A Study Assess the Level of Stress among Patients with Type II Diabetes Mellitus in Relation to Level of Blood Sugar at Nerkundrum I UPHC

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ABSTRACT

Background: The present study aim was to assess the level of stress among patients with type II diabetes mellitus in relation to level of blood sugar at Nerkundrum I UPHC. **Purpose:** The current study was aim to assess different areas of demand and to determine the relationship between stress and blood sugar level among patients with type II diabetes mellitus. **Materials and Methods:** Non-experimental descriptive research approach study was conducted in the Nerkundrum I UPHC. A total of 60 study participants was recruited using non-probablity convenient sampling technique based on the inclusion criteria, the demographic variables and five point likert rating stress scale was assessed by using a questionnaire and assess the level of stress among diabetes mellitus clients was estimated during 2 weeks. **Results:** The study shows that most of the clients with type 2 diabetes patients 21(35%) were aged between 51-60 years, 31(51.7%) were female, 22(36.7%) had primary school education, 30(50%) were vegetarian and non-vegetarian respectively. 32(53.3%) were heavy workers, 17(28.3%) had family income of below Rs.5000, 27(45%) had no family history, 23(38.3%) had diabetes mellitus for 1 to 2 years and 32(53.3%) were doing regular follow-up. **Conclusion:** This study assessed there was a relationship between the level of stress and level of blood sugar in the area of medications.

KEYWORDS: Stress, Type II Diabetes mellitus, Blood sugar

INTRODUCTION

Stress is an inevitable part of life. Human beings experience stress early even before they are born. A certain amount of stress is normal and necessary for survival. Stress helps children develop the skill they need to cope with and adopt to new and potentially threatening situations throughout life.

The beneficial aspects of stress diminish when it is severe enough to overwhelm a child's ability to cope effectively. Intensive and prolonged stress can lead to a variety of strong and long term negative health effects. It can distrupt early brain development and compromise functioning of the nervous and immune system. In addition childhood stress can lead to health problems later in life including alcoholism, depression, eating disorders, cancer and other chronic diseases.

Generally stress can raise the blood sugar level. Any type of illness, infection, stress (emotional or physical), surgery, dental problem, injury, etc. will cause stresson the body. When this occurs, the body needs more energy to "fight" this stressor, so it releases hormones called **"Counter Regulatory Hormones."** The hormones convey a message to the liver to release extra glucose to provide needed energy. As a result, blood glucose will rise, and typically insulin – requiring person will need more insulin during a stressful event. Likewise, a person taking oral diabetes medication may require a temporary increase in the dose; and a person who is diet-controlled could, in some instances, temporarily require oral medication.

Type II diabetes mellitus is the commonest form of diabetesconstituting 90% of the diabetic population.

The global prevalence of diabetes is estimated to increase from 4% in 1995 to 5.4% by 2005.

