A Study To Assess The Risk Of Diabetes Mellitus By Using Indian Diabetic Risk Score Among Adults Residing At Sanyasikuppam, Puducherry

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I. INTRODUCTION

"Prevent Diabetes: Protect Our Future." - WHO

The word "Diabetes" is a Greek word which Means "to run through". "Charaka and sushrutha described "madhumeha" in 5th century in which a person passes urine, which resembles honey and strongly attracts ants. Diabetes mellitus is a group of metabolic diseases characterised by high blood sugar levels, either because the pancreas does not produce enough insulin or because cells do not respond to the insulin produced. Polyuria, polydipsia, and polyphagia are the classic symptoms of high blood sugar.

Diabetes Mellitus is a silent disease that causes severe complications, sometimes even death, causes financial loss, and affects the quality of life in a variety of ways. They are as follows: Stroke is an example of a cerebrovascular condition. Acute ischemic attack (TIA) Nephropathy and Neuropathy Microalbuminuria, macroalbuminuria, renal hypofunction, and renal failure are all examples of conditions. Cataracts, retinopathy, blindness, and foot diseases such as foot ulcers and amputation are examples of ocular conditions.

Diabetes is one of the major and serious health problems throughout the world. Incidence is much higher at present than it had been in the past. Although the disease is on the rise in both developed and developing countries, Diabetes is far greater a problem in the latter, the extreme cases affect 30 - 40% of adults as against 2- 4% in the developed countries.

II. REVIEW OF LITERATURE:

Shinam Bakshi et.al. (2021) conducted a cross sectional observational study using a pre-tested, self-administered, structured questionnaire on 330 students for 6 months from October 2020 to April 2021, to assess the knowledge of Pharmacy students regarding diabetes mellitus and, its prevention. A pre-tested questionnaire assessing the

knowledge of diabetes mellitus was administered to the students of MM College of Pharmacy to investigate the general understanding of diabetes mellitus. The questions were planned so as to be answered through a Likert type three grade scale. Almost all of them (100%) described diabetes as a high blood sugar, about 72% of the students identified frequent hunger 72%, frequent thirst 70% and 68% identified poor wound healing as the main symptoms of the disease. 52% of students reported that they have a family history of diabetes.76% of students evaluated that high blood pressure, 72% said kidney problem etc., are the complications associated with diabetes.

STATEMENT OF THE PROBLEM:

"**A study to assess the risk of diabetes mellitus by using Indian Diabetic Risk score among adults residing at Sanyasikuppam, Puducherry**".

OBJECTIVES:

- To assess the risk of diabetes mellitus among adults to identify undiagnosed diabetes mellitus.
- To associate the risk of diabetes mellitus among adults with their demographic variables and clinical variables.

ASSUMPTION:

- Adults may have the risk of getting diabetes mellitus.
- This Indian Diabetic Risk Score tools helps to identify the undiagnosed diabetes mellitus.

III. MATERIALS AND METHODS

This chapter describes the research methodology followed to assess the risk of diabetes mellitus by using Indian Diabetic Risk score among adults residing at Sanyasikuppam, Puducherry. It deals with research approach, research design, setting of the study, population, sample, sample size, sampling technique, criteria for sample selection, plan for data collection and tools and instruments.

SECTION- A: This section consist of socio- demographic information from the adults such as the age, gender, religion, educational status, occupational status, marital status, family income, dietary pattern, Habit of Smoking , Habit of Alcoholism, Any symptoms of diabetes mellitus, co- morbid conditions, Maintaining healthy diet of the clients

SECTION- B: Indian diabetic risk score uses four simple parameters that is age, abdominal obesity, physical activity and family history of diabetes. Maximum score of hundred and minimum score of zero.

SCORING INTERPRETAION:

SCORE	INTERPRETATION
1-7	Low level of barrier
8-14	Moderate level of barrier
15-20	High level of barrier

RESEARCH APPROACH:

A quantitative research approach was adopted for this present study.

RESEARCH DESIGN:

Descriptive research design was adopted for this present study.

SETTING OF THE STUDY:

The setting chosen for this study was Sannyasikuppam village, Puducherry

SAMPLE:

Adults at the age limit of 40 years to 60 years who met the inclusion criteria..

SAMPLING TECHNIQUE:

Purposive sampling technique was adopted to this present study.

SAMPLE SIZE:

Sample size is the number of subjects involved in the study. Sample size consists of 100.

CRITERIA FOR SAMPLE SELECTION:

Inclusion Criteria:

- Adults who are residing at Sannyasikuppam, Puducherry.
- Adults who were present at the time of data collection
- Adults who were willing to participate in the study
- Both adults of female and male

Exclusion Criteria:

- Adults who are not willing to participate in the study
- Those who are already diagnosed with diabetes mellitus

IV. RESULTS

The finding shows frequency and percentage wise distribution of the level of risk of diabetes mellitus among adults to identify undiagnosed diabetes mellitus. Majority of the adults 61(61%) had medium level of risk of diabetes mellitus, 37(37%) had high level of risk of diabetes mellitus and 2(2%) had low level of risk of diabetes mellitus. The mean and standard deviation of the l level of risk of diabetes mellitus among adults to identify undiagnosed diabetes mellitus is (50.80±13.156) respectively.

