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## **COMPARATIVE STUDY OF ALTERNATIVE MEDICINES AND ALLOPATHIC MEDICINES FOR TREATMENT OF DIABETES MELLITUS**

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### **ABSTRACT**

#### **Keywords:**

Diabetes mellitus, Herbal  
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In 2000, according to the World Health Organization, at least 171 million people worldwide suffer from diabetes or 2.8% of the population. This incidence is increasing rapidly, and it is estimated that by 2030, this number will be almost double. Diabetes mellitus occurs throughout the world, but it is more common (especially type 2) in the more developed countries. The greatest increase in prevalence is however, expected to occur in Asia and Africa, where most patients will probably be found by 2030. Aim To find out the effective medical system for the treatment of diabetes mellitus in Muscat, Oman. Plan: The survey was conducted in various Herbal clinics and Allopathic medical centers by using 50 out- patients, 10 in-patients and 40 from the public. Survey was conducted from patients by using structured questionnaire. Result: This survey indicate that, there are 61% of patients had awareness about Herbal as well as Allopathic treatment for Diabetes mellitus. This study showed that 78% of patients are taking allopathic medicine and 22% of patients are taking other alternative medicine. Nearly 78% of patients felt that allopathic system is more effective than alternative medicine and 44% of patients felt both allopathic and alternative medicine are effective for Diabetes Mellitus for their specific reasons.

## INTRODUCTION

Diabetes mellitus, often simply referred to as diabetes. It is a group of metabolic diseases in which a person has high blood sugar, either because the body does not produce enough insulin, or because cells do not respond to the insulin that is produced. This high blood sugar produces the classical symptoms of polyuria (frequent urination), polydipsia (increased thirst) and polyphagia (increased hunger).<sup>(1)</sup> People with diabetes are at increased risk for developing type 2 diabetes, heart disease and stroke, and have one of these conditions: 1. impaired fasting glucose (100 to 125 mg/dL), 2. impaired glucose tolerance (fasting glucose less than 126 mg/dL and a glucose level between 140 and 199 mg/dL two hours after an oral glucose tolerance test). Most cases of diabetes fall into three broad categories: type 1, type 2, and gestational diabetes.<sup>(1)</sup>

People (usually with type 1 diabetes) may also present with diabetic ketoacidosis, a state of metabolic dysregulation characterized by the smell of acetone; a rapid, deep breathing known as Kussmaul breathing; nausea; vomiting and abdominal pain; and an altered states of consciousness.<sup>(1)</sup> According to the American Diabetes Association, approximately 18.3% (8.6 million) of Americans age 60 and older have diabetes. Diabetes mellitus prevalence increases with age, and the numbers of older persons with diabetes are expected to grow as the elderly population increases in number. The National Health and Nutrition Examination Survey (NHANES III) demonstrated that, in the population over 65 years old, 18% to 20% have diabetes, with 40% having either diabetes or its precursor form of impaired glucose tolerance.<sup>(1)</sup>

Indigenous populations in first world countries have a higher prevalence and increasing incidence of diabetes than their corresponding non-indigenous populations. In Australia the age-standardized prevalence of self-reported diabetes in Indigenous Australians is almost 4 times that of non-indigenous Australians. Preventative community health programs such as Sugar Man (diabetes education) are showing some success in tackling this problem.<sup>(1)</sup> In Oman, about 69.1% of the cases of type 2 diabetes were registered with no complications, Hypertension B P > 140/90 was diagnosed in (24.7 %) of diabetes patients at time of registration, Abnormal Renal Function or Proteinuria in (3.8%) and Coronary Heart Disease in (2.7%). Out of the 5,413 new cases registered during 2009, females constituted 52.6 %. About 14.9% of the cases registered were in the age group 45-49 years followed by the age group 40-44 years (14.5 %) and age group 50-54 years (13.4%). The total diabetic cases on the register at national level are 61,583 cases.<sup>(2)</sup>

