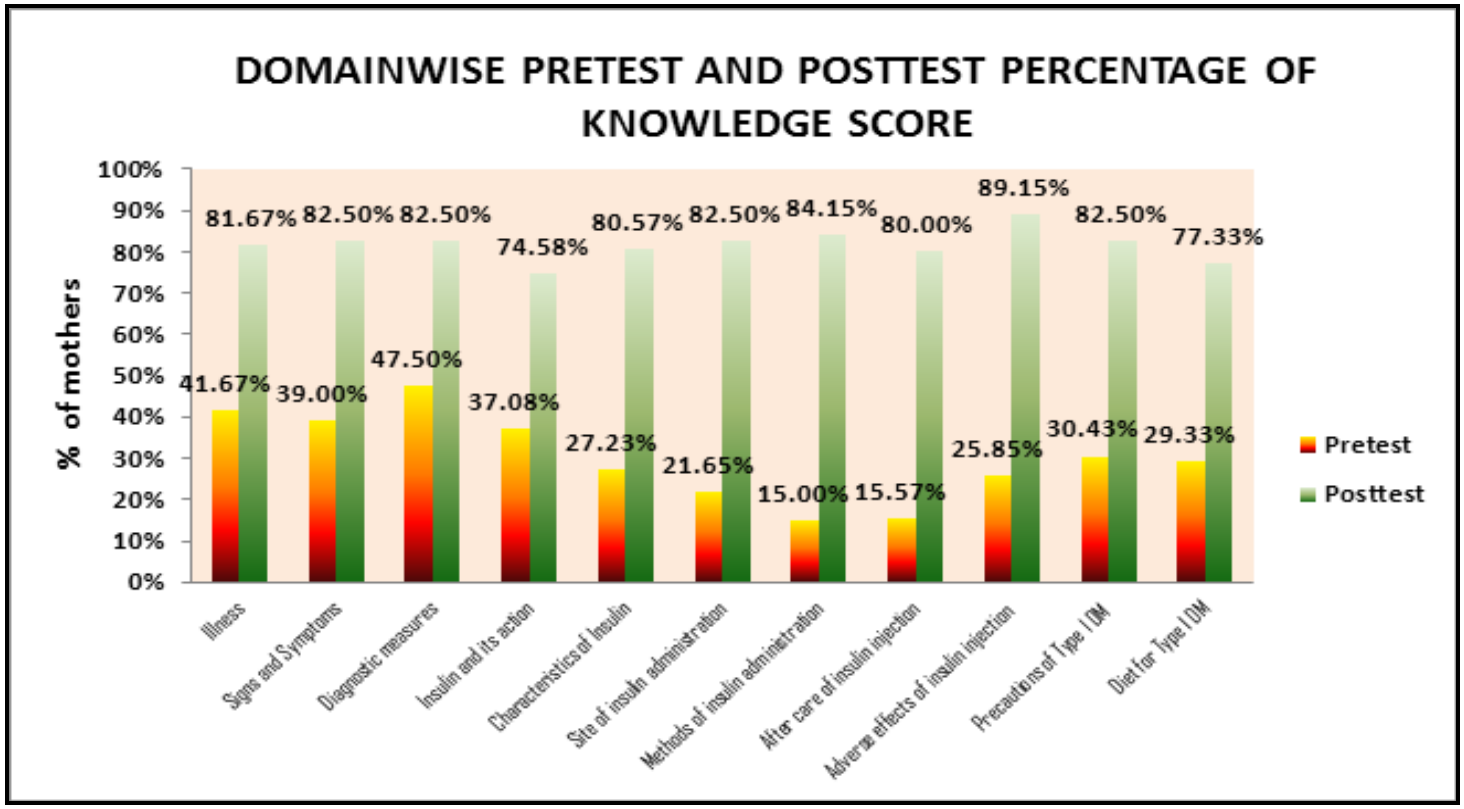


Figure 4.20 - Domain wise distribution of pretest and posttest level of knowledge score.

