Diabetes and Co-Morbidities A Survey Based Study

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Abstract:

A survey was conducted on a sample size of 40 diabetic patients, on Diabetes and the associated conditions. The study was aimed at delineating the most commonly associated diseases / conditions (co-morbidities) with diabetes, and to see the differences in the manifestations in men and women. The percentage of prevalence of diabetes was more amongst men. The effect of healthy lifestyle and sedentary lifestyle on the blood sugar level was also found. The effect of diabetes on depression Quality of life was also determined. The amount of people who maintain glycaemic control was also estimated. Also, the attitude that the diabetic people showed towards their blood sugar level was studied.

Keywords: Diabetes, survey, co-morbidities, associated conditions.

INTRODUCTION:

The overall prevalence of diabetes is increasing globally[1].Diabetes mellitus, describes a group of metabolic disorders in which the person has high blood glucose, due to inadequate insulin in the system, associated with symptoms of polyuria, polydipsia and polyphagia. Diabetes is a very common condition and identification and management of the conditions associated is very important especially in the case of cardiovascular abnormalities, which could prove to be fatal if not kept in check. It has also been predicted the global figure of people affected by diabetes will rise to 300 million in 2025 from 150 million in 2000. [2]

MATERIALS AND METHODS:

A questionnaire on general information and on the various conditions experienced by those affected with diabetes was formulated. This questionnaire was then personally filled on an interview basis face to face or by phone calls. After the filling of the survey form, the person was given a general advice on the benefits of keeping their blood glucose level in check. The BMI was calculated with the help of an online BMI calculator, and the statistics were worked out on Microsoft excel.

Inclusion criteria: Diabetic people only.

Scope for Error: Since the survey is based on the answers provided by the patients to the questions and because it is not based on any laboratory test, the results may not be very accurate, as there is a definite chance for miscommunication or wrong information provided.

RESULTS:

In this sample size of 40, diabetes was more commonly seen in men (60%) than women (40%).

The age distribution was split into groups: less than or equal to 40 years (2.5%), 41-55 years (45%), 56-65 years (12.5%), 66-75 years(25%), above 75 years(15%), and it's clear that the majority of affected people fall into the second category(Refer Fig. 1).

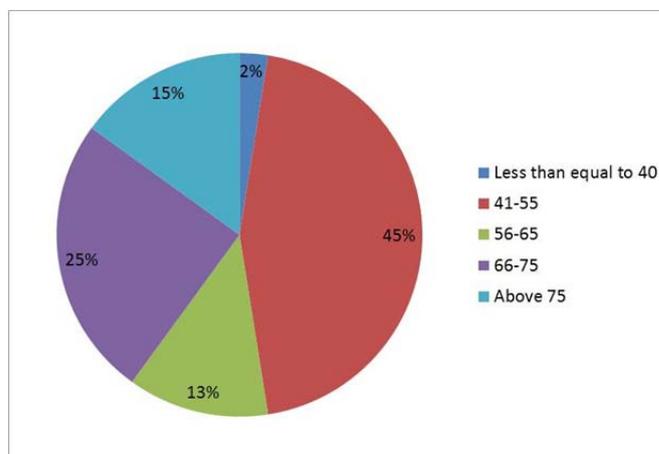63% of the people had a normal BMI, and the average BMI was found to be 24.88.(Refer Fig. 2)

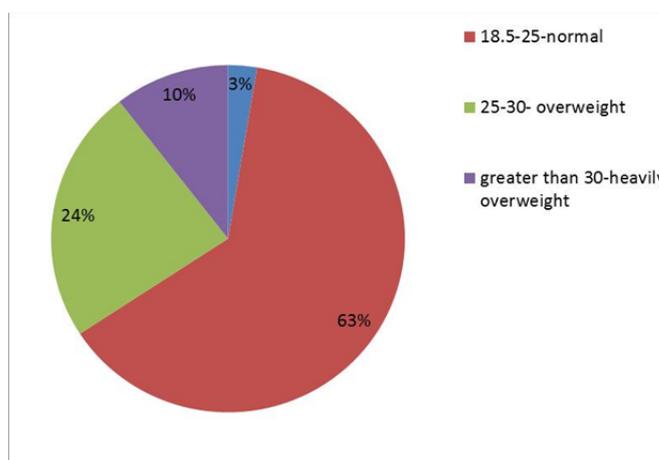Fig. 1.Depicts the common age distribution.

Fig. 2. Depicting BMI

The age group for onset of diabetes was classified in the same scheme as the age distribution and the most common age group was found to be 41-55 years category. (Refer Fig. 3)

45% of the sample size was vegetarian.

