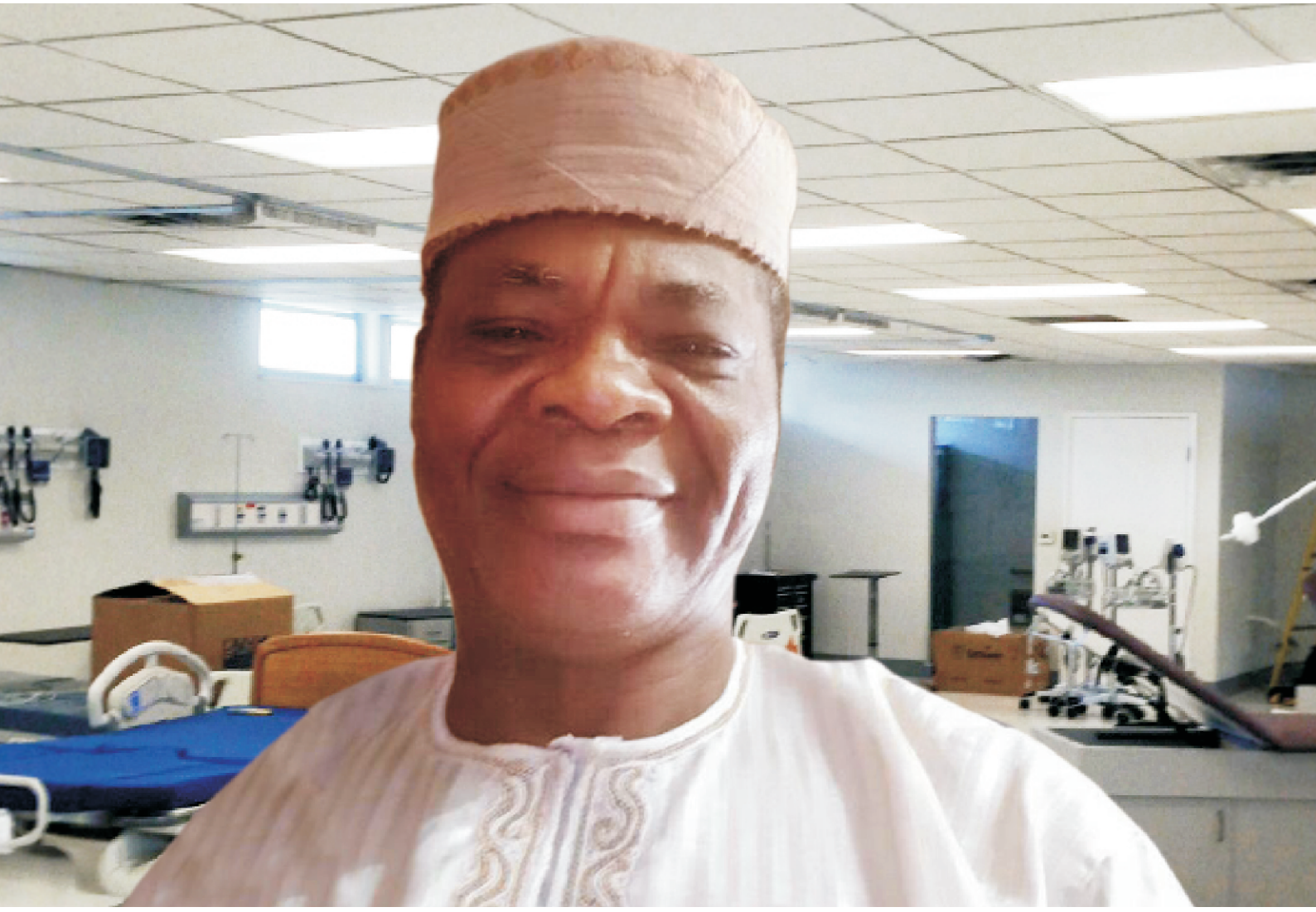
LAUTECH JOURNAL OF NURSING

VOL. 10, JANUARY, 2022 ISSN 2659-1405



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A Publication of the Faculty of Nursing Sciences,
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10TH EDITION LAUTECH JOURNAL OF NURSING

A Publication of the Faculty of Nursing Sciences,
College of Health Sciences,
Ladoke Akintola University of Technology, Ogbomoso, Nigeria

VOLUME 10, JANUARY, 2022

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Tel: +2348033579737
Email: lautechjournalofnursing@gmail.com
Website: www.lautechjournalofnursing.org

