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A study to assess the dietary and lifestyle practices of patients with type ii diabetes mellitus with a view to prepare handouts on prevention of complication of type ii diabetes mellitus in MGMC & RI, Pillaiyarkuppam, Pondicherry

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Abstract
Background: Around 3.2 million deaths are attributed in every year to the complication of Type II Diabetes Mellitus and 6 deaths occur in every minute. The Type II Diabetes Mellitus affects about 17 million people, 5.9 million of whom are undiagnosed. In the United States, approximately 8, 00,000 new cases of Type II Diabetes Mellitus are diagnosed by yearly (Mokdad *et al*, 2000). The therapeutic goal of diabetes management is to achieve normal blood glucose levels without hypoglycemia and without seriously disrupting the patient's usual life style and activity. There are 5 components in diabetic management. They are Nutritional management, Exercise, Monitoring, Pharmacological therapy & Education.
Aim: The main aim of the current study was to assess the dietary and lifestyle practices of patients with type ii diabetes mellitus
Materials and Methods: Descriptive research approach was used for this study. The pre experimental study design was used for this study. Total 30samples were selected using simple random sampling technique. .The data pertaining to lifestyle and dietary practices were collected using structured self-administered.
Results: Among 30 patients the assessment of lifestyle practices revealed that out of 30 samples 18 (60%) had good life style practices and 12(40%) had poor life style practices. The assessment of dietary practices revealed that out of 30 samples 16(53.3%) had good dietary practices and 14(46.67%) had poor dietary practices. There was no significant association between lifestyle and dietary practices and demographic variables.
Conclusion: Adequate knowledge on healthy lifestyle and dietary practices can prevent complication of type II diabetes mellitus.

Keywords: lifestyle practices, dietary practices.

1. Introduction

Diabetes is one of the major causes of premature illness and death worldwide. Non communicable disease including diabetes accounts for 60% of all the deaths worldwide. Type II Diabetes Mellitus is a chronic disease which affects all the system in the body such as Cardio Vascular, Renal System and Nervous System etc.

There was a survey conducted by Times of India, there are 7 people having Diabetes Mellitus out of each hundred population. Indian diabetes federation says that 5.8million people have diabetes in 2008. It will be increased by 87million people in 2030.

According to American Diabetes Association, the incidence of complications of Type II Diabetes Mellitus increases day by day. There are 68% of people having heart disease and 16% of people having stroke. There are 4.2 million people have retinopathy, 202290 are suffering from end stage renal disease, 60–70% of people having neuropathy, 65700 of people had undergone amputation as the complication of Type II Diabetes Mellitus.

Around 3.2 million deaths are attributed in every year to the complication of Type II Diabetes Mellitus and 6 deaths occur in every minute. The Type II Diabetes Mellitus affects about 17 million people, 5.9 million of whom are undiagnosed. In the United States, approximately 8, 00,000 new cases of Type II Diabetes Mellitus are diagnosed by yearly (Mokdad *et al*, 2000).

The therapeutic goal of diabetes management is to achieve normal blood glucose levels without hypoglycemia and without seriously disrupting the patient's usual life style and activity. There are 5 components in diabetic management.

They are:
1. Nutritional management
2. Exercise
3. Monitoring
4. Pharmacological therapy
5. Education (Brunner & Suddarth's Medical Surgical Nursing, 10th Edition, 2003)

A study conducted in the United Kingdom and reported in 1998 supported that the result of DCCT (Diabetic Control & Complication Trial) in Type II diabetes mellitus and demonstrated a decrease in complication in patients with Type II Diabetes Mellitus receiving intensive therapy as compared to those receiving conventional therapy.

2. Research Statement

A Study to Assess the Dietary and Lifestyle Practices of Patients with Type II Diabetes Mellitus in MGMC&RI, Pillaiyarkuppam, Pondicherry

2.2Objectives of the Study

- To assess the lifestyle and dietary practices of patients with Type II Diabetes Mellitus
- To find out the Association between Selected Demographic Variables and Dietary Practices of Patients with type II Diabetes Mellitus.

3. Review of Literature

Jonathan B.Brown *et al* (2009) conducted a study on the progressive cost of complications in Type II Diabetes Mellitus in an aggregate population, the greatest cost saving would be achieved by preventing major cardiovascular events. For individuals, the greatest savings would be achieved by preventing progression to stage three renal diseases.