There are different types of therapy for Diabetes like, Medical nutrition therapy is recommended for all persons with DM. It is required to have a meal plan that is moderate in carbohydrates and low in saturated fat, with a focus on balanced meals, bedtime and between-meal snacks are not usually needed if management is appropriate. <sup>(3)</sup> Dietary therapy, Monotherapy, Combination therapy, Insulin therapy <sup>(3)</sup>, and Alternative medicine therapy. It is defined as therapeutic practices which are not currently considered an integral part of conventional allopathic medical practice. Therapies are termed as complementary when used in addition to conventional treatments and as an alternative when used instead of conventional treatment. <sup>(4)</sup>

Alternative medicine includes: Herbal medicine, Traditional Chinese medicine, and Ayurvedic medicine. Traditional Chinese Medicine, also known as TCM, includes a range of traditional medicine practices originating in China. <sup>(5)</sup> TCM practices include treatments such as herbal medicine, acupuncture, and dietary therapy. TCM claims to be thousands of years old and is rooted in meticulous observation of how nature, the cosmos, and the human body are interacting. <sup>(6)</sup> Chinese herbal preparations seemed to improve blood glucose control, Holy basil leaves, *Xianzhen Pian*, *Qidan Tongmai*, Traditional Chinese Medicine (TCT), *Huoxue Jiangtang Pingzhi*, and Inolter. <sup>(7)</sup> Modern TCM was systematized in the 1950s under the People Republic of China. <sup>(8)</sup> Other acupuncture techniques include chinese massage, exercise, diet, herbs, and cupping. <sup>(9)</sup> Ayurvedic medicine is a system of traditional medicine native to the Indian subcontinent and practiced in other parts of the world as a form of alternative medicine. Ayurveda is a Sanskrit word, derived from two roots: ayur, which means life, and veda, which means knowledge. It is fair to say that Ayurveda is the science of life. <sup>(10)</sup> Ayurveda is a science dealing not only with treatment of some diseases but is a complete way of life. It is the only system of medicine which incorporates suggestions and remedies for both healthy and diseased people. <sup>(11)</sup> The source of Ayurveda is the vedas , the oldest available classics Diabeta is a combination of proven anti-diabetics fortified with potent immunomodulators, antihyperlipidemics, anti-stress and hepatoprotectives of total plant origin. The formulation of Diabeta is based on ancient ayurvedic references. <sup>(12)</sup> Herbalism is also based on the use medical herbalism, herbal, known as botanical medicine, herbology, and phytotherapy. <sup>(13)</sup> They are sold as tablets, capsules, powders, teas, extracts and fresh or dried plants. The tree (*Pterocarpus massupium*) is the source of the Kino of the European pharmacopeas. This herb has a long

history of use in India as a treatment for diabetes. It has actually been used to regenerate functional pancreatic beta cells. <sup>(14)</sup> Based on the availability of different therapy, the effective therapy for diabetes in Oman was found out in this study by using the survey research method.

### **Aim**

The aim of this study was to find out effective medical system for treatment of diabetes mellitus

### **Objective**

The study was carried out to:

To find out the reason for diabetes

To find out nature of patient (sex, age)

To find out the percentage of Omani population who prefer allopathic medicine and alternative medicine for diabetes treatment.

To find out the effective treatment for diabetes mellitus.

### **Methods**

1. The survey was conducted in the following hospital (50 Nos), clinic (10 Nos) and public (40 Nos) by using structured questionnaire

To carry out this study the following clinic/Hospital visited:

1. Smaeel Hospital (Smaeel )
2. Abna Freesh Herabal clinic( AlSeeb )

Totally 100 questionnaire were collected from the hospital, clinic and public.

1. Hospital 50%
2. Clinic 10%
3. Public 40%

This study is carry out by using survey in hospital, clinic and public.