Frequency and percentage wise distribution of demographic and clinical variables among adults. (N=100)

SL. NO	DEMOGRAPHIC AND CLINICAL VARIABLES	FREQUENCY (N)	PERCENTAGE (%)
1	Age in years		
	a. 40- 45	36	36
	b. 46-50	26	26
	c. 51-55	14	14
	d. 56-60	24	24
2	Gender		

	a. Male	41	41
	b. Female	59	59
3	**Religion**		
	a. Hindu	99	99
	b. Christian	1	1
	c. Muslim	0	0
	d. Others	0	0
4	**Residential area**		
	a. Rural	100	100
	b. Urban	0	0
5	**Educational Status**		
	a. Primary education	54	54
	b. High school	31	31
	c. Higher secondary	6	6
	d. Degree and above	9	9
6	**Occupational status**		
	a. Government	11	11
	b. Non- government	36	36
	c. Daily wage	24	24
	d. Home worker	29	29
7	**Marital status**		
	a. Married	92	92
	b. Unmarried	3	3
	c. Widow	5	5
	d. Divorced	0	0
8	**Family Income**		
	a. Rs 5001. 10,000	24	24
	b. Rs.10,001- 15000	37	37
	c. Rs.15,001- 20,000	21	21
	d. Above Rs.20,000	18	18
9	**Dietary pattern**		
	a. Vegetarian	7	7
	b. Non- vegetarian	93	93
10	**Habit of smoking**		
	a. Yes	14	14
	b. No	86	86
11	**Habit of alcoholism**		
	a. Yes	15	15
	b. No	85	85
12	**Any symptoms related to Diabetes Mellitus**		
	a. Polyurea	16	16
	b. Polyphagia	2	2
	c. Polydypsia	64	64
	d. None	2	2
13	**Family history Of Diabetes mellitus**		
	a. Yes	22	22
	b. No	78	78
14	**Co-Morbid Conditions**		
	a. Hypertension	42	42
	b. Cardiac disease	1	1
	c. History of stroke	51	51
	d. No co-morbidities	6	6
15	**Maintaining Healthy diet**		
	a. Yes	10	10
	b. No	90	90
16	**CLINICAL VARIABLES** **Height (in cm)**		
	a. 130cm-140 cm	0	0
	b. 140 cm-150 cm	12	12
	c. 150cm – 160 cm	62	62
	d. ≥160 cm	26	26
17	**Weight (in kg)**		
	a. 30 kg - 40 kg	2	2
	b. 41 kg - 55 kg	25	25
	c. 56 kg – 65 kg	45	45

	d. >65 kg	28	28
18	**BMI**		
	a. Below 18.5	6	6
	b. 18.5 - 24.9	49	49
	c. 25.0 – 29.9	43	43
	d. 30 and above	2	2
19	**Systolic blood pressure (mm hg)**		
	a. 80 -90 mmhg	1	1
	b. 90 -100 mmhg	9	9
	c. 100 -120 mmhg	57	57
	d. ≥ 120 mmhg	33	33
20	**Diastolic blood pressure (mm hg)**		
	a. 50-60 mmhg	1	1
	b. 60-80 mmhg	29	29
	c. 80-100 mmhg	53	53
	d. ≥ 100 mmhg	17	17
21	**Risk Factors**		
	a. Family history of cardiovascular disease	1	1
	b. Obesity	19	19
	c. Hypertension	41	41
	d. Others	0	0
	e. None	39	39
22	**Fasting Blood Glucose Level**		
	a. 70- 99 mg/dl	4	4
	b. 100-125 mg/dl	39	39
	c. ≥ 126 mg/dl	57	57

Table 2:- Frequency and percentage wise distribution of the level of risk of diabetes mellitus among adults to identify undiagnosed diabetes mellitus.

(N = 100)

LEVEL OF RISK OF DIABETES MELLITUS	FREQUENCY (n)	PERCENTAGE (%)
HIGH	37	37
MEDIUM	61	61
LOW	2	2
Total	**100**	**100**
Mean±Standard deviation	50.80±13.156	

V. CONCLUSION

The findings of the study shows frequency and percentage wise distribution of the level of risk of diabetes mellitus among adults to identify undiagnosed diabetes mellitus. Majority of the adults 61(61%) had medium level of risk of diabetes mellitus, 37(37%) had high level of risk of diabetes mellitus and 2(2%) had low level of risk of diabetes mellitus. The mean and standard deviation of the l level of risk of diabetes mellitus among adults to identify undiagnosed diabetes mellitus is (50.80±13.156) respectively.

IMPLICATIONS OF NURSING RESEARCH:

The study has implicated for Nursing Practice, Nursing Education, Nursing Administration and Nursing Approach

NURSING EDUCATION:

- The nursing education curriculum should enable student nurses to equip themselves with client knowledge of diabetes mellitus.
- The education system should emphasize the application of Indian Diabetic Risk Score to identify the risk of diabetes mellitus
- The Post Graduate Nursing Students may provoke the necessity regarding knowledge of diabetes mellitus through organizing workshop, conference and seminar to the community peoples.

NURSING ADMINISTRATION:

- The health administration should be capable of motivating and initiating health personnel to organise, conduct, and participate in various educational programmes that will improve the health care delivery system.
- Nurse Administrators can organise in-service education programmes and adequate staffing in Primary Health Care Centers to improve diabetic clients' knowledge of diabetes mellitus.

NURSING RESEARCH:

- The findings of the study help the Community Health Nurses and students to develop inquiry by providing baseline. The general aspect of the study can be made by further replication of the study.
- A nurse researcher can provide supportive care measures which may improve the Knowledge regarding diabetes mellitus.

RECOMMENDATIONS:

Based on findings of the present study, the following recommendations have been made.

- Similar study can be conducted in other parts of the country with large sample.
- The study can be replicated with larger samples for better generalizations.
- The study can be implemented at the various states of India.
- The same study can be conducted in different settings
- The study can be done as a longitudinal study.
- Qualitative research can also be conducted on this topic through focus group discussion.

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