Elbert SA Huang (2009) conducted a study on the effect of interventions to prevent cardio vascular diseases in patients with Type II Diabetes Mellitus. The evidence from these clinical trials demonstrates that lipid and blood pressure lowering in patients with Type II Diabetes Mellitus is associated with substantial cardiovascular benefits. Intensive glucose lowering is essential for the prevention of micro vascular disease, but improvements in cholesterol and blood pressure levels are central to reducing cardiovascular diseases in these patients.

Clare L *et al* (2009) conducted a study on life style interventions to prevent complications on Type II Diabetes Mellitus in people with impaired glucose tolerance and concluded that life style interventions can reduce the rate of progression of Type II Diabetes Mellitus. The life style practices include

- Regular exercise
- Regular blood glucose and urine sugar monitoring
- Regular medical checkup
- Regular intake of medications
- Regular foot care & inspection
- Adequate rest and sleep
- Using foot wear
- Weight reduction
- Relaxation therapy
- Avoiding alcohol and smoking
- Avoid fast foods and foods from restaurants
- Avoiding strenuous activities

David Laio *et al* (2009) conducted a study on improvement of BMI, body composition and body fat distribution with life style modification in Japanese Americans with impaired glucose tolerance diet and endurance exercise improved BMI, body composition, and body fat distribution and thus may delay or prevent the complications of Type II Diabetes Mellitus in Japanese Americans.

Patrice Carter *et al* (2009) conducted a study on fruits and vegetables intake and incidence of complications of diabetes and concluded that increasing intake of vegetables and concluded that increasing intake of vegetables and fruits like watermelon; muskmelon can significantly reduce the risk of progress complications of Type II Diabetes Mellitus.

Rob M *et al* (2008) conducted a study on dietary patters and risk for Type II Diabetes Mellitus in US men. Findings suggest that a western dietary pattern is associated with a substantially increase risk of Type II Diabetes Mellitus complication.

4. Research methodology

4.1 Research Approach

Descriptive survey approach was adopted to assess the dietary and lifestyle practices of Type II Diabetes Mellitus.

4.2 Research Design

Non experimental descriptive study design was adopted for the study.

4.3 Study Setting

The study was conducted in medical surgical ward of 750 bedded multi-specialty hospitals MGMC&RI, Pillaiyarkuppam, Puducherry, which maintains an inpatient census of 100 – 120 patients with diabetes mellitus per month.

4.4 Study Population

The population of the study included patients in male medical ward and female medical ward of MGMC&RI, who met the inclusion criteria.

4.5 Sample and Sample Size

Patient with diabetes mellitus, admitted in female medical ward and male medical ward and those who fulfill the criteria, where selected as sample. The sample size was20.

4.6 Criteria for Sample Selection

Exclusion Criteria:

- Patients who are having other types of diabetes mellitus like gestational diabetes mellitus & Type I Diabetes Mellitus
- The patients who are already developed the complications of Type II Diabetes Mellitus like Nephropathy, Neuropathy, Retinopathy, Chronic renal failure, Myopathy etc
- Patients with deliberating illness
- Unconscious patients
- Patients who are having psychiatric disorders.

Inclusion Criteria

- Patients who are diagnosed with Type II Diabetes Mellitus
- Both the sexes
- Patients who are willing to participate in the study

4.7 Sampling Technique
The samples who met the inclusion criteria during the data collection were selected using simple random sampling method including all the patients admitted in the medical surgical ward with Type II Diabetes Mellitus in MGMC&RI.

4.8 Procedure for Data collection
- Development of tool

Researcher used a prepared tool which consist
Part I : Demographic variables.
Part II : A structured questionnaire to assess the life style practices of Type II Diabetes Mellitus.
Part III : A structured questionnaire to assess the dietary practices of Type II Diabetes Mellitus

- Description of tool

Part I : Demographic data which include name, age, sex, education status etc
Part II : Deals with structured questionnaire while help to assess the lifestyle practices of Type II Diabetes Mellitus
Part III : Deals with structured questionnaire while help to assess the dietary practices of Type II Diabetes Mellitus

4.9 Scoring technique
Scoring was done on the basis of responses given by the patients. Score for each correct answer was given one wrong answer was given zero for dietary and lifestyle practices. It was graded into two categories
>8 – Good healthy practice
<7 – Poor healthy practices

4.10 procedure for data collection
The data was collected from various wards for a period of three days. Before starting data collection, researchers obtained permission from nursing superintendent. The samples were selected on the basis of selection criteria and oral consent was obtained.
The data were collected by using questionnaire focusing on different dietary and lifestyle practices of patients with Type II Diabetes Mellitus. Data was detained and scoring was done. The data were analysed using inferential and statistics.