Maybe due to the stigma associated with alcoholism and smoking, hardly any people have answered this question

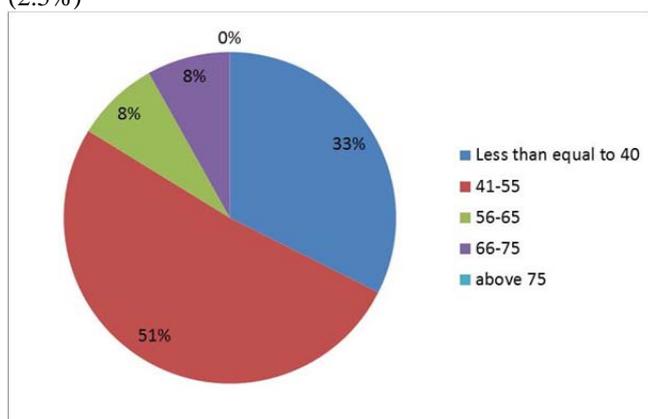honestly, the results were: alcoholism (10%), and smoking (2.5%)

Fig. 3. Depicting the common age group for onset of diabetes.

75% of the diabetic people exercise regularly, majority of the physical exercise being walking.

95% of the people also followed diet regimes, of which the most commonly observed diet patterns, were consumption of less sugar and avoiding rice.

50% of the people take medication to keep their blood glucose level in check.

The frequency, at which the people make periodic visits to a doctor, was again split into 3 groups; Less than 3 months (30%), 3-6 months(55%), greater than 6 months(15%).(Refer Fig. 4)

A good amount of people (32.5%) went through a phase of depression that lasted a few weeks- months after the discovery of the fact that they had diabetes. This can be supported by evidence from the researches performed prior to this, regarding how diabetes affects the quality of life [3].
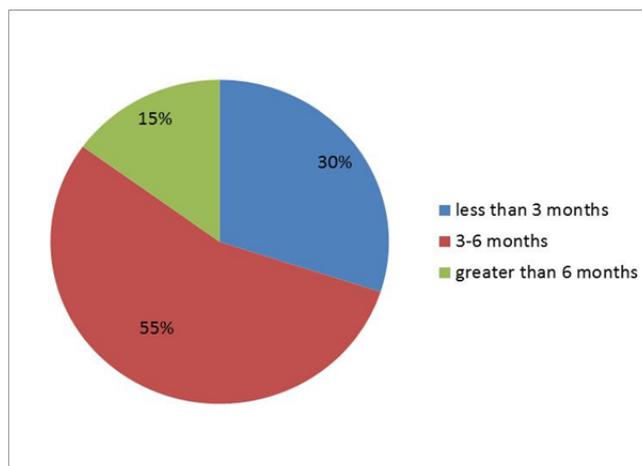

Fig. 4. Frequency of visits made to a diabetician /General physician.

Apart from this, a list of other conditions and symptoms that could possibly be experienced by diabetics was included, and split into groups:

- Oral conditions,
- Cardiac and respiratory problems,
- Neuropathy, muscular and joint related problems, and
- Other miscellaneous problems.