According to **World Health Organisation (2000)** at least 171 Million peopleworld wide will suffer from diabetes. Its incidence increases rapidly and it is estimated that by the year 2030 this number will almost double. Diabetes Mellitus occurs, throughout the world but it is more common (especially type II) in the more developed countries. The greatest increase is in Asia and Africa where most patients will probably be found in 2030. The increased incidence of diabetes in developing countries follows the trend of urbanization and life style changes, perhaps mostimportantly a western style diet
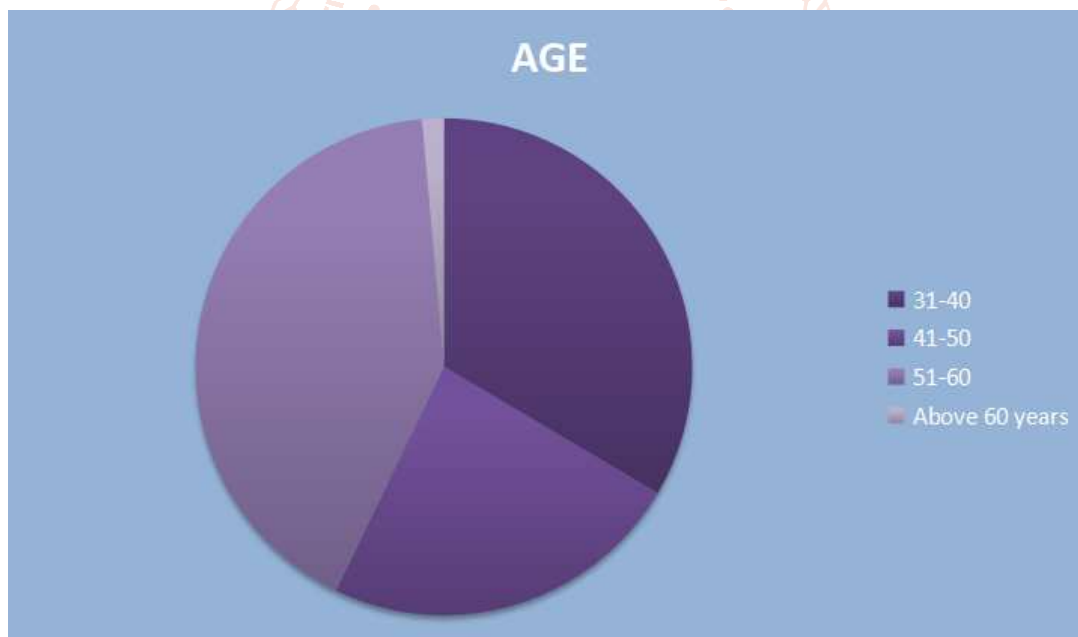
Materials and Methods:
The study was used non-experimental descriptive research approach and descriptive research design with the sample size of the study was 60 who has type II diabetes mellitus selected by non-convenient sampling technique and who fulfilled the inclusion criteria. The inclusion criteria were both sex, patients who had type II diabetes mellitus for more than 5 years, patients who were willing to participate in the study, patients whose blood sugar was more than of 150 mg\dl, patients who could understand and read Tamil or English. The exclusion criteria were patients who were aged below 20 years, patients having other associated diseases, patients with psychiatric illness, high risk patients, patients with the history of previous surgical conditions. The study was conducted at NERKUNDRUM I UPHC. Questionnaire was used to collect the demographic variables and the level of stress among type II diabetes patients was estimated during 2 weeks.

Results and Discussion:
SECTION A: DESCRIPTION OF THE DEMOGRAPHIC VARIABLES OF CLIENTS WITH TYPE 2 DIABETES MELLITUS.
The table 1 shows that most of the clients with Type 2 diabetes patients 21(35%) were aged between 51 – 60 years, 31(51.7%) were female, 22(36.7%) had primary school education, 30(50%) were vegetarian and non-vegetarian respectively, 32(53.3%) were heavy workers, 17(28.3%) had family income of below Rs.5000, 27(45%) had no family history, 23(38.3%) had diabetes mellitus for 1 to 2 years and 32(53.3%) were doing regular follow-up.

Percentage distribution of education of the clients with Type 2 diabetes mellitus

SECTION B: ASSESSMENT OF LEVEL OF STRESS AND RANDOM BLOOD GLUCOSE AMONG CLIENTS WITH TYPE 2 DIABETES MELLITUS.
Table 2: Frequency and percentage distribution of level of knowledge among clients with type 2 diabetes mellitus.

N = 60

Knowledge	MILD STRESS		MODERATE STRESS		SEVERE STRESS	
	No.	%	No.	%	No.	%
Pretest	0	0	41	68.3	19	31.6

The above table 2 shows that, 68.3% of them were in moderate stress, 31.6% of them were in severe stress.

Percentage distribution of level of knowledge among clients with type 2 diabetes mellitus

Table 3: Frequency and percentage distribution of level of random blood sugar among clients with Type 2 diabetes mellitus.

N = 60

Blood Sugar	Normal (90 – 120) mg/dl		Medium (120 – 160) mg/dl		Too High (160 – 188) mg/dl		Much Too High (240 – 300) mg/dl	
	No.	%	No.	%	No.	%	No.	%
	0	0	4	6.67	56	93.33	0	0

The above table 3 shows that 56(93.33%) had too high blood glucose level and 4(6.67%) had medium level of blood glucose.

SECTION D: ASSOCIATION OF LEVEL OF STRESS WITH SELECTED DEMOGRAPHIC VARIABLES

The table 5 shows that the demographic variable education had shown statistically significant association with level of stress among clients with Type 2 diabetes mellitus at $p<0.05$ level. The other demographic variables had not shown statistically significant association with level of stress.

CONCLUSION:

The study concludes that there was a relationship between the level of stress and level of blood sugar in the area of medications. Among the three level of stress, majority of the patients had stress in changing their life style modification. Stress management is a challenge for ever and need to be tackled in different ways. Decreased stress level among the patients would control the blood sugar, prevent them from complication, and would improve the quality of life.

AUTHORS CONTRIBUTION:

All the authors actively participated in the work of the study. All the authors read and approved the final manuscript.

CONFLICTS OF INTEREST:

The authors declare no conflicts of interest.

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