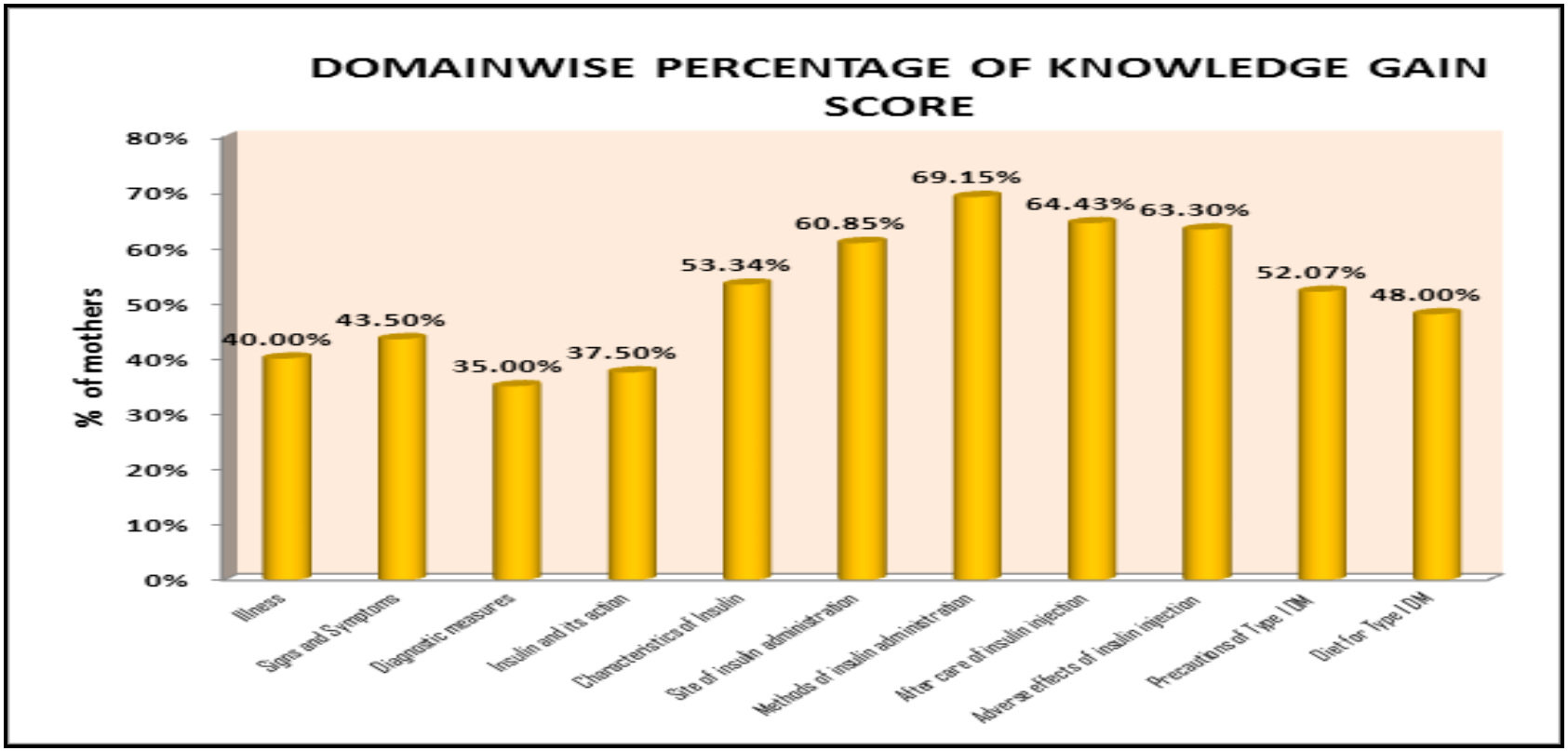


Figure 4.21 - Domain wise percentage of knowledge Gained score

