

Prevalence of herbal medicine use among type II diabetic patients in Dessie Referral Hospital, Dessie, Ethiopia

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Abstract

The use of herbal medicine is prevalent among patients with chronic health problems. A research towards herbal medicine use by diabetic patients is limited in Ethiopia. Hence, the present study was aimed at assessing prevalence of herbal medicine use among Type II diabetic patients visiting diabetic clinic of Dessie referral hospital (DRH), Ethiopia. From 341 study participants, 114 (33%) of the respondents were used traditional herbal medicine. 41 (36%) of the participants were used herbal medicine for the treatment of DM. The most frequently used herbal medicines were Garlic (42%), Damakesie (18%), Aregeresa 15(13%) and Moringa 13 (11%). The use of herbal medicines and conventional antidiabetic medicines could cause potentially serious herb-drug interactions.

Keywords: Prevalence • Herbal medicine • Diabetes • Dessie

Abbreviations DM: Diabetes Mellitus; DRH: Dessie Referral Hospital.

Introduction

Background

Diabetes mellitus is the fastest growing chronic disease and a major international health problem with serious complications and causes high mortality from non-communicable diseases worldwide [1]. According to the World Health Organization, in 2011, approximately 364 million people globally suffer from DM, with projections that DM-related deaths will double from 2005 to 2030. The prevalence of diabetes mellitus is rapidly growing globally and is nowadays common in low- and middle-income regions. In sub-Saharan Africa, DM prevalence is as high as 18% in some countries.

Currently, the main treatment for diabetes is the use of insulin and hypoglycemic drugs, but these drugs have many adverse side effects. Medicinal plants have a long history of usage and currently, they are being extensively used to treat chronic diseases [1]. It is known that between 65 and 80% of the world's population use herbal medicines as their primary form of health care. The use of traditional medicine is prevalent among patients with chronic health problems including diabetes. Although herbal medicines are considered to be safe by consumers, they might have side effects and cause drug interaction. Herbal medicines may be used in combination or as alternative to modern treatments. Many patients prefer herbal

medicine over modern therapies due to dissatisfied outcomes, higher costs and side effects of modern medicines [3].

Nearly 80% of the population use herbal medicine in Ethiopia. Many chronic patients in Ethiopia consider traditional medicines due to cultural acceptability of healers, low cost of traditional medicine and difficult access to modern health facilities. Study done on use of herbal medicines in Gondar university hospital showed that 62% of type II DM patients were reported to be herbal medicine users. The most prevalent herbal medicines used were Garlic (41.7%), Giesilla (39.6%), Tinjute (27.2%), and Kosso (26.9%) [4].

There is very limited study on the extent of herbal medicines use by type II diabetes patients across different regions of Ethiopia. This study was, therefore, conducted to determine the extent of the use of herbal medicines and also to identify the commonly used herbal medicines among Type II DM patients in DRH.

Methods

Study area and period

The study was conducted in DRH, Dessie, Ethiopia. It is found at 401 km far from Addis Ababa, capital city of Ethiopia. DRH is the only referral hospital in Dessie town and has speciality clinics such as diabetes clinic. The study was conducted from April 1 to May 30, 2019 [5].

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Study design

Hospital based cross- sectional study was used to determine the prevalence of herbal medicines use among Type II diabetic patients in DRH.

Sample size determination

The source population of the study was all type II DM patients attending treatment at DRH. Those patients who visited diabetes clinic of DRH during data collection period were considered as a study population. Patients who were not mentally and physically capable of being interviewed were excluded. Single population proportion formula was used with the assumption of 95% confidence interval, 5% margin of error and 64% prevalence based on a similar study conducted in Gondar University (11). Since the number of population is less than 10,000, the reduction formula was used and 10 % for non-response rate was considered to determine a sample size of 341 [6].

Sampling technique: Convenience sampling technique was employed to recruit the study subjects.

Data collection method: Data collection was performed by graduating class pharmacy students through interviewer-administered questionnaire [7].

Data analysis: The collected data were checked for completeness; responses were entered and analyzed using SPSS version 20 statistical package software. Descriptive statistics was used to assess the prevalence of herbal medicine use.

Results

Socio-demographic characteristics

Total of 341 patients were included in the study, of which 173(51%) were males and 168(49%) were females. Most of the respondents were in the age group of 20 to 40 years. Among the total respondents, 278(82%) were married and 63(18%) were single. Majority of the respondents were illiterate (Table 1).

