

A study to assess the knowledge regarding prevention of micro-vascular and macro vascular complication among client with diabetic mellitus in selected area of pune city.

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Abstract

Diabetes is a long-lasting metabolic condition characterized by abnormally elevated fructose (or sugar levels) levels. Diabetes may have a disastrous effect on the heart, capillaries, eyes, lungs, and nerves over time. The most common kind of diabetes, that often affects adults, occurs when the body gets resistance to or inadequate insulin production. Type 2 diabetes has been more prevalent in countries of all income backgrounds during the previous three decades. Type 1 diabetes, previously known as high blood sugar or renin - angiotensin - aldosterone mellitus, is a chronic condition in which the gastrointestinal insulin acts as a self-regulating hormone. Micro vascular and macro vascular problems linked with type 2 diabetes are debilitating and possibly fatal. Cardiovascular problems occur in up to 80% of individuals with type 2 diabetes and account for around 65% of fatalities in this group **Methodology:** The study design was descriptive design. Total 200 sample were selected for data collection. A Non-probability purposive sampling technique was used to collect data from the samples. Tool was constructed to identify the demographic variables, and a set of structured questionnaires prevention of micro-vascular and macro vascular complication among client with Diabetes Mellitus. **Result:** Knowledge on micro vascular- and macro vascular problem prevention. The significant results are that 147 (73.5%) of clients had average knowledge, 33 (16.5%) had strong knowledge, and 20 (10%) had low understanding. The mean degree of knowledge for micro- and macro vascular problem prevention is 13.18, with a standard deviation of 3.94. **Conclusion:** The results indicated that the majority of clients have only rudimentary information about the prevention of micro- and macro vascular complications. There really was no significant correlation between knowledge about micro- and

macro vascular complication prevention and selected socio-demographic variables among clients with Diabetes Mellitus.

Key Words: (Knowledge, Assess, Prevention, Micro-Vascular, Macro Vascular).

Introduction:

Diabetes is a long-lasting metabolic condition characterised by abnormally elevated fructose (or sugar levels) levels. Diabetes may have a disastrous effect on the heart, capillaries, eyes, lungs, and nerves over time. The most common kind of diabetes, that often affects adults, occurs when the body gets resistance to or inadequate insulin production. T2dm has been more prevalent in countries of all income backgrounds during the previous three decades. Type 1 diabetes, previously known as high blood sugar or renin - angiotensin - aldosterone mellitus is a chronic condition in which the gastrointestinal insulin acts as a self-regulating hormone. Access to affordable medicine, especially insulin, is critical for diabetics. By 2025, a global consensus on reversing the rise in diabetes and heart disease will have been established. According to national statistics on diabetes, around 88 million persons aged 18 or older had hypertension in 2018. Men (37.4 percent) had a greater prevalence of prediabetes than women (29.2 percent). Prediabetes was prevalent cross all races and ethnicities and educational levels. Hyperglycaemia was the seventh biggest cause of mortality in the United States of America in 2017. This conclusion is based on an examination of 83,564 confirmed cases in which diabetes was indicated as a contributing cause of mortality (crude rate, 25.7 per 100,000 persons). Diabetes mellitus, resulting in microvascular and macrovascular complications. Chronic hyperglycaemia is associated with the gradual degeneration of various organ systems over time, with the eyes, brains, organs, and heart being among the most often impacted. By April 2021, a WHO introduced the Worldwide Insulin Compact, a global programme aimed at advancing primary prevention of diabetes, with a special emphasis on low- and mid-countries. The Union brings together national governments, United Nations International organizations, humanitarian organizations, business organizations, educational institutions, and development partners, as well as individuals living with diabetes and funding agencies, to achieve a common purpose of lowering the risk of kidney disease and ensuring that all people diagnosed with depression receive, extensive, affordable, but also high-quality care and treatment.

Need of the study:

Diabetes retinopathy is the most frequently occurring microvascular consequence of diabetes. It resulting in 10,000 new cases of blindness each year in the United States alone. 1 Diabetes mellitus and associated microvascular complications of diabetes are time- and severity-dependent. Macular oedema was shown to be related with both the degree of hypoglycemia and the existence of hypertension in the British Isles Postgraduate T2d Study (UKPDS), and the percent of people with type 1 diabetes exhibit evidence of chronic kidney disease. The incidence of diabetes mellitus, particularly type 2, has been steadily increasing globally over the past few decades. Diabetic patients are more prone to develop classic onset such as visual loss, end-stage kidney diseases, and diabetic neuritis, all of which may have a catastrophic effect on quality of life and impose a huge financial burden on society if left undiagnosed or untreated. Microvascular problems associated with diabetes may shorten life expectancy. Type 2 diabetes is the most prevalent metabolic condition in India, with a high frequency. The prognosis of diabetes patients is highly dependent on the complications that occur throughout the course of the disease. There is currently no research on macrovascular and microvascular problems in this portion of India (north-west), and hence it was decided to conduct a study to document different complications and their relationship to various risk factors. This research included 1200 type 2 diabetes patients. Retinopathy was detected in 163 (13.5%) individuals. Our findings corroborate those of Ramachandran et al. (1999), who discovered retinopathy in 714 of 3010 (23.7%) patients in Chennai (South). In a research conducted in Perth, Knuiman et al. (1986) observed a prevalence of retinopathy of 28%. (Western Australia). On the other hand, Rema et al. (1996) reported that 34.1 percent of type 2 diabetes patients had retinopathy. Our study's increased frequency of retina in prediabetes might be due to a referral bias, given this facility offered advanced retinal care.

Aim of the study

To assess the level of knowledge regarding prevention of micro-vascular and macro vascular complication among client with DM in selected area of Pune city

Methodology:

In the present study the design used for fulfilling the objectives of the study is as a descriptive design used. Data collected on 200 samples. A Non-probability purposive sampling approach was used to collect data from the samples. Population was selected people from areas of Pune city. Target

population: client who are in age group of 65 to 81 and above. Accessible population: in selected areas of Pune city, tool was constructed to identify the demographic variables, and a set of self-structured questionnaires on knowledge regarding prevention of micro-vascular and macro vascular complication among client with DM. Five nursing specialists and two health experts examined the instruments' content validity. Each question to which extent or element in the tool absolutely expresses the original content of measured concept is known as content validity. External validity for a tool can be established from the sampling. The total population may not be available so sample should be an accurate representation of a population. The tool which is externally valid helps to obtain generalization to population or extent which a sample represents the population. Nursing experts came from the field of medical surgical nursing, while medical experts came from the field of physicians and dialectologists. All changes were made in accordance with their advice to improve the sentence's clarity and relevancy. reliability done by Pearson's formula reliability was the calculated value of Pearson (r) for knowledge was 0.811. Tool developed according to Section-A demographic data and section B-Assessment of knowledge regarding diabetes mellitus. The data analysis strategy will be as Description of demographic characteristics, Mean, SD and mean percentage age will be used to describe the area wise knowledge score, A Chi-square statistic will be used to ascertain the link between respondents' post-test and certain demographic factors.

Results

Section-I Description of Socio-Demographic Variables Of Client

According to the data collected in this research, it is clear that expertise about the prevention of micro- and macro vascular complications is lacking. The major demographic findings are majority 102 (51 %) client were from age group of 30-35 years, 120(60%) of client are male, 86(43%) of client are unmarried, 99 (49.5 %) are primary educated, 109(54.5%) are self-employed, 123(61.5%) having 10,001-15000 rs monthly income, 111(55.5%) information regarding prevention of Micro vascular and macro vascular complications of diabetes mellitus are majority 116 (58%) and previous source of information are majority 59 (29.5%)

Section-II Assess The Level Of Knowledge Regarding Prevention Of Micro-Vascular And Macro Vascular Complication

Table 2: Assess The Knowledge Regarding Prevention Of Micro-Vascular And Macro Vascular Complication

Knowledge	Frequency (f)	Percentage (%)
Poor Knowledge	20	10
Average Knowledge	147	73.5
Good Knowledge	33	16.5
Mean	13.18	
SD	3.94	