The charts (Fig. 5-8) will clearly depict the most prominent co-morbidities. The percentage calculations specified in the following charts were done with reference to the total sample size i.e. 40. And it was noted that many patients had multiple conditions.
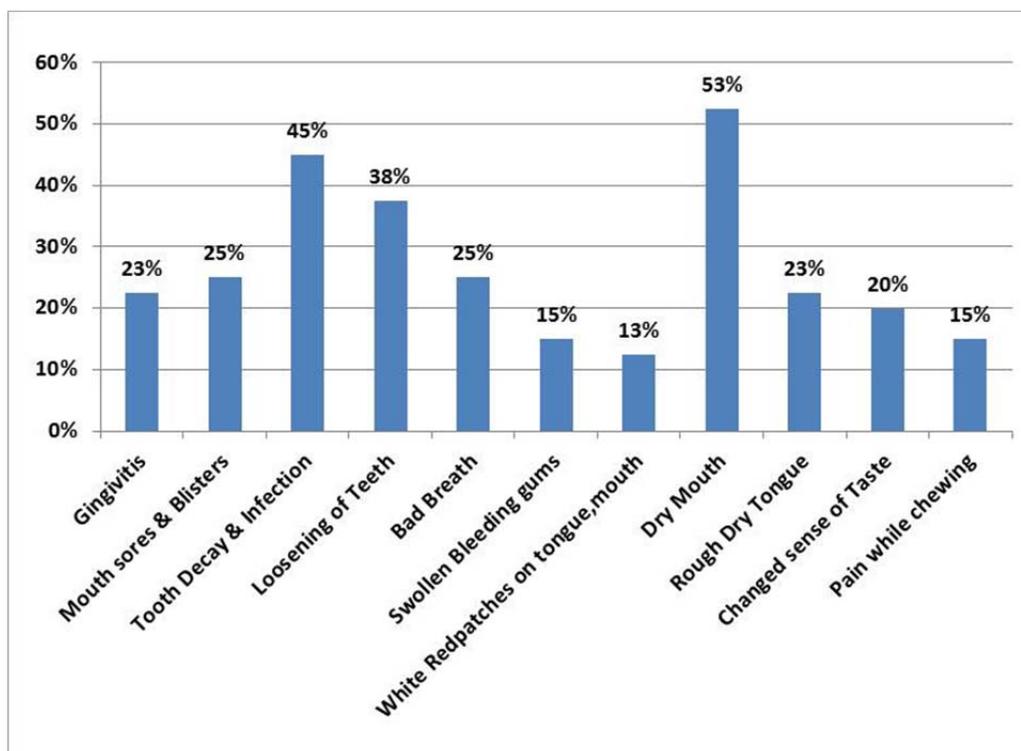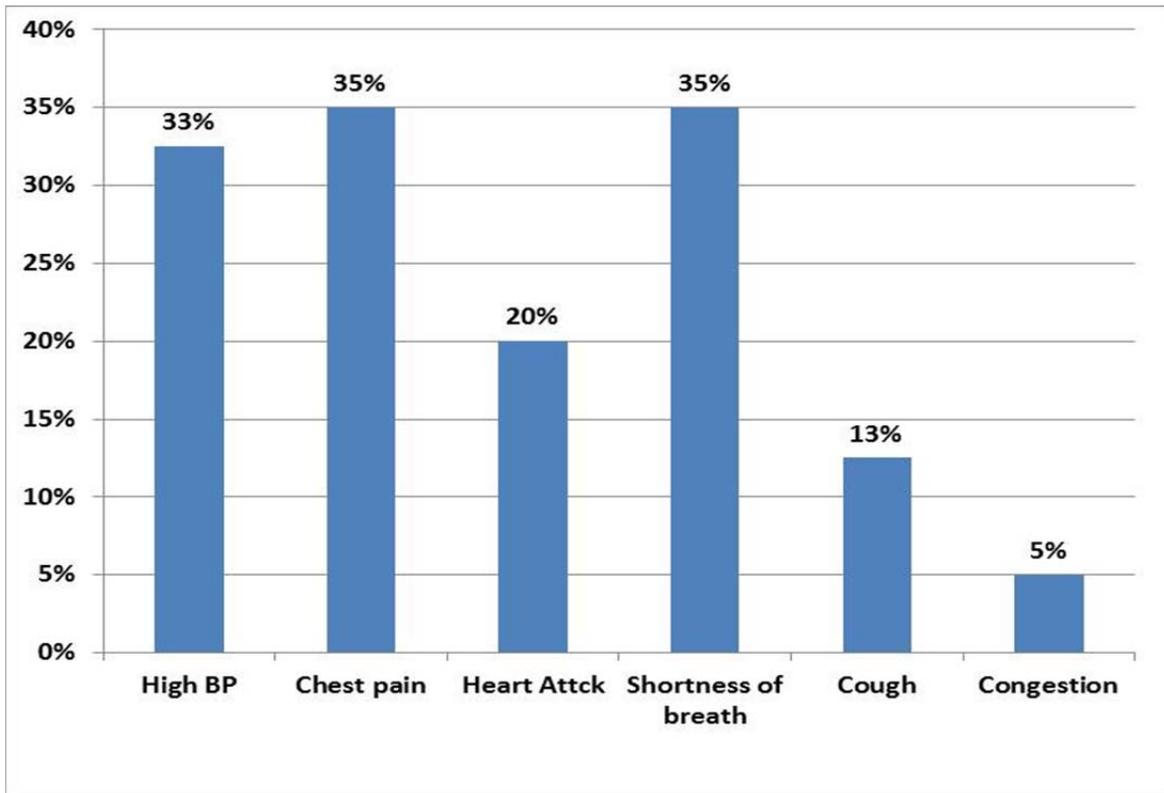

