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KNOWLEDGE ABOUT DIABETES MELLITUS AMONG MEDICAL STUDENTS IN A TERTIARY CARE CENTRE IN KANYAKUMARI DISTRICT -A CROSS SECTIONAL STUDY

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ABSTRACT

Background: India continues to be the global hub for diabetes. India now has 32 million patients, and the WHO research estimates that by 2030, there will be 79.4 million patients in the country. Diabetes has emerged as the major economic obstacle, depleting an average Indian family's income by 5 to 25%. Diabetes must be urgently addressed in the younger population in order to favour early, effective preventive medicines since the disease might have fatal unfavourable repercussions.

Objective: To estimate the knowledge about Diabetes mellitus its risk factors, complications, prevention and treatment among medical students.

Methodology: A Cross-sectional study conducted among 156 medical students (first year and final year) attending Sree Mookambika Institute of Medical sciences, Kanyakumari for a period of 1 month. Data was entered in MS EXCEL and analyzed using SPSS version 20.

Results: We can see that among the 1st years they had a good knowledge on the general aspects, risk factors,. Whereas, regarding the symptoms**,** Complications & Diagnostic criteria, Lifestyle and non-medical measures, medication available, Things diabetics should not do and the followup, they were mostly unsure.

And among the 2nd year students they had a good knowledge on the General knowledge of diabetes and risk factors, medication available , whereas were unsure about the symptoms, Complications & Diagnostic criteria, , things diabetics should not do, and followup there was a lacunae

Conclusion: Medical students were found to have enough knowledge and understanding of diabetes. In addition to promoting lifestyle changes in students, health education initiatives must support its detection and management at all levels.

Keywords: Complications, diabetes, knowledge, risk factors.

INTRODUCTION:

India continues to be the global hub for diabetes. India now has 32 million patients, and the WHO research estimates that by 2030, there will be 79.4 million patients in the country. Diabetes has emerged as the major economic obstacle, depleting an average Indian family's income by 5 to 25% [1-3].

Diabetes is a multifactorial, complicated endocrine condition that results from the combination of behavioural, genetic, and environmental risk factors [4]. Along with cancer, chronic respiratory conditions, and cardiovascular illnesses, it is regarded as one of the four main chronic non-communicable diseases (NCDs). Due to the rise in risk factors that are linked with it, the high rate of premature mortality, and the significant financial cost to people, families, and health systems, it is recognized as a global public health problem [6].

It's a disease that, in many nations, especially India, has been identified as the main cause of blindness, lipoprotein abnormalities, and mitochondrial diseases that cause cardiovascular problems, renal illnesses, and amputation.
Because diabetes can have fatal unintended consequences, it must be urgently addressed in the younger population in order to support early, effective preventative interventions. Therefore, in order to develop effective preventative efforts, such prevalence studies—even at the national level—are necessary to investigate the significant risk variables in this economically active young group [8,9].

Young individuals can reduce their risk of diabetes by engaging in regular physical activity and eating a healthy, balanced diet that emphasizes consuming more dietary fibre [10]. The World Health Organization strongly advises avoiding foods and drinks that have added mono- and disaccharides to minimize one's lifetime intake of free sugars. Therefore, the purpose of our study is to evaluate medical

students' understanding of diabetes mellitus.

OBJECTIVE:

Primary objective: To estimate the knowledge about Diabetes mellitus and its risk factors, complications, prevention and treatment among Phase 1& 2 MBBS students.

Secondary objective: To identify areas of weakness in knowledge regarding the disease and its presentation and complications.

METHODOLOGY:

Study design: Cross sectional study.

Study period: May 2024(1 month).

Study setting: Sree Mookambika Institute of Medical Sciences, Kanyakumari district, Tamilnadu

Study Participants: Undergraduate (PHASE 1& 2)medical students of Sree mookambika institute of medical sciences.

Sample size calculation: By using the formula $n= Z^2 pq / d^2$

Z=1.96

Based on the study done by Maryam Al-Hussaini et al on Adolescents knowledge and awareness of Diabetes mellitus in Kuwait p = 71.

p= 71

q=37 (100-P)

d=7.1 (10% of p)

$n= (1.96)^2 \times 71x29/ (7.1)^2 = 156$

Sample size=156

Including criteria: First year & 2nd year medical students of Sree Mookambika Institute of Medical Sciences, Kulasekaram.
Exclusion criteria: Those who were absent on the day of taking study.
Sampling technique: Simple Random sampling
Data collection tool: The data was collected using pretested semi structured Questionnaires in 6 sections: General information, risk factors, clinical features, diagnosis, complications and treatment. A total score was calculated by adding the scores for all 37 questions after giving score 1 for correct answer and 0 for wrong or not sure answers. We excluded the students who marked all questions as "Yes" or all as "No".
Data entry: MS EXCEL 2021
Data analysis: SPSS TRIAL VERSION 20