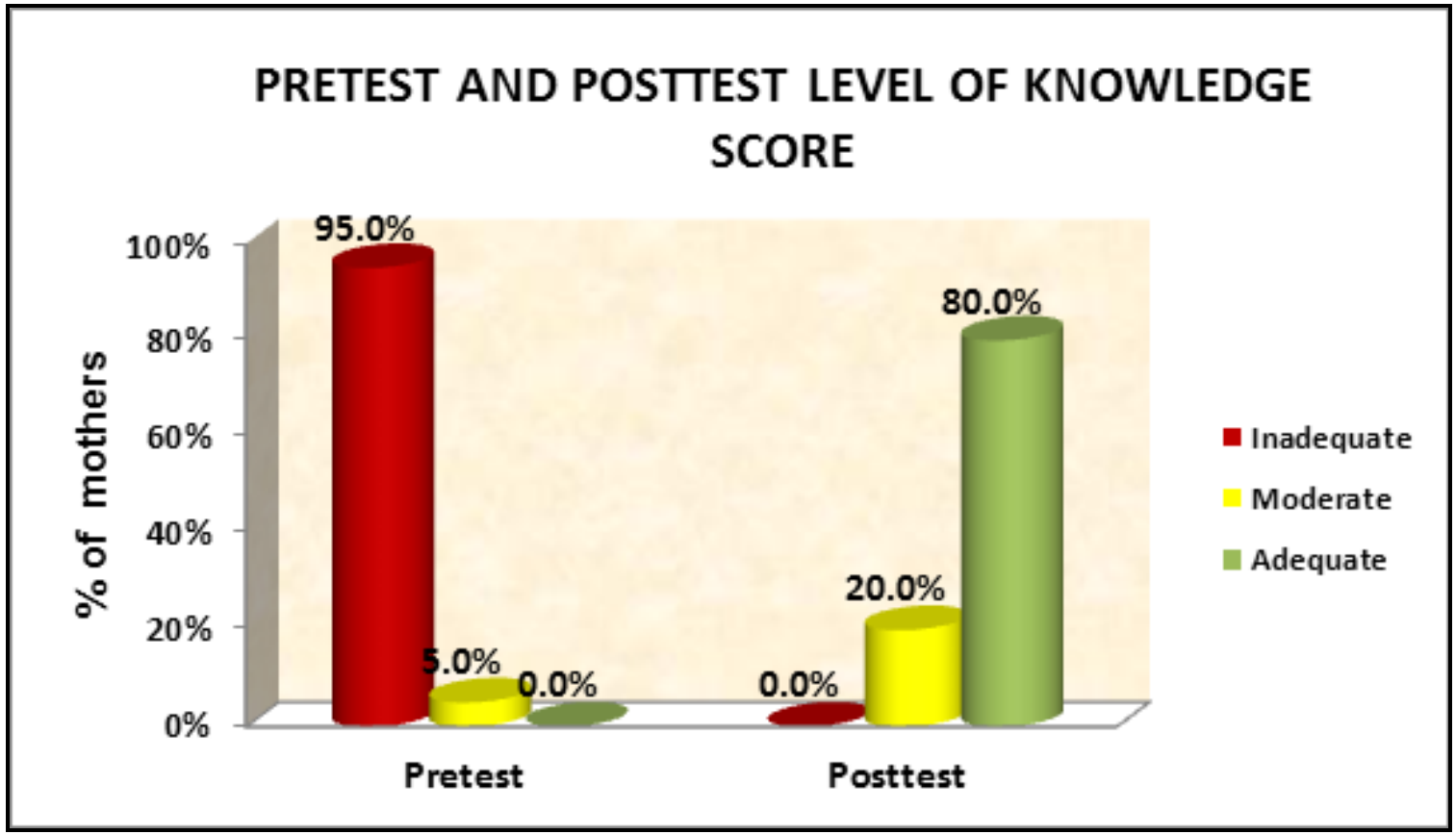


Figure 4.22 : Percentage distribution of comparison of pretest and posttest level of knowledge score.