Fig. 5   Oral Conditions

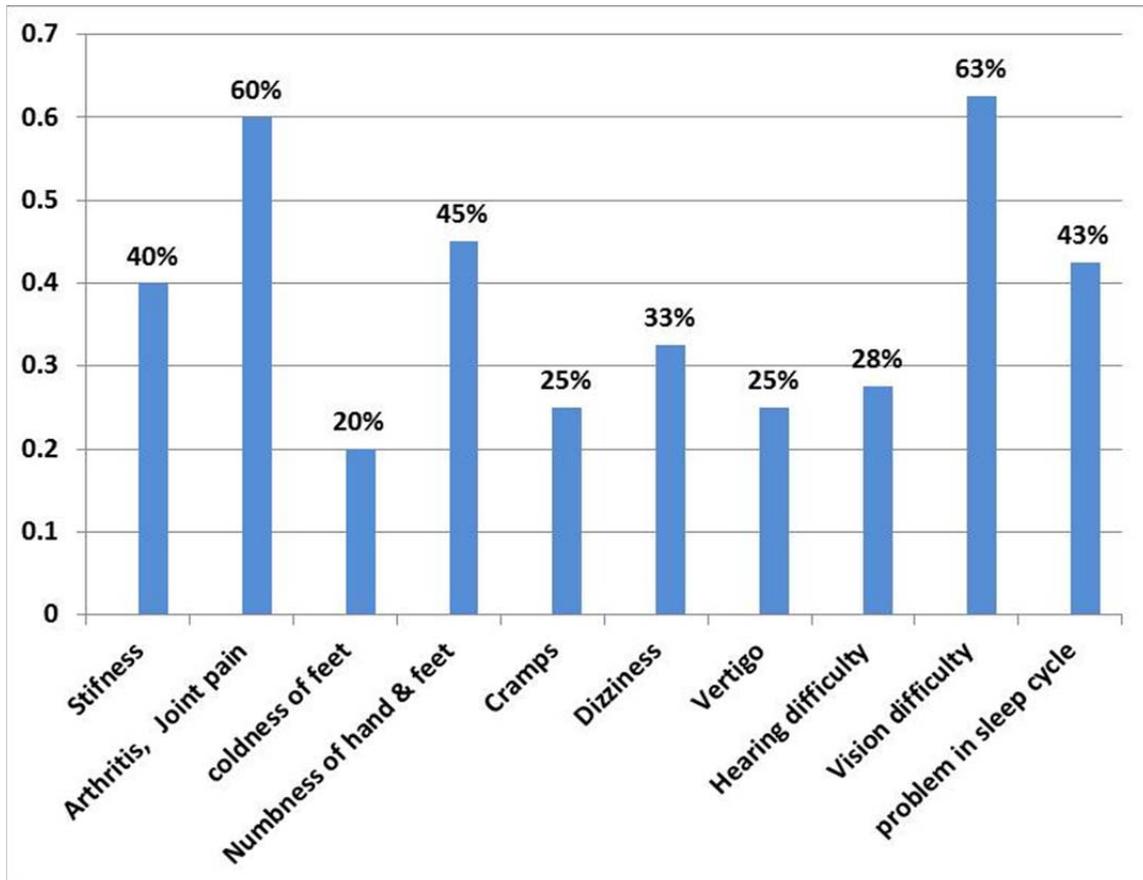Fig. 6 Cardiac And Respiratory Problems

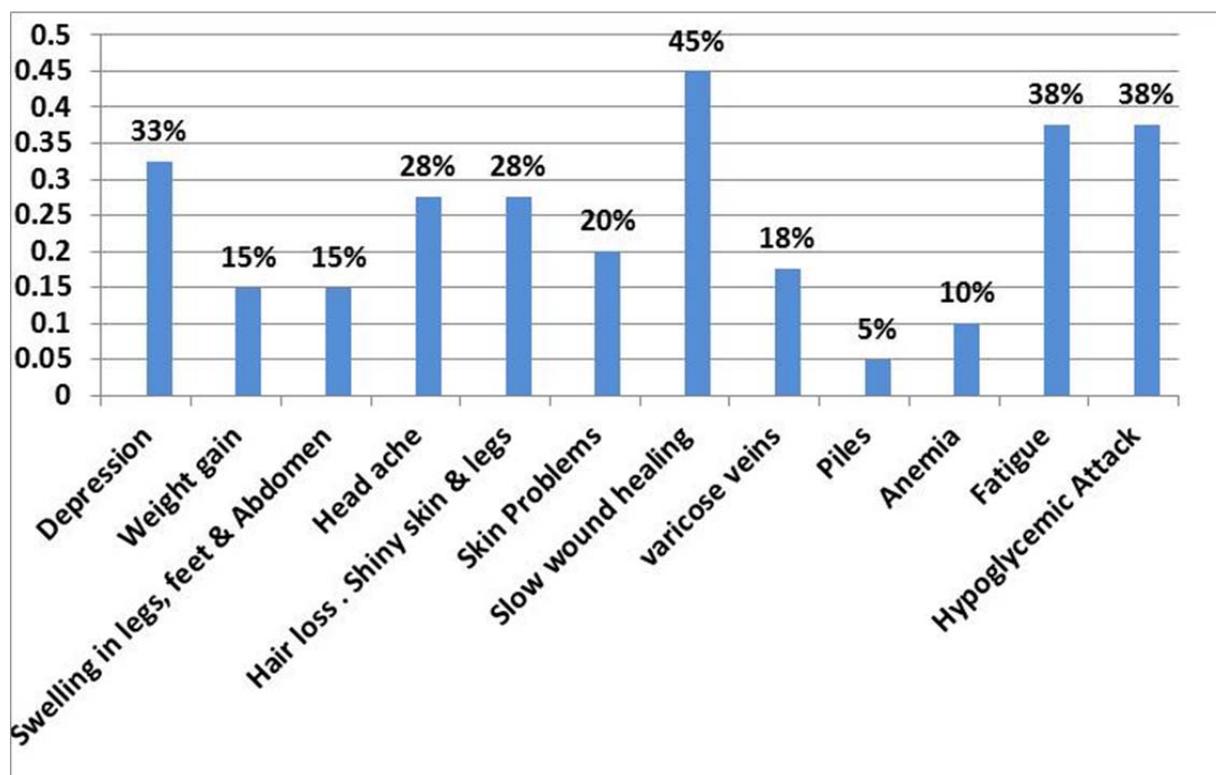Fig. 7 Neuropathy, Muscular And Joint Related Problems

Fig. 8 Other Miscellaneous Problems

DISCUSSION:

The sample size wasn't very big, so solid inferences can't be drawn, but the findings have been presented nevertheless. Majority of the affected population was male. Most of the Indian population believe that alcoholism and smoking are looked down upon, and since the sample size didn't consist of many youngsters, who are generally more upfront, (inclusion criteria was to choose only diabetics), there is a chance that not everyone answered to that question honestly. 13 out of 40 people experienced a depression-like phase at the onset of their diabetes. Since a fairly significant part of the sample size falls in this category, it is important that depression be considered an important co-morbidity that requires apt management because of its undeniable effect on quality of life [3].The attitude exhibited by the people towards handling this condition was very positive, with a majority taking medicines, visiting doctors regularly, exercising, and making dietary and lifestyle changes to maintain glycaemic control.

CONCLUSION:

The increased prevalence of diabetes comes with the increased probability of end stage complications, like blindness, lower extremity amputations, coronary diseases leading to death[4].The chances of co-morbid angina, myocardial infarction, hypertension, arthritis are largely increased in older