RESULTS:

Results of 1st year MBBS

PARAMETERES	CORRECT	WRONG	UNSURE
General knowledge of diabetes	70(89.7%)	3(3.84%)	5(6.41%)
Risk factors	56(71.7%)	2(2.56%)	20(25.64%)
Symptoms	25(32.0%)	3(3.84%)	50(64.10%)
Complications & Diagnostic criteria	8(10.25%)	7(8.97%)	63(80.76%)
Medications available	21(26.92%)	0(0)	57(73.07%)

Lifestyle and non-medical measures	3(3.84%)	5(6.41%)	70(89.74%)
Things diabetics should not do	6(7.69%)	13(16.66%)	59(75.64%)
Follow-up	20(25.64%)	8(10.25%)	50(64.10%)

Results of 2nd year MBBS

PARAMETERES	CORRECT	WRONG	UNSURE
General knowledge of diabetes	70(89.7%)	3(3.84%)	5(6.41%)
Risk factors	56(71.7%)	2(2.56%)	20(25.64%)
Symptoms	25(32.0%)	3(3.84%)	50(64.10%)
Complications & Diagnostic criteria	8(10.25%)	7(8.97%)	63(80.76%)
Medications available	57(73.07%)	0(0)	21(26.92%)
Lifestyle and non-medical measures	3(3.84%)	5(6.41%)	70(89.74%)
Things diabetics should not do	6(7.69%)	13(16.66%)	59(75.64%)
Follow-up	20(25.64%)	8(10.25%)	50(64.10%)

We can see that among the 1st years they had a good knowledge on the general aspects, risk factors,. Whereas, regarding the symptoms**,** Complications & Diagnostic criteria, Lifestyle and non-medical

measures, medication available, Things diabetics should not do and the followup, they were mostly unsure.

And among the 2nd year students they had a good knowledge on the General knowledge of diabetes and risk factors, medication available , whereas were unsure about the symptoms, Complications & Diagnostic criteria, , things diabetics should not do, and followup there was a lacunae

DISCUSSION:

Although there were some gaps in their knowledge, overall the results demonstrated that medical students had a decent degree of understanding on diabetes. They did poorly on the diagnostic criteria , clinical characteristics, and risk factors. Nearly all medical students are well-versed on the kinds, causes, and risk factors of diabetes, and the 2nd year students wer better at the medications as well, considering pharmacology being a part of the curriculum. One way to reduce the risk of major consequences from diabetes is to identify the disease's clinical symptoms early. The three primary classical symptoms of diabetes are polyuria, polydipsia, and weariness. Nearly all medical students had high levels of awareness of clinical aspects, according to our study. The majority of research participants were aware of the genetic component of diabetes.

Diabetic neuropathy, diabetic retinopathy, diabetic nephropathy, and diabetic foot ulcers are among the serious morbidity

and mortality associated with diabetes. All the years of students showed a great degree of awareness of all these difficulties, which they accurately identified.

In our study 46.15% have the knowledge about diagnostic criteria compared to a study done by Al-Sarayra et al only 27.5% of all students could correctly identify the diagnostic criteria for Diabetes mellitus [5]. In this study every student have knowledge that diabetes can cause complications similar study done by Rohith Holla et al only 57.83% have knowledge that diabetes can cause complications [7]. Majority of the students knew that prevention of Diabetes is more important than treatment of the same.

CONCLUSION:

As we estimated the knowledge about Diabetes mellitus and its risk factors, complications, prevention and treatment among Phase 1& 2 MBBS students, we found out there is a lack of appropriate knowledge about Complications & Diagnostic criteria Lifestyle and non-medical measures & Things diabetics should not do among phase 1 MBBS and Complications & Diagnostic criteria Symptoms & Follow up among phase 2 MBBS

We can reduce the burden of diabetes mellitus by educating medical students on screening, diagnostic standards, and treatment protocols. This might raise the bar for diabetes education among aspiring physicians and better prepare them to handle this epidemiologically

significant illness. This may be accomplished with the help of the Ministry of Education, curriculum updates, and a re-evaluation of teaching strategies.

LIMITATIONS: Low sample size.

GENERALISIBILITY: Not generalizable.

- **RECOMMENDATIONS:** A larger sample size and multi-centric study will help to arrive at a more statistically significant result. Recommended that National Medical council to improves the curriculum to include the areas of weakness.
- Also encourage students contribution in different activities related to diabetes such as doing project, posters and seminars.
- World Diabetes Day(NOV- 14) should be celebrated in all the Medical colleges and workshops, lectures, CME programs, Quiz competition given by professionals are recommended to increase the level of awareness of diabetes.

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CONFLICTS OF INTEREST: None declared.

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