4. Results
4.1 Background Variables
- The assessment of lifestyle practices revealed that out of 30 samples 18 (60%) has good life style practices and 12(40%) has poor life style practices.
- The assessment of dietary practices revealed that out of 30 samples 16(53.3%) has good dietary practices and 14(46.67%) has poor dietary practices.
- There was no significant association between lifestyle and dietary practices and demographic variables.

Frequency and Percentage Distribution of samples of demographic variables:

Table1 a: Frequency and Percentage Distribution of Sex

Sl. No	Demographic Variables	Frequency	Percentage
1	Male	13	43%
	Female	17	57%

Regarding the sex out of 30 samples, 13 (43%) are males and 17(57%) are females.

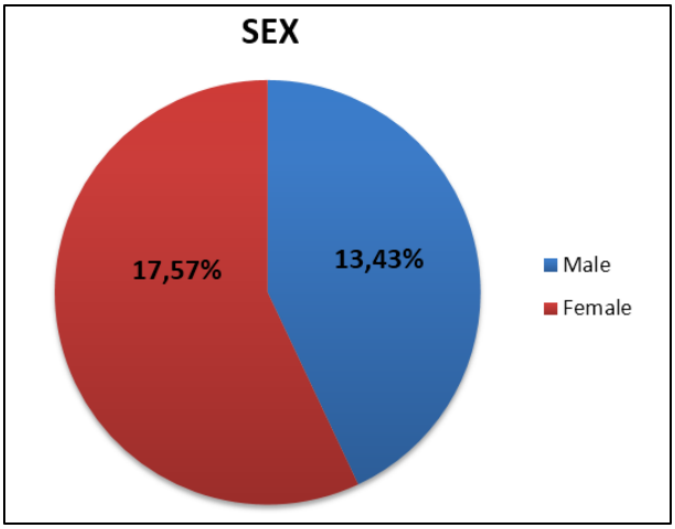
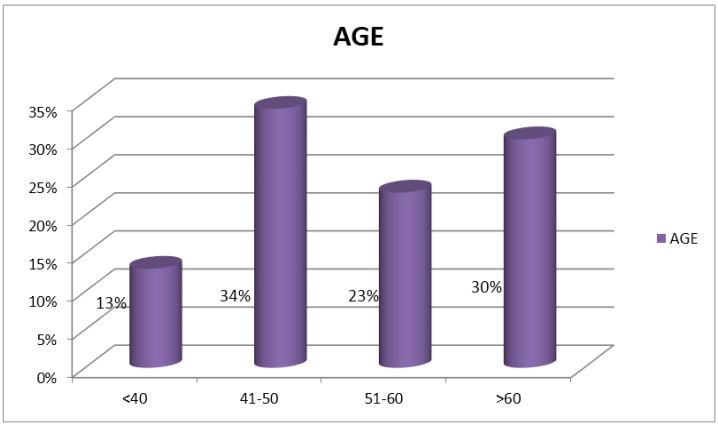


Table 1b: Frequency and Percentage Distribution of Age

Sl. No	Demographic Variables	Frequency	Percentage
2	<40	4	13%
	41 – 50	10	34%
	51 – 60	7	23%
	>60	9	30%

Regarding the age, out of 30 samples, 4(13%) belong to the age group less than 40yrs, 10(34%) belonged to age group of 41 – 50yrs, 7(23%) belonged to the age group of 51 – 60yrs and 9(30%) belonged to age group of 60 yrs and above.



N = 30

Table1 c: Frequency and Percentage Distribution of Body Mass Index

Sl. No	Demographic Variables	Frequency	Percentage
3	Under Weight	2	**7%**
	Normal	23	**76%**
	Over Weight	5	**17%**

Regarding the body mass index 2(7%) belonged to underweight, 23(76%) belonged to the normal weight and 5(17%) belonged to the overweight.