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ALTERNATIVE MEDICINE USE AND ITS PERCEIVED EFFECTIVENESS IN MANAGEMENT OF HYPERTENSION

OLUWASEYI A. AKPOR; TOLULOPE F. OJO; RISIKAT I. FADARE; OLUWAFUNMILAYO E. FADARE & OLUWASEUN E. ADEGBILERO-IWARI

ABSTRACT

Hypertension is one of the most common non-communicable diseases globally affecting up to about 20% of the world's adult population. Several challenges are associated with the disease; the complex nature of its therapy and the socio-economic status of many patients have increased reliance on non-conventional treatment. In low-income countries, the use of herbal medicine is common and increasing among hypertensive patients. Therefore, this study aimed at investigating the use of herbal medicine and its perceived effectiveness among hypertensive patients attending the outpatient department (the cardio clinic) of the Federal Teaching Hospital Ido-Ekiti, Ekiti State, Nigeria. The study employed a descriptive cross-sectional survey design. Ninety-two respondents were selected using a consecutive sampling technique. A semi-structured and validated questionnaire was administered to the study participants. The results of this study showed that the level of utilization of herbal medicine among respondents is high (62.3%) and the herbal medicine used for hypertension are ginger/garlic 18(20.9%), cocoa powder15(17.4%) and Agbo (concoction) 15(17.4%). The study further observed that the reasons for utilization of herbal medicine among respondents include disappointment that conventional medicine is not working 35(40.5%). Lastly, this result indicated that the perceived effectiveness of herbal medicine in the treatment of hypertension is positive. The study concluded that the usage and perceived effectiveness of herbal medicine among hypertensive patients is quite high. Hence, adequate awareness and sensitization of the extent of use, benefit, and safety of herbal medicine among hypertensive patients should be properly addressed by healthcare providers.

Keywords: Cardio-vascular diseases; Herbal medicine; Hypertensive Patients.

INTRODUCTION

Hypertension is one of the most common non-communicable diseases worldwide affecting up to 20% of the world's adult population (Singh *et al*., 2017). This disease is estimated to be responsible for 4.5% of the global disease burden as it is a global phenomenon. The World Health Organization (WHO, 2021) reports that in 2015, 1 in every 4 male adults and 1 in every female adult have raised blood pressure worldwide. Omotoye & Sanusi, (2018) described hypertension as one of the leading factor for mortality worldwide and approximately 80% of the deaths occur in low and middle-income countries. Keasley *et al*., (2020) posited that its diagnosis is getting increasingly complex.

According to Musinguzi *et al.,* (2018), the health-seeking behaviour and utilization of health care services for hypertension in low-income countries is often a complex issue since people seek care from multiple sources outside the formal orthodox health care system because of the several challenges associated with the disease such as the socio-economic status of the patients in coping with the quality and cost of services, the complexity of therapy needed by the patients, the health beliefs and demographic characteristics of the patients. Ibrahim *et al*., (2018) posited that other sources of treating hypertension by the patients other than clinical treatment include the use of traditional practices inherited from the ancestors which are known as Complementary and Herbal Medicines (CAM).

Herbal medicine consist of the use of medicinal plants for the prevention and treatment of diseases, use of standardized herbal extracts, which may range from traditional to popular medicines in every country. Firenzuoli & Gori, (2007) explained that herbs are natural products and their chemical composition differs depending on several factors and therefore varying from people to people, from energetic decoctions to the use of herbal extracts.

Despite the international diversity and adoption of traditional medicine in different cultures and regions, there is no parallel advance in international standards and methods for its evaluation. National policies and regulations for traditional medicine are lacking in many countries and where they are available, it is difficult to fully regulate traditional medicine products, practices, and practitioners due to variations in definitions and categorizations of traditional medicine therapies (WHO, 2005).

Currently, the utilization of herbal medicine in the treatment of hypertension has increased all over the world and Azizah *et al.* (2021) indicated that about 80% of patients use herbal medicine, both in single form or in combination with antihypertensive drugs, for the treatment of hypertension in various countries. Liwa *et al*. (2014) reported that 80% of chronic hypertensive patients in Morocco and 63.9% of patients in India use herbal medicines for the management of their illnesses. In Sub-Saharan Africa, about 38.6% of adults with hypertension used herbal medicines, while half of these patients also use herbal and conventional medicine concurrently (Liwa *et al*., 2014). Existing studies carried out in Nigeria reveal a 25 to 37.8% prevalence of herbal medicine use among adults living with hypertension (Amira & Okubadejo, 2007; Olisa & Oyelola, 2009; Osamor & Owumi, 2010).

