IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Assessment Of Type 2 Diabetes Mellitus Among Females: A Study From Tamil Nadu, India

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ABSTRACT

Background: The chronic metabolic disease known as diabetes mellitus (DM) is typified by ongoing hyperglycemia. It could be caused by resistance to insulin's peripheral effects, decreased insulin production, or both. In patients with diabetes mellitus, chronic hyperglycemia can harm several organ systems in concert with other metabolic abnormalities, resulting in the emergence of crippling and potentially fatal health issues. **Methods and materials:**This study aimed to assess the prevalence of type 2 diabetes mellitus in females aged 35 to 45 at Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital is situated in Tamil Nadu, India's Kulasekharam. The study units consisted of women aged 35 to 45. For the study, a questionnaire is employed.When the study's purpose was explained, the women verbally agreed. The study had 30 female participants in total. The questionnaire consists of thirty questions covering topics such as pain, numbness, food cravings, itching in the extremities, medicine, and weight loss.**Conclusion:**We conclude that the development of comprehensive programs intended to educate people and raise awareness of particular

health risks is essential to predictive and preventive healthcare. This emphasizes how crucial awareness is for managing and preventing type 2 diabetes.Adopting a comprehensive awareness and education campaign is crucial to improving predictive and preventive healthcare and eventually lowering morbidity and mortality.

Keywords: Diabetes mellitus,hyperglycemia,metabolic disorder,ulcer,blood sugar,itching in extremities.

INTRODUCTION

Diabetes mellitus is broadly classified into three types based on etiology and clinical presentation: type 1 diabetes, type 2 diabetes, and gestational diabetes [(1)]. Insulin resistance, a condition where the body's reaction to insulin is reduced, is a hallmark of type 2 diabetes mellitus (T2DM) [(2,3)]. In order to preserve glucose homeostasis, this resistance is first offset by an increase in insulin production. Nevertheless, insufficient insulin production and hyperglycemia arise from the gradual deterioration of pancreatic β-cell activity [(5)].Obesity, especially increased abdominal fat, is closely linked to type 2 diabetes. Inflammatory processes, such as enhanced free fatty acid release and adipokine dysregulation, lead to insulin resistance [(4)]. Physical inactivity, previous gestational diabetes, hypertension, and dyslipidemia are additional risk factors [(1)]. T2DM has a complex etiology that includes both environmental and genetic variables [(3)].

Peripheral insulin resistance and β-cell dysfunction are the main pathophysiological causes of type 2 diabetes. While insulin resistance in muscle, liver, and adipose tissue reduces glucose uptake and increases hepatic glucose synthesis [(2)], β-cell dysfunction decreases insulin secretion, making it more difficult for the body to maintain normal glucose levels [(5)]. As a result, insulin secretion and action enter a vicious cycle that eventually results in chronic hyperglycemia [(3)].

MATERIALS AND METHODS

This study was conducted at the Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital in Kulasekharam, Tamil Nadu, India, to assess type 2 diabetes mellitus in females aged 35 to 45. The study population consisted of females in this age range. Before beginning the study, participants gave their verbal consent after being told of its goals. The study involved thirty participants in all. Weight loss, indigestion, polyuria, polydipsia, skin disorders, wounds, edema, drowsiness, diet, neuropathy, and sociodemographic data were all evaluated using a standardized, closed-ended questionnaire with thirty items. The study did not include female individuals who refused to participate or did not cooperate.

DATA COLLECTION AND ANALYSIS

A systematic, closed-ended questionnaire was used in the study to gather both quantitative and categorical data from participants. Weight loss, indigestion, polyuria, polydipsia, skin problems, wounds, edema, sleepiness, nutrition, and neuropathy were among the thirty health-related themes covered by the questionnaire. The sociodemographic portion gathered data on the participants age, sex, place of residence, boarding status, father's educational background, and degree of education. In order to investigate disparities between categorical variables, such as age, gender, and educational level, responses were scored and analyzed.

