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RESEARCH ARTICLE
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A STUDY ON AWARENESS OF DIABETES MELLITUS AMONG ANGANWADI WORKERS IN URBAN SLUMS, MUMBAI.

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Abstract

Background: The present trend in Diabetes Mellitus is escalating, with increasing Diabetes Mellitus prevalence and earlier onset of type 2 Diabetes Mellitus in the adult population. Awareness is a significant factor for control, adequate treatment and prevention of complications due to Diabetes Mellitus. There is need to increase the awareness among grassroot level health care workers like Anganwadi workers. Hence the present study is conducted to study the awareness of Diabetes Mellitus among Anganwadi workers

Objectives: To study the Awareness of Diabetes Mellitus among Anganwadi workers. To study the Health profile of Anganwadi workers, with special emphasis on Diabetes Mellitus.

Methodology: A Community based cross-sectional study was conducted among 67Anganwadi workers working in Urban Slums, Mumbai using Simple random sampling. All 67Anganwadi workers were personally contacted, interviewed and examined using a pre-tested, semi structured questionnaire to find out general and specific knowledge of diabetes like prevalence, symptoms, risk factors and prevention etc. and a health checkup with general examination, anthropometry, blood pressure and blood sugar level assessment was conducted for them. Anganwadi workers were called in groups of 8-10. Health education about diabetes was given through role play.

Results: Amongst all participants 17% of Anganwadi workers could not explain what is meant by Diabetes Mellitus. According to them prevalence of Diabetes is more in urban (85%) area. Major symptoms of Diabetes were polyuria (56.7%)and delayed healing of wound (55.2%) as answered by them. Major risk factors identified by them were consuming more sweets (49.3%) and stress (44.18%). According to them high risk group are: age>35yr (56.7%), family history of diabetes (47.8%) & obesity (47.8%). According to them the methods for prevention of Diabetes Mellitus were avoiding sweets (80%) while 62% thought physical exercise is the remedy. Only 13.4% had correct knowledge for Diabetes screening; while 37.3% were aware that urine sugar test can be used for screening of Diabetes and none of them knew about Hb1AC. Around half of the worker had knowledge about organs affected by diabetes like eye, foot and kidney.

Conclusion: Only half of the Anganwadi workers had some knowledge regarding the disease. It is imperative to make them aware and empower them with precise knowledge on diabetes, so as to

convey appropriate awareness at grass root level in the community.

Key words: Awareness, Knowledge, Diabetes Mellitus, Anganwadi workers

Introduction

Diabetes Mellitus is a chronic, metabolic disease characterized by elevated levels of blood glucose (or blood sugar), which leads over a time to serious damage to the heart, blood vessels, eyes, kidneys and nerves. The most common is type 2 Diabetes Mellitus, usually in adults, which occurs when the body becomes resistant to insulin or doesn't make enough insulin. In the past 3 decades the prevalence of type 2 diabetes has risen dramatically in countries of all income levels. There is a globally agreed target to halt the rise in diabetes and obesity by 2025. About 422 million people worldwide have Diabetes Mellitus, the majority living in low-and middle-income countries, and 1.5 million deaths are directly attributed to diabetes each year. Both the number of cases and the prevalence of diabetes have been steadily increasing over the past few decades[1].

Symptoms of Diabetes include the need to urinate often, thirst, constant hunger, weight loss, vision changes and fatigue. Early diagnosis is essential to prevent complications. Effective approaches are available to prevent Diabetes include exercising regularly, eating healthily, avoiding smoking, and controlling blood pressure and lipids. A series of cost-effective interventions can improve patient outcomes for Diabetes These interventions include blood glucose control through a combination of diet, physical activity and, if necessary, medication; control of blood pressure and lipids to reduce cardiovascular risk and other complications; and regular screening for damage to the eyes, kidneys and feet to facilitate early treatment[1].