Variable	N (%)
Sex	
Male	173(51)
Female	168(49)
Age	
≤20 years	14(4)
21-40 years	200(59)
≥41 years	127(37)
Marital status	
Single	63(18)
Married	278(82)

Level of education	
Illiterate	164(48)
Primary	87(25)
Secondary	50(15)
College and above	40(12)
Religion	
Orthodox Christian	144(42)
Muslim	192(57)
Protestant Christian	5(1)
Average monthly Income	
<500 birr	256(75)
500 to 1500	47(14)
1501 to 2500	31(9)
Above 2500	7(2)

Table 1. Socio demographic characteristics of respondents in Dessie, (N=341).

Prevalence of herbal medicine use

From 314 study participants, 114 (33%) of the respondents were herbal medicine users. They used herbal medicines concurrently with prescribed medications and 87% of them didn't inform their health care providers about their herbal medicine use. 36% of the respondents used herbal medicine for management of DM. Accessibility (41%) and efficacy (39%) of herbal products were considered as reasons for herbal medicine use. Among herbal medicine users, 90% of the respondents believe that type II DM can be cured using herbal medicines. In addition, 101(89%) of the users reported that herbal medicines are safe (Table 2).

Variables	N (%)
Use of herbal medicine	
Yes	114(33)
No	227 (67)
For what disease you used herbal medicine	
DM	41(36)
For other disease	73 (64)
Reason for herbal medicine use	
Herbal medicines are cheap	21(18)
Dissatisfaction with modern treatments	2(2)
Herbal medicines are accessible	47(41)
Belief in effectiveness of herbal medicines	44(39)
DM is curable using herbal medicine	

Yes	103(90)
No	11(10)
Inform to health care providers about herbal medicine use	
Yes	15(13)
No	98(87)
Side effect occur during herbal medicine use	
Yes	13(11)
No	101(89)

Table 2. Prevalence of herbal medicine use among study participants, Dessie, (N=341).

The most frequently used herbal medicines were Garlic (42%), damakesie 21(18%), Aregeresa 15(13%) and Moringa 13 (11%) (Table 3).

Name	Garlic	Morin ga	Tenaadam	Ginger	Aloe	Mustard	Damakesie	Aregeresa
N (%)	48(42)	13(11)	10(9)	3(3)	1(1)	3(3)	21(18)	15(13)

Table 3. Herbal medicines used among respondents in Dessie (N=341).

Moreover, Leaf 59 (52%) was the most commonly used plant part to treat their disease condition.

Discussion

Nowadays, the use of herbal preparations is a common practice used in the management of chronic diseases in the world. Patients with type II DM are increasingly using herbal remedies due to resistance to modern therapies. In Ethiopia, herbal medicine use is amplified by the presence of several traditional healers. In this study an attempt was made to determine the prevalence of herbal medicine use among type II DM patients in the diabetes clinic of DRH, Ethiopia.

According to this study, (33%) of the study participants were herbal medicine users. studies done globally showed that there is difference in prevalence of herbal medicine use among type II DM patients. A higher prevalence was reported in Gondar (64%), Iran (54%) and Nigeria (67.3%). Lower prevalence was also reported in Saudi Arabia (24.6%). The difference in prevalence in different areas might be due to variation in accessibility, affordability and cultural issues regarding herbal medicines. In our study population, 33% of respondents concurrently used herbal and modern medicines and this result is comparable to findings among in Nigeria. Concurrent use of herbal and modern medicines increases patients' risk of herb-drug interactions and thus; can result in potentially severe adverse effects.

According to the present study, the most widely reported reason for herbal medicine use was accessibility and efficacy of herbal medicines and this finding is consistent to a similar study done in Gondar University. In this study, 98 (87%) of the herbal medicine users did not inform the use of herbal medicine to their health care providers and is higher than a study done in Addis Ababa (25.8%).

The lack of communication between the health care providers and herbal medicine users might have side effects and cause drug interaction.

In our study, Garlic (42%) is the most commonly used herbal medicines. However, in the study conducted in Iran, Chamomile (39.2%) was the most commonly used herbal medicine. Other medicinal plants used by study participants in this study were Moringa, Tenaadam, Damakesie, Aregeresa Ginger, Aloe and Mustard. These differences may be attributed due to the geographical, religious and cultural difference of the society.

Conclusion

Prevalence of 33% was obtained for herbal medicine use among type II diabetes patients in Dessie, Ethiopia. Accessibility (41%) and efficacy (39%) of herbal medicines were the key reasons for herbal medicine use. The most frequently used herbal medicines were Garlic, Damakesie, Aregeresa and Moringa. The use of herbal medicines and conventional antidiabetic medicines could cause potentially serious herb-drug interactions.

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Data availability

All data are presented within the article

Competing interests

Authors declare no conflict of interest.

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