RESULT

Table 1

S.NO	CONTENTS	YES (%)	NO(%)
1	Have the symptom of weight loss.	46.66 %	53.33%
2	Have excessive sweating	36.66%	63.33%
3	Increased appetite	36.66%	63.33%
4	Have increased urination	80%	20%
5	Increased thirst	60%	40%
6	Have the symptom of indigestion	26.66%	73.33%
7	Rashes in skin	40%	60%
8	Felt of itching in body	33.33%	66.66%
9	Any changes in eyesight	56.66%	43.33%
10	wound healing seems to be slow	53.33%	36.66%
11	Swelling in arms and legs	20%	80%
12	Felt drowsiness and fatigue	36.66%	63.33%
13	Felt tired the whole day	33.33%	66.66%
14	Numbness over legs and foot	46.66%	53.33%
15	Increased respiratory rate	20%	80%
16	Felt giddiness while doing my work	40%	60%
17	Increased salivation	36.66%	63.33%
18	Increased cravings towards sweet and dairy products	60%	40%
19	Leg pain and body pain	56.66%	43.33%
20	Stressed about my work, family, and personal matters	73.33%	26.66%

21	Undergoing medication	73.33%	26.66%
22	follow any type of diet	16.66%	83.33%
23	Felt disturb during sleep	33.33%	66.66%
24	Have gangrene formation	23.33%	76.66%
25	Felt a pricking type of pain in foot	40%	60%
26	Have the symptom of muscle cramps	36.66%	63.33%
27	Parents have been diagnosed with diabetes mellitus	56.66%	43.33%
28	Have awareness about the glycemic Index	16.66%	83.33%
29	Perform physical exercise regularly	20%	80%
30	Any issues with dry skin.	26.66%	73.33%

Table 1 Shows that type 2 diabetes mellitus among females age 35-45 years

The study collected both quantitative and categorical data from participants using a methodical, closed-ended questionnaire. The questionnaire covers thirty health-related topics, including weight loss, dyspepsia, polyuria, polydipsia, skin issues, wounds, edema, drowsiness, nutrition, and neuropathy. The participants age, sex, location of residence, boarding status, father's educational background, and level of education were all recorded in the sociodemographic section. Responses were evaluated and examined to look for differences between categorical characteristics such as age, gender, and educational attainment.

Table 2

Sociodemographic background of respondents			
S.NO	**Variables**	**N**	**Percentage (%)**
1	**Age**		
	35 years	18	60%
	45 years and above	12	40%
2	**Residence**		
	Rural	20	66.66%
	Urban	10	33.33%
3	**Parents educational status**		
	Primary or below	3	10%
	Secondary below	13	43.33%
	Higher studies	14	46.66%

Table 2 shows, Sociodemographic backround of respondents

DISCUSSION

This paper's ultimate goal is to evaluate type 2 diabetes mellitus in order to facilitate future, more focused interventions for young people. Type 2 diabetes mellitus is influenced by a variety of factors, including developmental stage, cultural background, social situations, personal habits, and health status. Young people today are the future leaders.

Weight loss (46.66%), increased appetite (36.66%), increased urination (80%), indigestion (26.66%), delayed wound healing (53.33%), numbness in the legs and feet (46.66%), gangrene formation (23.33%), and dry skin (26.66%) were among the symptoms noted, according to the survey's results. Most of the study's participants were 35 years of age or older, a demographic that is thought to have acquired and applied healthy habits.

Table 2 shows, the association between age, gender, and residential status. Age-related awareness reductions were seen. It's interesting to note that female participants showed a higher level of awareness regarding type 2 diabetes mellitus. The fact that a

significant number of people cite laziness and inertia as significant barriers to preserving good health is concerning. Furthermore, the lack of awareness and comprehension of this illness must be addressed immediately. Despite the fact that young adults made up the majority of respondents, women consistently displayed higher awareness levels. There was no discernible relationship between living in an urban or rural area and the outcomes.

CONCLUSION

We conclude that the development of comprehensive programs intended to educate people and raise awareness of particular health risks is essential to predictive and preventive healthcare. This emphasizes how crucial awareness is for managing and preventing type 2 diabetes. Adopting a comprehensive awareness and education campaign is crucial to improving predictive and preventive healthcare and eventually lowering morbidity and mortality. A program like this could involve a number of activities, including community outreach, public awareness campaigns, workshops, and partnerships with healthcare providers, to provide people with the information and abilities they need to make wise decisions regarding their health and well-being.

ACKNOWLEDGEMENT

I would like to express my gratitude to Dr. R. Anusha, BNYS, M.Sc. (Psychology), Professor in the Department of Naturopathy at Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital, Kulasekharam, Tamil Nadu, for all of her help with this study. Her careful and committed work was crucial to the choice and creation of the research instrument. Her advice dramatically improved the project's quality and depth from the start to its successful conclusion, and her backing made it much easier for it to move forward.

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