Integrated Child Development Services (ICDS) Scheme was launched on 2nd October 1975, as a most unique programmes for early childhood development. ICDS is India's response to the challenge of providing pre-school education on one hand and breaking the vicious cycle of malnutrition, morbidity, reduced learning capacity and mortality, on the other[2]. Anganwadi workers have been recognized as the biggest strength of Integrated Child Development Services (ICDS) for massive social mobilization and community contacts. Anganwadi Services is one of the flagship programmes of the Government of India providing early childhood care and development of the beneficiaries i.e children in the age group of 0-6 years, pregnant women and lactating mothers through a large network of Anganwadi workers (AWW) [3]. Awareness is a significant factor for control, adequate treatment and prevention of complications due to Diabetes. Awareness in the community can be created with the help of grassroots-level workers, such as ANMs, ASHA workers, link workers and Anganwadi workers. There is need to increase the awareness among grassroot level health care workers

Hence the present study is conducted to study the awareness of diabetes mellitus among Anganwadi workers and to study their health profile with special emphasis on diabetes mellitus

Objectives

- To study the Awareness of Diabetes Mellitus among Anganwadi workers.
- To study the health profile of Anganwadi workers, special emphasis on Diabetes Mellitus

Methodology:

Type of study: Community based cross-sectional study
Sample size: 67
Sampling Unit: Anganwadi worker
Type of Sampling: Simple random sampling.
Place of Study: Urban Slums, Mumbai

A Community based cross-sectional study was conducted among Anganwadi workers working in Urban Slums, Mumbai. Simple random sampling was used to select 67 Anganwadi workers to study the awareness of Diabetes Mellitus among Anganwadi workers and to study their health profile with special emphasis on Diabetes Mellitus. The purpose of the study was explained to the participants

and consent taken. All 67Anganwadi workers were personally contacted, interviewed and examined using a pre-tested, semi structured questionnaire consisting of general and specific knowledge about diabetes like prevalence, symptoms, risk factors prevention, etc.

Health Checkup

A health checkup with general examination, anthropometry, blood pressure and blood sugar level assessment was conducted for them.

Health Education

Anganwadi workers were called in groups of 8-10. Health education about diabetes was given through role play.

Data was entered in Microsoft excel. The results were analysed using SPSS 20 software.

Results:

A Community based cross-sectional study was conducted among Anganwadi workers working in Urban Slums, Mumbai. Simple random sampling was used to select 67 Anganwadi workers to study the awareness of Diabetes Mellitus among Anganwadi workers and to study their health profile with special emphasis on Diabetes Mellitus. A pre-tested, semi structured questionnaire consisting of general and specific knowledge about Diabetes Mellitus like prevalence, symptoms, risk factors prevention, etc. was administered by oral interview after obtaining their consent. The Observations of the study are as follows. The Mean age of the study population is 44.84 with Standard deviation 7.37. Most of the study population i.e. 29% are in the age group of 35 - 40yrs. All the Anganwadi workers are female. 75% of the study population belong to Nuclear family and 97% belonged to Hindu religion.

Distribution of various symptoms among study population was as follows. Most common Symptom among the study population was Joint pain 9% followed by Gastrointestinal symptom 6%, Body aches 4.5%, Tingling & Numbness4.5%, Frequent Micturition 3%, Breathlessness 3%, Giddiness 1.5%, Chest Pain 1.5% and Headache1.5%.

4.5% of the study population were known cases of Diabetes Mellitus. 5.6% of the study population had Blood Sugar Level ≥ 200 with symptoms. Total prevalence of Diabetes in the current study was 10.5%. 19.4% had high Blood Pressure. There were 80.6% participants had Body Mass Index ≥ 23.

Table 1 Distribution of Awareness of Symptoms, Risk factors and Prevention of Diabetes Mellitus

	Percentage%
Distribution of Awareness of symptom for Diabetes Mellitus	
Polyurea	56.7
Delayed Healing	53.7
Polyphagia	31.3
Tingling & Numbness	19.4
Demunition of Vision	10.4
Dry Mouth	3
Distribution of Awareness about Risk factor for Diabetes Mellitus	
Consuming more Sweets	49.3
Stress	44.8
Age	40.3
Obesity	35.8
Physical Inactivity	23.9
Pregnancy	11.9
Malnutrition	1.5
Distribution of Awareness about Prevention for Diabetes Mellitus	
Avoid Sweets	80.6
Avoiding oily foods	34.3
Avoiding High Starchy food	32.8