- ☐ **Target group:** diabetic patients, (Both female/male and no age limit)
- ☐ **Target area:** Hospital, clinic (Diabetic department)
- ☐ **Sample type:** Random
- ☐ **Period of study:** 2011 (2 months)

### Questionnaire

1. What is your gender?
  - a) Male
  - b) Female
2. What is your current age?
  - a) 10-18 years
  - b) 19-29 years
  - c) 30-50 years
  - d) Above 50 years
3. Do you have family history of Diabetes?
  - a) Yes
  - b) No
  - c) Don't know
4. At what age did you first show symptoms of Diabetes?
  - a) 0-10 years
  - b) 11-20 years
  - c) 21-30 years
  - d) Above 40 years
5. How long after you noticed symptoms of Diabetes were you officially diagnosed?
  - a) Same day
  - b) Same Week
  - c) Same month
  - d) 3 months
  - e) 6 months
  - f) 1 year or more
6. How long after you were diagnosed with Diabetes was did you have an effective treatment or cure?
  - a) Same day
  - b) Same Week
  - c) Same month

- d) 3 months
  - e) 6 months
  - f) 1 year or more
7. Are you happy with your experience of medical care for diabetes? Are you satisfied?
- a) Yes
  - b) No
  - c) Don't know
8. Were you wrongly diagnosed as a result of having Diabetes? Were you misdiagnosed?
- a) Yes
  - b) No
  - c) Don't know
9. Which of the following medicine you prefer to use in your diabetes treatment?
- a) Allopathic medicine
  - b) Herbal medicine
  - c) Chinese medicine
  - d) Ayurvedic medicine
10. Which allopathic medicine you are taken to treat diabetes?
- a) Insulin
  - b) Oral anti- diabetic medicines
11. How often do you take planned exercise?
- a) Never
  - b) Once a month
  - c) Once a week
  - d) Once a day
12. Do you think that alternative medicine is effective than allopathic medicine in the treatment of diabetes mellitus?
- a) Yes
  - b) No
13. Have you used herbal medicine and allopathic medicine at same time to treat diabetes mellitus?
- a) Yes
  - b) No
14. Have you used any herbal medicine or Chinese medicine for treating diabetes mellitus and had any benefit from it?
- a) Yes
  - b) No

15. Have you visited any Ayurvedic clinic for treating diabetes mellitus and had any benefit from it?

- a) Yes
- b) No .

16. Have you experienced any side effects after using herbal or Chinese or Ayurvedic medicine to treat diabetes?

- a) Yes
- b) No.

17. Do you think alternative medicine can be taken without prescription for diabetes treatment?

- a) Yes
- b) No .

Signature:

## RESULTS

The results showed that the age groups of 30-50years of people are severely affected (58%) from Diabetes Mellitus, followed by the age group of above 50 years (21%), and then followed by the age group of 19-29years (17%) and 10-18 years (4%).

When compared to male (38%) and children (4%), female diabetic patients are more (58%) based on our study.

This study showed that nearly 70% of diabetic patients are having family history of diabetes.

From this survey, I found that the following data regarding the period of diagnosis taken to find out the disease.