patients with depression[5].It is a well-known fact that neuropathy often starts only as the patient is well into the disease or after a long period of onset of the disease in majority of the cases, which was affirmed in this research[4].The commonly associated conditions amongst the oral conditions are dry mouth and tooth decay, of The cardiac and respiratory symptoms are chest pain, and shortness of breath , of the neuro-muscular and joint related problems are arthritis, and vision related problems. Apart from this, from amongst the rest of the conditions, depression, slow wound healing, fatigue and hypoglycaemic attack are prominent. Diabetes is not a singular condition, and is a spectrum of various other co-morbidities, which have to be identified and treated rightly by the doctor.

REFERENCES:

[1] Amos A, Mc Carty D, zimmet P. The rising global burden of diabetes and its complications: Estimates and projections to the year 2010. *Diabetic Med.* 1997;14:S1-S85.
[2] King h, Aubert R, Herman W. Global burden of diabetes, 1995-2025. Prevalence, numerical estimates and projections. *Diabetes Care.* 1998;21:1414-1431.
[3] Goldney RD, Philips PJ, Fisher LJ, Wilson DH. Diabetes, Depression and quality of life. Diabetes Care, Volume 27, Number 5, May 2004; 1066-1070.
[4] Bytzer P, Talley NJ, Leemon M, Young LJ, Jones MP, Horowitz M. Prevalence of Gastrointestinal symptoms associated with Diabetes Mellitus.
[5] Black SA. Increased Health Burden Associated With co-morbid Depression in older diabetic Mexican Americans. Diabetes Care Volume 22, number 1, January 1999; 56-64.