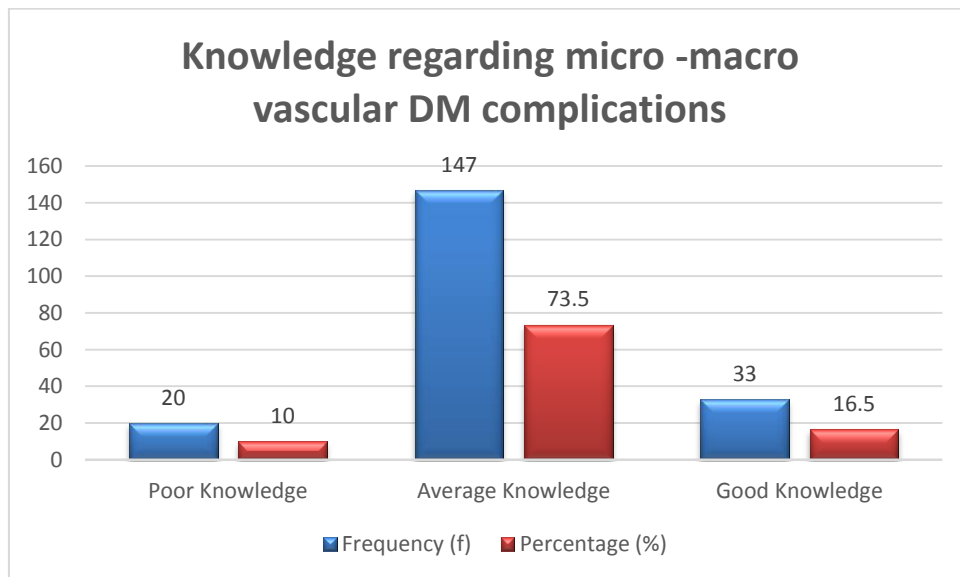


Figure 1 Knowledge regarding micro -macro vascular DM complications

Discussion

According to the data collected in this research, it is clear that expertise about the prevention of micro- and microvascular complications is lacking. The major demographic findings are majority 102 (51 %) client were from age group of 30-35 years, 120(60%) of client are male, 86(43%) of client are unmarried, 99 (49.5 %) are primary educated, 109(54.5%) are self-employed, 123(61.5%) having 10,001-15000 rs monthly income, 111(55.5%) of client diagnosed Since one year, 116 (58%) of clients have received information on preventing microvascular and macrovascular problems of diabetes mellitus, whereas 59 (29.5%) have gotten information from television. Knowledge of how to avoid micro- and macro-vascular complications. The significant results are that 147 (73.5%) of clients had average knowledge, 33 (16.5%) had strong knowledge, and 20 (10%) had low

understanding. There was no clear association between knowledge of micro- and macrovascular problem prevention and selected sociodemographic characteristics among clients with diabetes mellitus.

Jeeva S. (2020) conducted In a Targeted Rural Neighbourhood in Bangalore, Karnataka, a Study on Diabetes Clients' Understanding of Self-Care Activities in Type II Diabetes Mellitus Management. This study used a quantitative research strategy based on a descriptive survey. The study was conducted in a rural area near the city of Bangalore in the state of Karnataka. To meet the study's objectives, a non-probability–purposive sample of 70 diabetic consumers who satisfied the criteria for inclusion for type II diabetes mellitus was chosen. The results were gathered via the use of a structured knowledge questionnaire in conjunction with an interviewing approach. A team of experts assessed the instrument's validity based on its content validity. The instrument's reliability was assessed using the test-retest approach and was determined to be 0.78. The results were analysed using a social sciences descriptive and statistical tool. The study's research showed that 33 (47.14 percent) of diabetic clients lacked adequate knowledge, while 25 (35.72 percent) had average knowledge. Only 10 (14.28 percent) of diabetic clients lacked adequate knowledge, while only 2 (02.85 percent) lacked expert command regarding insulin resistance and self-care management. The researcher indicates that the majority of diabetic clients lack appropriate understanding about self-care methods for diabetes mellitus treatment.

Conclusion:

The goal of this research is to raise awareness about the critical nature of micro- and preventing stroke among clients with diabetes who live in a particular area in Pune. And the purpose of this study was to ascertain the degree of knowledge about the avoidance of micro- and macro vascular problems among clients of diabetes mellitus living in a specified neighbourhood in Pune. The study employed descriptive and analysed using descriptive statistics in accordance with the goals. The frequency, mean, percentages, standard deviation, and Fishers exact statistic were all employed. The results indicated that the majority of clients have only rudimentary information about the prevention of micro- and macro vascular complications. There really was no significant correlation between knowledge about micro- and macro vascular complication prevention and selected sociodemographic variables among clients with diabetes mellitus. Knowledge of how to avoid micro- and macro-vascular complications. Data showed that majority of 102 (51 %) client were from age

group of 30-35 years, 120(60%) of client are male, 86(43%) of client are unmarried, 99 (49.5 %) are primary educated, 109(54.5%) are self-employed, 123(61.5%) having 10,001-15000 rs monthly income, 111(55.5%) of client diagnosed Since 1 year, 116(58%) of client received any information regarding prevention of microvascular and macrovascular complications of diabetes mellitus, 59(29.5%) got information from the TV. The significant results are that 147 (73.5%) of clients had average knowledge, 33 (16.5%) had strong knowledge, and 20 (10%) had low understanding. The mean degree of knowledge for micro- and macrovascular problem prevention is 13.18, with a standard deviation of 3.94. It demonstrates that there is no statistically significant relationship between awareness of how to prevent micro- and macrovascular issues and certain sociodemographic characteristics among people with diabetes. The investigator wishes to suggest further investigations based on the study's results. Replicated using larger population of DM client.

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Conflict of Interest

The authors certify that they have no involvement in any organization or entity with any financial or non-financial interest in the subject matter or materials discussed in this paper.

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