Consuming vegetables & fruits	28.4
Consuming Jowar, Bajra, Legumes & Nuts	23.9

Table 1 shows Distribution of Awareness of Symptoms, Risk factors, and Prevention of Diabetes Mellitus. Amongst all participants 17% of Anganwadi workers could not explain what is meant by Diabetes Mellitus. None of them were aware about the normal range of blood sugar level. According to them prevalence of Diabetes is more in area urban area (85%), rich (74.6%), male (55.2%). Major symptoms of Diabetes were polyuria (56.7%)and delayed healing of wound (55.2%) as answered by them. Major risk factors identified by them were consuming more sweets (49.3%) and stress (44.18%).

Figure-1 Distribution of Awareness about High risk groups For Diabetes

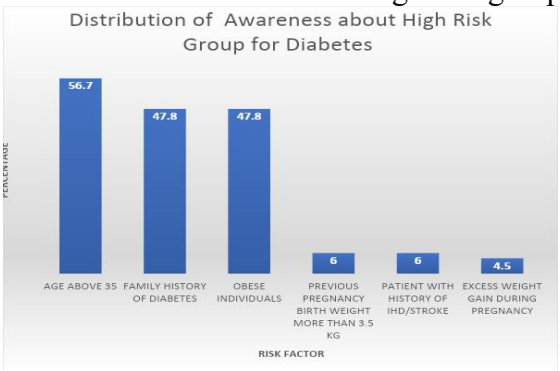

Figure1 shows the distribution of Awareness about High risk groups For Diabetes among study population. According to them high risk group are: age>35yr (56.7%), family history of diabetes (47.8%) & obesity (47.8%).

Figure-2 Distribution of Awareness about Risk reduction For Diabetes Mellitus

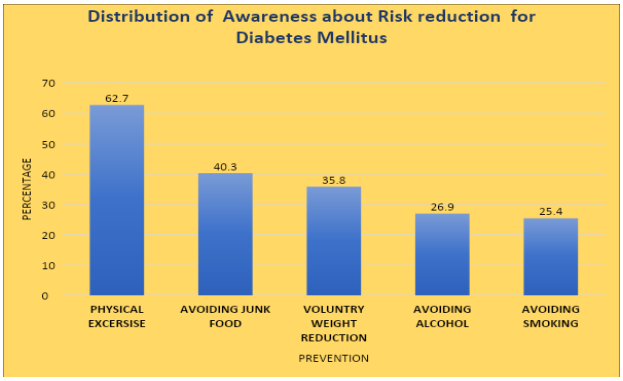

Figure 2 shows the distribution of Awareness about Risk reduction For Diabetes Mellitus. Table 1 shows Distribution of Awareness of Prevention of Diabetes Mellitus. According to them the methods for prevention of Diabetes Mellitus were avoiding sweets (80%) while 62% thought physical exercise is the remedy. Only 13.4% had correct knowledge for diabetes screening; while 37.3% were aware that urine sugar test can be used for screening of Diabetes and none of them knew about Hb1AC. Around half of the worker had knowledge about organs affected by diabetes like eye, foot and kidney.

Discussions

Most of the study population i.e. 29% are in the age group of 35 - 40yrs. All the Anganwadi workers are female. 75% of the study population belong to nuclear family and 97% belonged to Hindu religion. Distribution of various symptoms among study population was as follows. Most common Symptom among the study population was joint pain 9% followed by gastrointestinal symptom 6%, Body aches

4.5%, Tingling & Numbness4.5%, Frequent Micturition 3%, Breathlessness 3%, Giddiness 1.5%, Chest Pain 1.5% and Headache1.5%. 4.5% of the study population were known cases of diabetes. 5.6% of the study population had Blood Sugar Level ≥ 200 with symptoms. Total prevalence of Diabetes in the current study was 10.5%. 19.4% had high Blood Pressure. There were 80.6% participants had Body Mass Index ≥ 23.

