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Original Research Article

Knowledge regarding diabetes mellitus amongst arts, science and commerce college students of Latur city, Maharashtra

Bhaskar Gaikwad, Udaykiran Bhalge*, Pramod Kulkarani, Anant Takalkar, Sunil Sagare, Mukund Bhise

Department of Community Medicine, MIMSR Medical College, Latur, Maharashtra, India

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***Correspondence:**
Dr. Udaykiran Bhalge,
E-mail: udaykiranbhalge@yahoo,com

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ABSTRACT

Background: Nearly 35 million people are suffering from diabetes in India. The present trend in diabetes is escalating diabetes prevalence and earlier onset of type 2 diabetes in the adult population. Awareness is an important factor in the early diagnosis, adequate treatment and prevention of complications due to diabetes. This study was undertaken to assess the knowledge regarding different aspects of diabetes mellitus among college students.
Methods: A cross-sectional study was undertaken with 348 college students of Latur City. The students were administered a 41 items, pre-tested, semi structured questionnaire assessing general and specific knowledge of diabetes like symptoms, causation, risk factors, complication, treatment, attitudes towards people with diabetes etc. The results were analyzed using Microsoft Excel software.
Results: Excessive tiredness, non healing wounds, and excessive sweating were mentioned as symptoms of diabetes by 81.03%, 73.85% and 72.70% subjects respectively. About (57.76%) study participants were aware of diabetes as a rising problem and only (8.33%) students had correct knowledge of the prevalence. Only (27.30%) were aware that genetic factors are reason for the causation of diabetes. As much as 85.91% subjects stated that blood and urine tests are done for diagnosing diabetic persons. Common complications not identified by the study subjects were impotence (68.39%), stroke (64.65%), ulcer on foot (54.31%), and repeated skin infections (53.16%).
Conclusions: Specific knowledge about diabetes is poor among the degree college students, hence appropriate activities to increase awareness about diabetes is the need of the hour.

Keywords: Awareness, Knowledge, Diabetes mellitus, Degree college students

INTRODUCTION

Worldwide approximately 170 million humans are residing with diabetes.[1] India alone has approximately 35 million human beings residing with diabetes. Each seventh patient touring a family health practitioner in india is a diabetic.[2] In addition, researchers have anticipated a 65% upward thrust in the superiority of diabetes owing to the population growth, price, age structure, urbanization, unfavourably modification of nutritional conduct and lifestyles, monetary and consequently the actual wide variety of diabetics will be as excessive as fifty two million by way of 2025.[3] Three in view of the above information, global health organization has declared india because the 'diabetic capital'.[4] Also, the escalation of kind 2 diabetes mellitus is seen in all age companies of india populace.[5] that implies that maximum Indians broaden diabetes in early adult existence, in the maximum productive years of lives. Insufficient expertise, public awareness

approximately diabetes symptom, hassle and its prevention, coupled with the dearth of infrastructure for diabetic screening and high-risk organization identification are a number of the elements explaining the failure of early analysis. Consequently, many younger diabetics live up to an older age, developing and suffering from chronic morbidities and consequently residing a negative quality of existence.[6] Considering greater than 50% of Indian population is inside the age organization of 15-25 years, proper expertise and knowledge can be very helpful in early diagnosis and proper as well as adequate treatment.[7,8] Younger human beings have a unique possibility to interact and impact other humans life.[9]

Accordingly, it is essential that the knowledge they gain will definitely helpful for them as well as for the society. Properly knowledgeable empowered young people can help in decreasing severe complications and unnecessary disabilities resulting from diabetes; provide assist and encouragement for human beings dwelling with diabetes.[10] For this reason this study is undertaken to assess the knowledge concerning different factors of diabetes mellitus among university college students of Latur city.

METHODS

A cross-sectional study was carried out amongst 348 college students during the period of September 2017 to October 2017. Smt. Sushila Devi Deshmukh Junior, Senior and Mahila College, Khadgaon road, Latur were selected for the study. All students studying in the junior and senior college were included in the study. These colleges are located in the field practice area of Urban Health Training Centre of Dept. of Community Medicine of MIMSR Medical College, Latur, Maharashtra. Before starting the study ethical clearance was obtained from Institutional ethical committee. Principals of above colleges were contacted personally and the permission to conduct the study was taken from principal of concerned colleges. All 348 students present at the time of data collection were included in our study with prior consent. Prior consent was taken from them and those who are contested to participate were administered a pre-designed, pre-tested questionner. The filled questioners were collected after 45 minutes on the same day. Those who were absent during the data collection due to any reasons were excluded from our study.