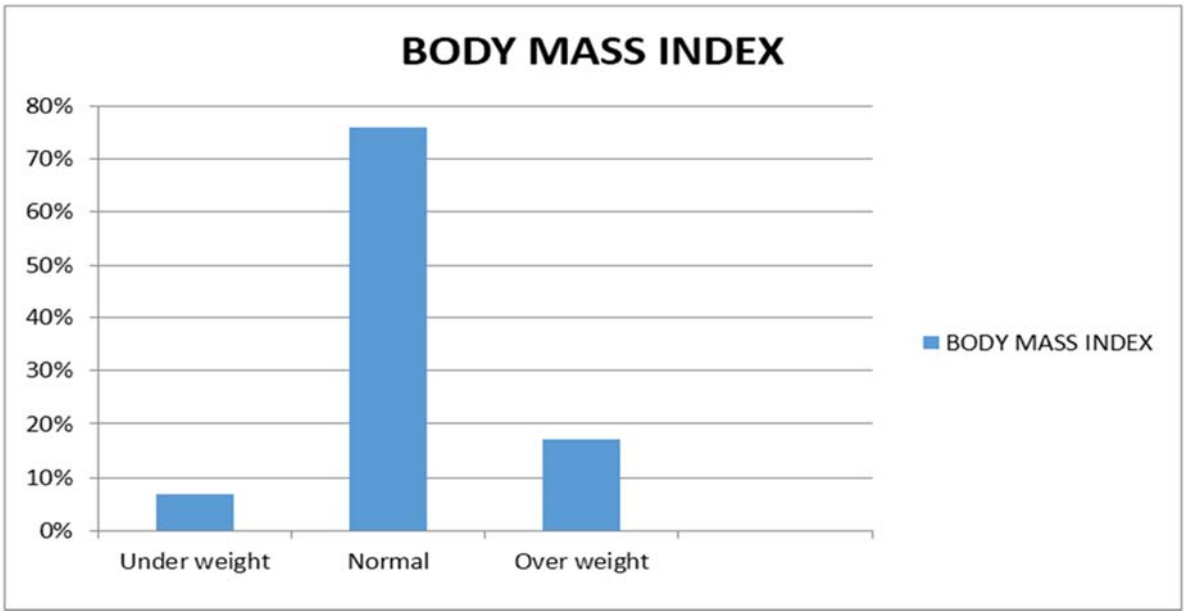


Table1 d: Frequency and Percentage Distribution of Religion

Sl. No	Demographic Variables	Frequency	Percentage
4	Christian	2	7%
	Hindu	24	80%
	Muslim	4	13%
	Others	-	-

Regarding the religion out of 30 samples, 2(7%) belonged to Christians, 24(80%) belonged to the Hindu and 4(13%) belong to Muslim.

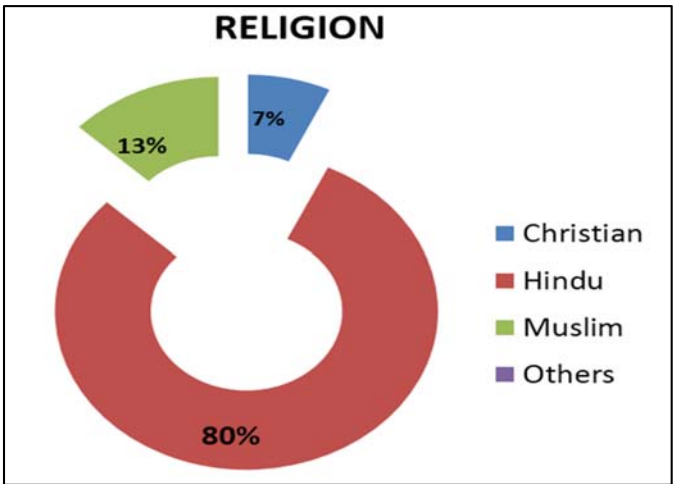


Table1.e: Frequency and Percentage Distribution of Type of worker

Sl. No	Demographic Variables	Frequency	Percentage
5	Moderate Worker	20	68%
	Sedentary Worker	5	16%
	Heavy Worker	5	16%

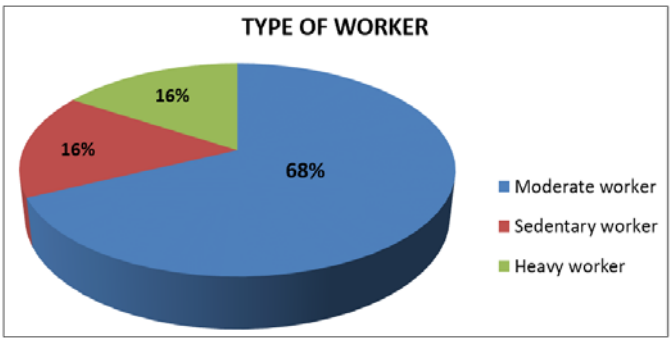


Table1 f: Frequency and Percentage Distribution of Dietary Pattern

Sl. No	Demographic Variables	Frequency	Percentage
6	Vegetarian	2	7%
	Non Vegetarian	28	93%