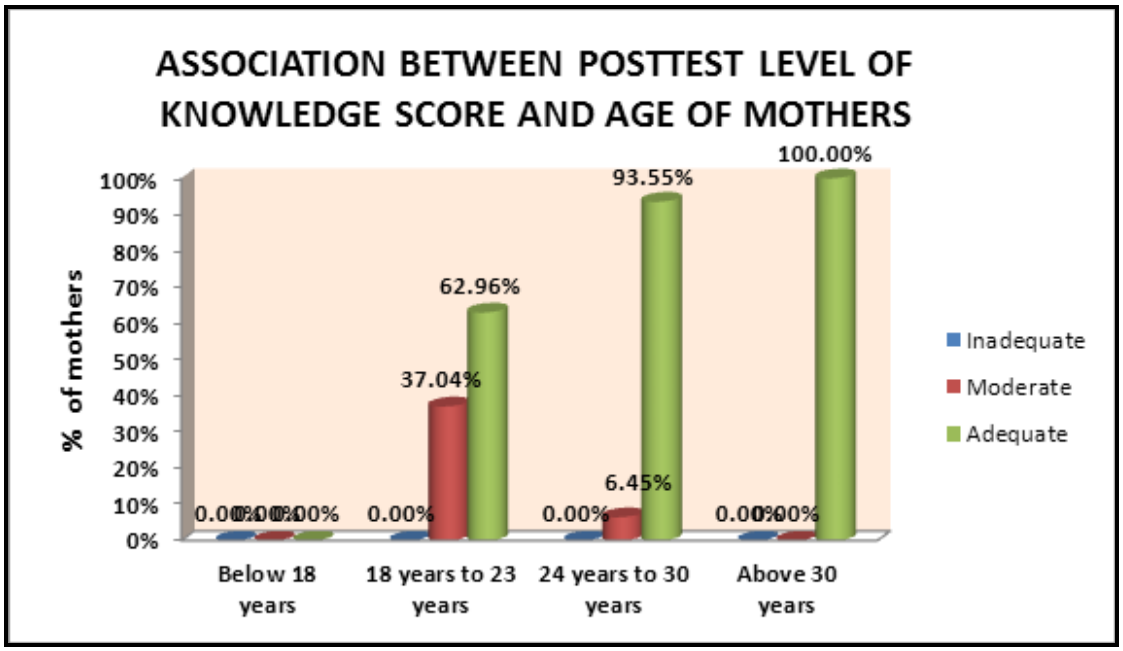


Figure 4.23 - Association between posttest level of knowledge score and age of mothers.

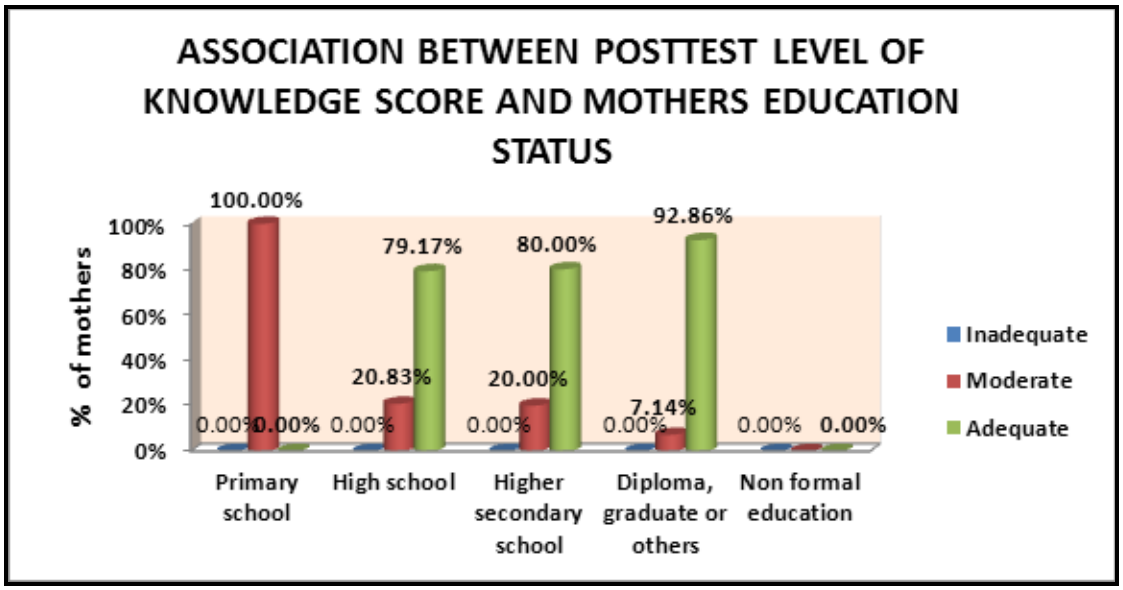


Figure 4.24 - Association between posttest level of knowledge score and mothers education status.