Amongst all participants 17% of Anganwadi workers could not explain what is meant by Diabetes Mellitus. None of them were aware about the normal range of blood sugar level. Only half of the Anganwadi workers had some knowledge regarding the disease. In a study conducted by Rathod S et al awareness was about 36%[4]. Saeed H Khalaf et al in their study found that awareness was about 70.6%[5] In a study conducted by Mathur P et al awareness was about 45.8%[6]. Analysis reveals that awareness, treatment and control of diabetes is low among impoverished and less educated people in India[7]. According to our study population the prevalence of Diabetes Mellitus is more in area urban area (85%), rich (74.6%), male (55.2%). Major symptoms of Diabetes Mellitus were polyuria (56.7%) and delayed healing of wound (55.2%) as answered by them. In a study conducted by Saeed H Khalaf et al majority of participants correctly identified increased thirst, increased urination, blurred vision, and poor healing of cuts and wounds as symptoms of T2D: 435 (70.9%), 507 (82.7%), 463 (75.5%), and 498 (81.2%), respectively[5].

Major risk factors identified by them were consuming more sweets (49.3%) and stress (44.18%). In a study conducted by Saeed H Khalaf et al awareness about risk factors was 75.5%[5]. According to them high risk group are: age>35yr (56.7%), family history of diabetes (47.8%) & obesity (47.8%). Kumar DL et al in their study found that among 211 diabetics, about 84%, 79%, and 41% of the patients knew about diabetes, symptoms of diabetes, and complication of diabetes. Only 18% of the patients were aware of the symptoms of hypoglycemia, and 38% of the patients possess their own glucometers and monitor their blood sugar levels on a regular basis. Merely 38% of the diabetics were aware of the various Diabetes Mellitus treatment choices. About 52% of patients had some awareness of insulin therapy[8]. Foma, M.A., et al found that only 47% said they knew what DM is. Similarly, 53% of the study participants had no knowledge of the causes of DM and about 50% were not aware of the methods of prevention. 67% knew that DM can result to loss of sight while 46.5% knew that DM can cause poor wound healing. Few respondents knew that DM can lead to kidney failure (13.5%), skin sepsis (12.0%), heart failure (5.5%) and stroke (4.5%)[9]. Anjali Shrivastva in their study found that majority of the participants (80%) knew about the various symptoms of Diabetes. In this study, about 72% respondents knew the consequences if the disease is not treated. More than 70% of them were aware about complications of Diabetes i.e body parts or organs that Diabetes can affect. According to this study about 70% of the respondents knew about how to deal with cuts and abrasions in foot in other words about footcare in Diabetes. Also, about 65% of the respondents were aware of the role of diet and exercise in Diabetes. However, only 25.9% of respondents were able to explain "what is Diabetes", 16.3% of the participants were aware that they were actually suffering from Type2 Diabetes. The percentage of subjects aware about the cutoff of blood sugar level for diagnosis of Diabetes was 10.21[10]. Hussain, Rameez et al found that among 1538 (25.4%) people known to have DM, only 619 (40.7%) had good knowledge, 828 (53.8%) had a positive attitude, and 886 (57.6%) had good practice patterns[11]. In our study according to study population the methods for prevention of Diabetes Mellitus were avoiding sweets (80%) while 62% thought physical exercise is the remedy. Only 13.4% had correct knowledge for diabetes screening; while 37.3% were aware that urine sugar test can be used for screening of Diabetes and none of them knew about Hb1AC. Around half of the worker had knowledge about organs affected by diabetes like eye, foot and kidney.

Conclusions

Only half of the Anganwadi workers had some knowledge regarding the disease. 40% of the participants were not aware of physical activity as the key for prevention of Diabetes. None of the Anganwadi workers were aware of the normal range of Blood Sugar Levels and Hb1Ac. Their awareness was assessed which was a golden opportunity they were empowered with health education as they can help their own families as well as the community.

Recommendations

It is imperative to make Anganwadi workers aware and empower them with specific knowledge about diabetes, so as to convey appropriate awareness at grass root level in the community.

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