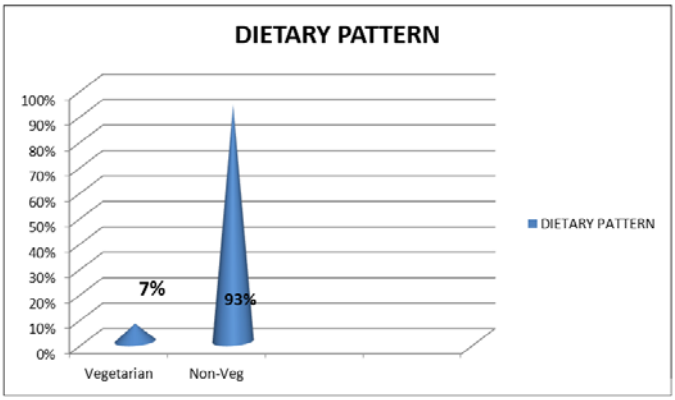


Table1 g: Frequency and Percentage Distribution of Family History

Sl. No	Demographic Variables	Frequency	Percentage
7	Yes	14	47%
	No	16	53%

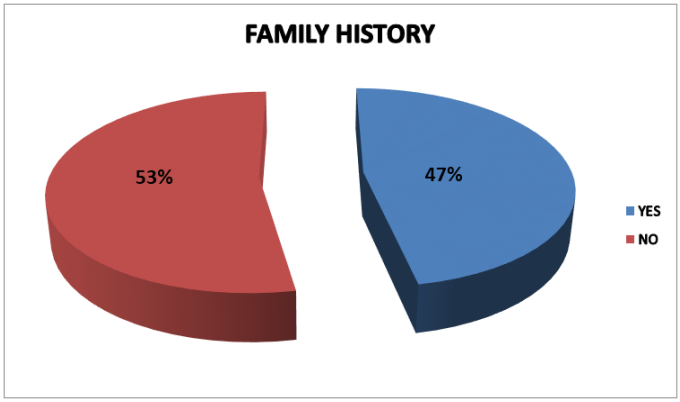


Table 2: Frequency and Percentage Distribution of Lifestyle Practices

Lifestyle Practices	Frequency	Percentage
Good healthy Practices	18	60%
Poor healthy Practices	12	40%

The above table reveals that out of 30 samples, 18(60%) follows healthy lifestyle and 12(40%) follows poor healthy life style practices.

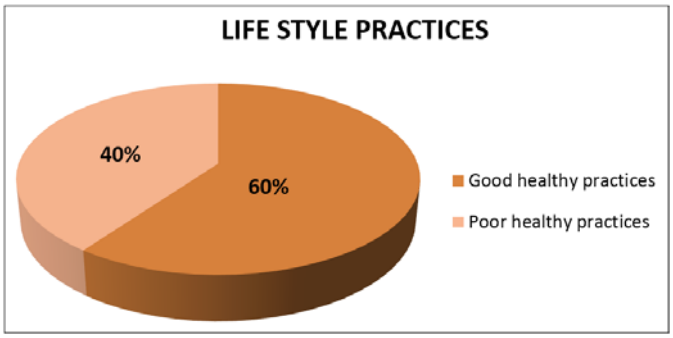
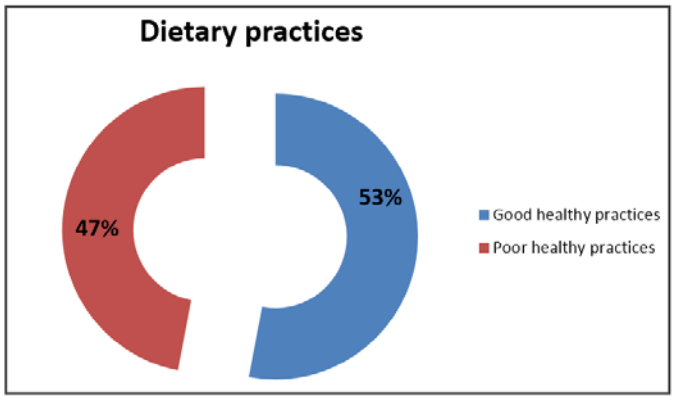