The % of patient have got officially diagnosed in same day: 15%

The % of patient have got officially diagnosed in same week: 14%

The % of patient have got officially diagnosed in same month: 36%

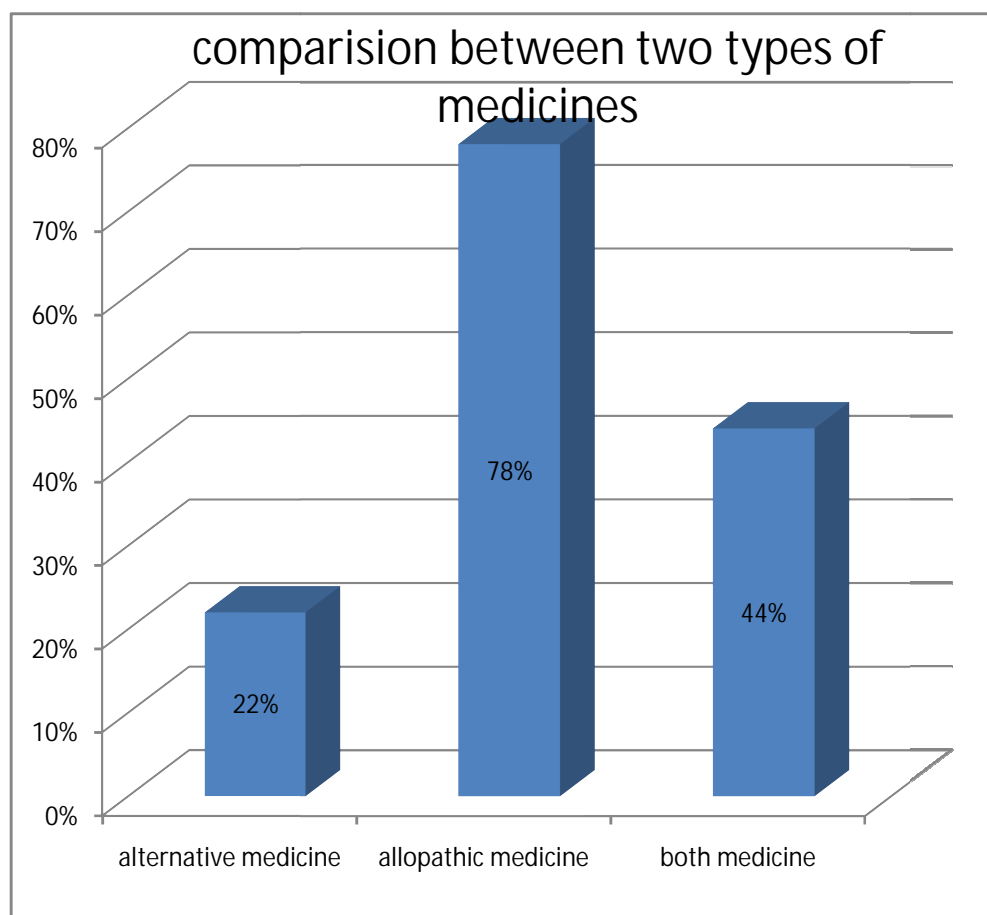
The % of patient have got officially diagnosed in 3 month: 28%

The % of patient have got officially diagnosed in 6month: 6%

The % of patient have got officially diagnosed in 1 year: 1%

This survey indicate that there are 61% of patients had awareness about herbal as well as Allopathic treatment for Diabetes Mellitus, We found that nearly 81% of diabetic patients were doing exercise regularly. Based on the survey results, I came to know that 2% of people were wrongly diagnosed in hospitals. There are different systems of medication are available in Oman. They are allopathic, Ayurvedic, Chinese herbal medicine and traditional herbal medicine.

This study showed that 78% of patients are taking allopathic medicine and 22% of patients are taking other alternative medicine. Nearly 78% of patients felt that allopathic system is more effective than alternative medicine and 44% of patients felt both allopathic and alternative medicine are effective for Diabetes Mellitus. This study showed that very fewer of percentage (12%) of patients experienced side effects due to herbal medicine, and also this survey indicate that 12% of patients using OTC alternative drugs for treatment of Diabetes Mellitus.



## DISCUSSION

In Oman, Diabetes Mellitus is common metabolic disorder for children, adult as well as elderly people. This may be due to the reasons of their family history (heredity), wrong life style and wrong food habits. The results showed that the patients were having very good awareness about early diagnosis, importance of regular exercise and various systems of medication available for Diabetes Mellitus.



As allopathic system of medicines is very effective at the early stage of this disorder, most of the patients felt that allopathic drugs are more effective than alternative medicines.

There are other reasons like easy administration due to their attractive color, flavor, taste and clear availability of information about allopathic drugs. So, for that reasons patients prefer allopathic medicine.

Some patient are using OTC alternative drugs due to the belief of the myth that all herbal drugs are 100% safe and effective but some of them don't prefer it because they have some side effects of herbal medicine such as bad taste of herbal medicine lead to increase blood pressure and then patient stopped it immediately.

## CONCLUSION

This survey clearly indicates that Diabetes Mellitus is the fast growing disorder in Sultanate of Oman in recent years. In order to prevent the growth rate of Diabetes Mellitus patients, health care providers should carry out frequent awareness programmes about the reasons and impact of Diabetes Mellitus to schools, colleges and other public places. We also need to do post surveillance study for herbal drugs and allopathic drugs which are used for treatment of Diabetes Mellitus. This way of approach will be more beneficial to find out the effective medicines for this disease and also it will helped to know about adverse drug reaction for those medications.

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