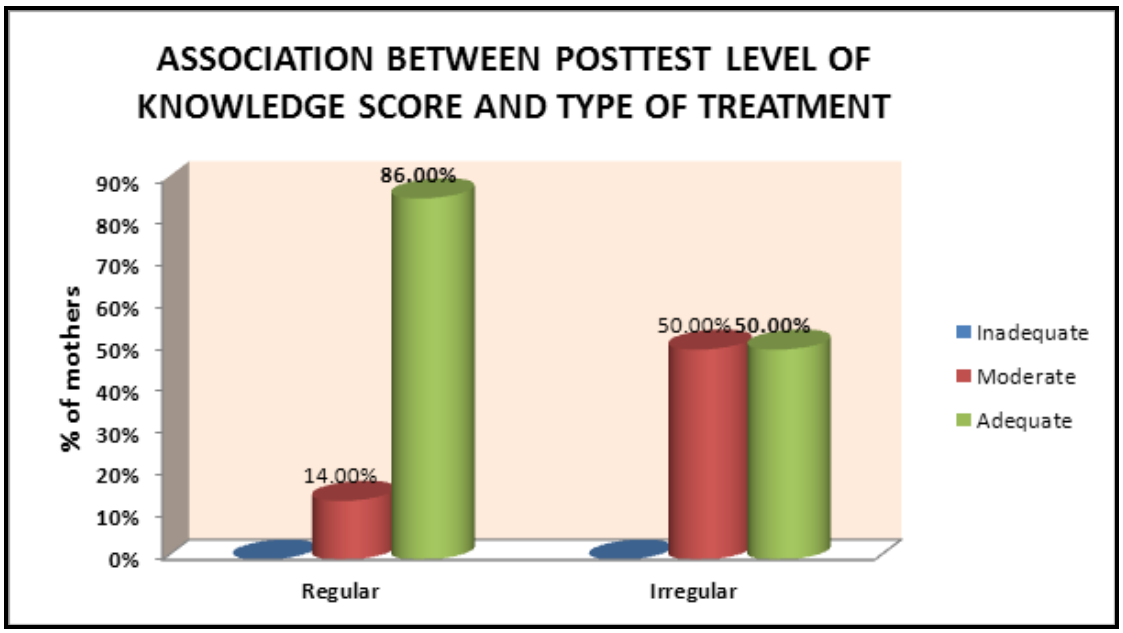


Figure 4.25 - Association between posttest level of knowledge score and Type of treatment.

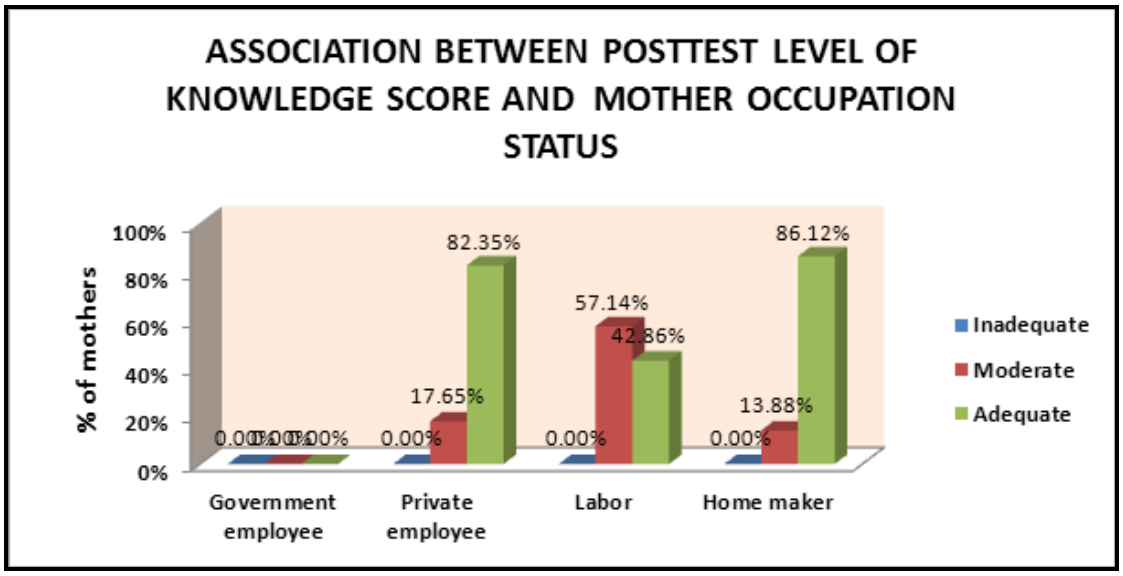


Figure 4.26 - Association between posttest level of knowledge score and mothers occupation status .