Data analysis

The data was entered in the MS Excel sheet and analysed by frequency, percentage and chi-square test whereever necessary.

RESULTS

It was seen from Table 1 that total 348 students contested to participate in the study. The study subjects were in the 16–23 years age group, large proportion of them belongs to 16-19 years age group. Of the 348 students 167(47.98%) were males and remaining 181 (52.02%) were females. 179 (51.44%) of them were resident of rural area, where as 169 (48.56%) from urban area. Of the 348 students 252 (72.12%) were studying junior college (11th and 12th standards) and 97 (27.8%) studying in senior college.

Table 1: Demographic characteristics of study population (n=348).

	Frequency	Percentage (%)
Age in year		
Below 20	313	89.94
Above 20	35	10.06
Sex		
Male	167	47.98
Female	181	52.02
Residence		
Rural	179	51.44
Urban	169	48.56

It was seen from Table 2 that excessive tiredness, non healing wounds, and excessive sweating were mentioned as symptoms of diabetes by 81.03%, 73.85% and 72.70% subjects respectively. Loss of sensation of hands and feet were mentioned by 69.83% participant. Passing excessive urine stated by 59.48% students. Reduced vision stated by 55.75% participant. Only 95 (27.30%) were aware that genetic factors are reason for the causation of diabetes; 231 (66.38%) believed eating too much sweets at any age can causes diabetes and 150 (43.10%) subjects believed eating too much sugar as a child causes diabetes.

It was seen from Table 3 that common complications identified by the study subjects were out of 348 participant 208 (59.77%) said kidney complication, 190 (54.60%) stated eye complication, 201(57.76%) participant said heart problem, where as common complications not identified by the study participant were impotence 238 (68.39%), stroke 218 (62.64%), ulcer on foot (54.31%), repeated skin infection 185 (53.16%) loss of sensation (52.87%) in considerable proportion of cases.

It was observed from Table 4 that out of 348 students 332 (95.40%) and 229 (65.80%) students answered that diabetic patients consume lot of fruits and lot of vegetables respectively. 288 (82.76%) participant answered to avoid sweets, 268 (77.00%) students said that diabetic patients should take special diet, 260 (74.71%) participant answered that diabetic patient should not do fasting. Diabetic patients should take small frequent meals answered by 252 (72.41%) participant, 65 (18.68%) students answered that diabetic patients should not exercise.

Table 2: Awareness about symptoms of diabetes among the study participants.

Symptom	Awareness of symptoms (n=348)				Z-value	P value significant at <0.05
	No. of students aware of symptom	%	No.of students not aware of symptom	%		
Excessive tiredness	282	81.03	66	18.97	11.5761	0.001
Non healing wounds	257	73.85	91	26.15	8.898534	0.001
Excessive sweating	253	72.70	95	27.30	8.469689	0.001
Drinking excess water	253	72.70	95	27.30	8.469689	0.001
Loss of sensation of hands and feet	243	69.83	105	30.17	7.397576	0.001
Passing excess urine	207	59.48	141	40.52	3.537971	0.001
Reduced vision	194	55.75	154	44.25	8.898534	0.001

Table 3: Knowledge regarding complications of diabetes among the study participant.

Complications	Aware about complications		Not aware about complications		Z value	P value
	No.	%	No.	%		
Kidney problem	208	59.77	140	40.23	3.645138	0.001
Heart problem	201	57.76	147	42.24	2.895231	0.001
Eye problem	190	54.60	158	45.40	1.716245	0.0436
Loss of sensation	164	47.13	184	52.87	-1.07078	0.1423
Repeated skin infections	163	46.84	185	53.16	-1.17898	0.121
Ulcer on foot	159	45.69	189	54.31	-1.60804	0.0458
Stroke	123	35.34	218	62.64	-5.04235	0.001
Impotence	110	31.61	238	68.39	-6.86117	0.001

Table 4: Knowledge about various methods for control of diabetes among the study participants.