Table 3: Frequency and Percentage Distribution of Dietary Practices

Dietary Practices	Frequency	Percentage
Good healthy Practices	16	53%
Poor healthy Practices	14	47%



Description of association of lifestyle and dietary practices with demographic variables

Table 4: Frequency and Percentage Distribution of Association of Lifestyle and Dietary Practices with Demographic Variables

SL.NO	Demographic Variables	Life style practices			Dietary practices		
		Good Healthy Practices	Poor Healthy Practices	Chi Square Value	Good Healthy Practices	Poor Healthy Practices	Chi Square Value
1.	**SEX** Male female	7 10	6 7	X^2=0.0743 Df=1 P=0.7851 NS	7 10	6 7	X^2=0.0743 Df=1 P=0.7851 NS
2.	**AGE** <40 41-50 51-60 >60	3 5 4 7	1 5 3 2	X^2=1.9241 Df=3 P=0.5883 NS	2 6 5 4	2 4 2 5	X^2=1.2863 Df=3 P=0.7323 NS
3.	**BODY MASS INDEX** Under weight Normal Over weight	2 15 3	- 8 2	X^2=1.121 Df=2 P=0.5707 NS	2 13 2	0 10 3	X^2=2.0942 Df=2 P=0.3507 NS
4	**RELIGION** Christian Hindu Muslim others	1 18 1 -	1 6 3 -	X^2=4.125 Df=2 P=0.1271 NS	2 16 2 -	- 8 2 -	X^2=1.5 Df=2 P=0.4723 NS
5	**TYPE OF WORKER** Moderate worker Sedentary worker Heavy worker	13 3 3	7 2 2	X^2=0.0717 Df=2 P=0.9647 NS	14 3 3	6 2 2	X^2=0.3 Df=2 P=0.8607 NS
6	**EDUCATIONAL STATUS** Uneducated Primary school level Secondary school level Higher secondary school level collegiate	7 7 3 3 -	5 4 - - 1	X^2=5.4204 Df=4 P=0.2468 NS	7 6 3 3 1	5 5 - - -	X^2=4.6022 Df=4 P=0.3305 NS
7	**DIETARY PATTERN** Vegetarian Non-Vegetarian	1 18	1 10	X^2=0.640 Df=1 P=0.6854 NS	1 19	1 9	X^2=0.3 Df=2 P=0.8607 NS
8	**AREA OF RESIDENCE** Rural urban	12 8	7 3	X^2=0.287 Df=1 P=0.0592 NS	11 8	8 3	X^2=0.66 Df=1 P=0.0.4165 NS

9	**CO-MORBID ILLNESS** Yes No	12 7	7 4	X^2=0.3 Df=2 P=0.8607 NS	12 **7**	8 3	X^2=0.287 Df=1 P=0.592 NS
10	**DURATION OF DIABETES MELLITUS** <3 3-6yrs 6-8yrs >8	10 5 - 5	9 1 - -	X^2=4.9342 Df=3 P=0.1766 NS	12 5 - 2	7 1 -	X^2=0.9552 Df=3 P=0.812 NS
11	**ORAL HYPOGLYCEMIC AGENTS** Yes No	13 6	4 7	X^2=2.9156 Df=1 P=0.0877 NS	13 7	4 6	X^2=1.6968 Df=1 P=0.1927 NS
12	**FAMILY HISTORY** Yes No	9 10	5 6	X^2=0.0102 Df=1 P=0.9193 NS	9 12	5 4	X^2=0.4081 Df=1 P=0.5229 NS

NS – Non Significant
S – Significant
Above table reveals that on association of life style and dietary practices with demographic variables, it was found that there was no significant association.

5. Conclusion
New English Journal Medicines (May 2001) conducted a study on prevention of Type II Diabetes Mellitus by changes in life style are subjects with impaired glucose tolerance and proved that Type II Diabetes Mellitus can be prevented by changes in the lifestyles of high risk subjects. The present study also provides an empirical evidence for the above statement. Thus adequate knowledge on dietary and lifestyle practices can prevent complications among type II Diabetic Patients.

6. Follow up
Handouts were given and explained to patients with inadequate knowledge on dietary and lifestyle practices and knowledge was reassessed which showed good score.

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