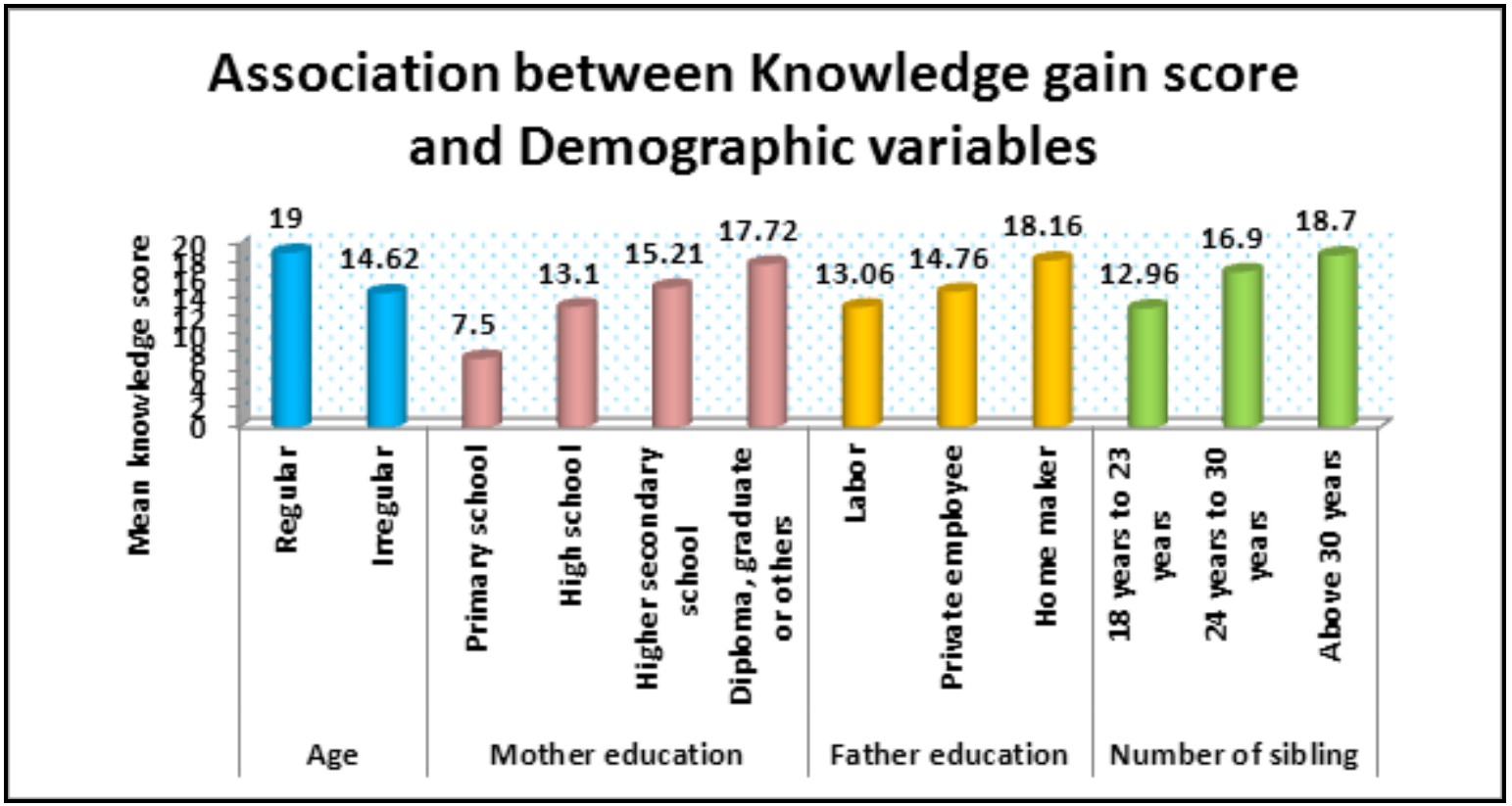


Figure 4.27 - Association between knowledge gain score and demographic variables

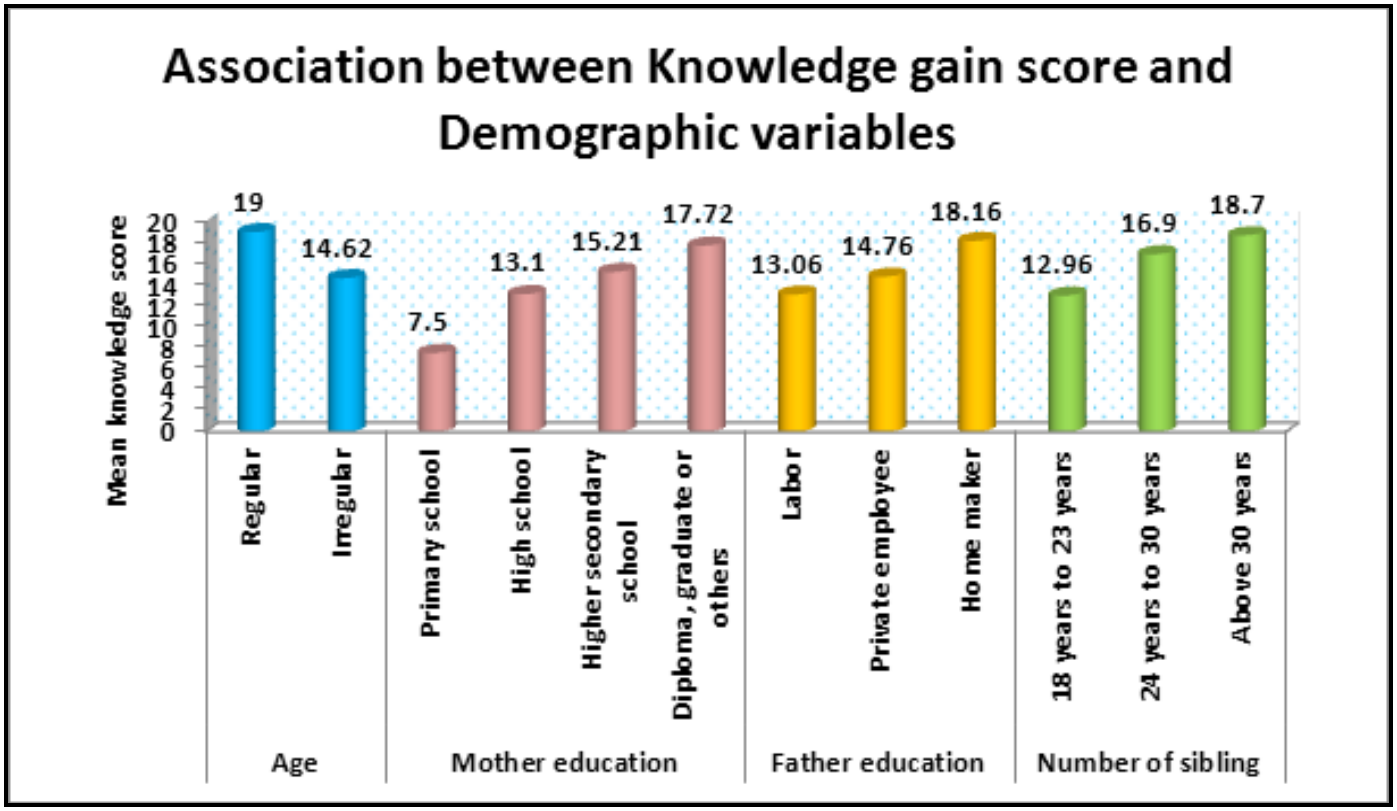


Figure 4.28- Association between posttest level of knowledge score and demographic variables.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