Measures for diabetes control	Measures suggested by students (n=348)				Z value	P value
	Suggested no.	%	Not suggested no.	%		
Consume lot of fruits	332	95.40	16	4.60	16.93938	0.001
Consume lot of vegetables	229	65.80	119	34.20	5.896619	0.001
Avoid sweets or chocolates	288	82.76	60	17.24	12.22208	0.001
Special diet	268	77.01	80	22.99	10.07786	0.001
Should do not fasting	260	74.71	88	25.29	9.220168	0.001
Small frequent meals	252	72.41	96	27.59	8.362478	0.001
Should not do exercise	65	18.68	283	81.32	-11.686	0.001

DISCUSSION

The present study revealed that excessive tiredness, non healing wounds, and excessive sweating were mentioned as symptoms of diabetes by 81.03%, 73.85% and 72.70% subjects respectively. Loss of sensation of hands and feet were mentioned by 69.83% participant. Passing excessive urine stated by 59.48% students and reduced vision by 55.75% participant. As much as 85.92% subjects stated that blood and urine tests are done for diagnosing diabetic persons. Common complications not identified by the study participant were impotence 238 (68.39%), stroke 62.64%, repeated skin infection 53.16%, ulcer on foot 54.31%, loss of sensation 52.87% in considerable proportion of cases. Only 27.30% were aware that genetic factors are reason for the causation of diabetes; 66.38% believed eating too much sweets at any age can causes diabetes and 150 subjects 43.10% believed eating too much sugar as a child causes diabetes. 33.91% students believed only people with hypertension get diabetes; 26.15% students believed that tobacco consumed in any form causes diabetes. Whereas 22.06% students believed only overweight people get diabetes. 96 (27.59%) students believed that consumption of alcohol cause diabetes, 25.57% students believed that consumption of excess of non-vegetarian food causes diabetes; 20.40% students believed diabetes can be caught from interaction with another diabetic; 13.51% students were of the opinion that mosquito bites can cause diabetes; 40.80% students believed that diabetes can occur in children also

whereas 167 (47.99%) students believed that mothers with diabetes gives birth to diabetic baby. Similarly a study done in Singapore by Wee et al about public awareness on diabetes, it showed low scores in general knowledge, risk factors of diabetes mellitus, but had a good understanding of symptoms and complications of diabetes.[10] Similarly a study done by Hashmi et al found that the positive association between stress, sedentary lifestyle, family history of diabetes, and hypertension and alcohol consumption with abnormal glucose tolerance. It was also found that type of family and type of diet were not significantly associated with abnormal glucose tolerance.[11]

Another study done by Mohan et al on urban population of Chennai city found that 75.5% of the whole population was aware of a condition called diabetes. However, the same study had revealed poorer knowledge about complications of diabetes i.e. 26.8% among non-diabetics and 74.2% among diabetics.[12] A study done by Murugesan et al also revealed the poor knowledge regarding diabetes mellitus among the general as well diabetic population in a city in southern India.[13]

A study done by Hughes et al on community health workers not only revealed lack of requisite knowledge, attitude, and beliefs but also an array of myths and misconceptions which favours stigmatizing and adversely impact on prevention and management of diabetes.[14] Another study conducted by Poornima et al on degree college students of Mandya city Karnataka, found that passing excess of urine, excessive tiredness and hunger were mentioned as symptom of diabetes by 73.15%: 50.15% and 46.91% subjects respectively and 59.94% students had knowledge about genetic factors in diabetes. As much as 62.8% and 35.02% subjects stated that blood and urine tests are done for diagnosing diabetic persons. Common complications not identified by the study subjects were impotence (82.25%), ulcer on foot 70.83%, loss of sensation 69.91%, repeated skin infections 62.80%, stroke 61.42%.[15]

CONCLUSION

The present study concluded that the knowledge about diabetes is poor among the degree college students, thus appropriate activities to increase awareness about diabetes is the need of the hour. Hence, there is a need to design and implement various educational activities providing for appropriate diagnosis, control, treatment and prevention of diabetes among the college students of Latur city.

Limitations

A cross-sectional questionnaire based study results may represent only the tip of the iceberg, hence in-depth community based studies have to be undertaken to assess the awareness about diabetes in the community.

Recommendations

College students are a special accessible group, hence organizing on campus awareness creating activities like to skits, dramas, collage poster competition etc can help increase awareness among them. Creating communities on various social networking sites like, face book, twitter etc can also be considered for increasing awareness among the student population.

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