Despite the increase in the use of herbal medicine, Yuri *et al*. (2007) explained that only a few reports are made on how patients perceive the effectiveness of this health care modality in specific diseases. Lulebo (2017) states that treatment adherence is mainly influenced by the perception of a patient towards the effectiveness of treatment and quality of health care (its availability and affordability, and the relationship between patient and provider). The indiscriminate, irresponsible, or non-regulated use of several herbal medicines may put the health of their users at risk of toxicity (Janatova *et al,* 2015).

The inappropriate use of herbal medicine may have undesirable, as well as, dangerous outcomes. Although some herbal medicines are generally safe, may lack the desired antihypertensive properties or they may interact with the prescribed medicine thereby considerably elevating blood pressure (Mbulo, 2015). Other adverse effects such as abdominal pain, diarrhea and emesis or dizziness have been identified by Djuv *et al*. (2013).

The study took the basis of the Health Belief Model (HBM) by Rosenstock (1966). The model remains one of the most widely recognized conceptual frameworks of health-promoting behavior. HBM is beneficial in addressing an individual's perception of the epth of the threat posed by a health problem (perceived, susceptibility, and severity), perception of the usefulness of behavior in decreasing the risk or threat of the disease (perceived benefits), and perceived barriers (one's perception of the obstacles in adopting the new behavior (Rosenstock, 1966, 1974). In addition, this model explains that certain modifying factors or variables such as age, sex, culture, and educational level do influence one's perceptions and experiences that activate readiness to change, known as cues to action.

HBM reveals why people choose to use herbal medicine. When a person discovers they are susceptible to a particular illness they may seek an alternative to herbs as a preventive measure before the symptoms of such illness are manifested (perceived susceptibility). When a person perceives the diagnosis to be serious, he may consider using herbal medicine in conjunction with the orthodox treatment he is receiving from a conventional practitioner as a way of taking advantage of all possible treatments (perceived Seriousness). Also, if a person believes that taking herbal medicine will improve his health (Perceived Benefits) either through previous experience with herbal medicine or by learning through other means, such as family, friends, and religious beliefs, (Cues to Action) he may opt for the use of herbal medicine. However, in a situation where the individual does not have the financial strength or stability that covers conventional medical treatment (perceived Barriers), he may see this as a barrier and resort to herbal medicine. Finally, if the person believes he is capable of following through with a particular herbal medicine-related action (self-efficacy), this should influence their herbal medicine-related behaviors.

Objectives of the study

The aim of this study is to assess the use of herbal medicine and its perceived effectiveness among hypertensive patients attending the outpatient department (the cardio clinic) of the Federal Teaching Hospital (FETHI) Ido-Ekiti, Ekiti State, Nigeria.

The specific objectives are to:

1. Assess the use of herbal medicine among hypertensive patients.
2. Identify the types of herbal medicine products used among hypertensive patients.
3. Determine the perceived effectiveness of herbal medicine.

Research questions

i. What is the level of utilization of herbal medicine by hypertensive patients?

ii. What are the types of herbal medicine used among hypertensive patients?

iii. What is the perceived effectiveness of herbal medicine by hypertensive patients?

METHODOLOGY

Study design; The researchers used a descriptive cross-sectional survey design.

Study setting; The study was conducted at the Federal Teaching Hospital, Ido-Ekiti. It is located in Ido/Osi Local Government Area of Ekiti State, Nigeria. The hospital was established in 1998 by the Federal Government of Nigeria with various clinical and non-clinical departments. The department of medicine started in the year 2002, it currently has eight units headed by consultants in the respective fields namely; Cardiology, Endocrinology, Gastroenterology, Nephrology, Pulmonology, Neurology, and Dermatology. Services offered include Emergency medical services, specialist clinics, care of specialized medical patients, Hemodialysis, cardiovascular investigations, and procedures among others.

Target population; The target population for this study comprises of all hypertensive patients attending the outpatient department of Federal Teaching Hospital Ido-Ekiti.

Sample size: The sample size was determined using the Taro Yamane (1967) formula. A sample size of $n = 92$ patients was estimated from the total population of hypertensive patients attending clinics at the cardiology clinic of FETHI.

Inclusion criteria; Male and female adult patients attending the out-patient department that have been diagnosed with hypertension from age 18 years and above.

Exclusion criteria; Under 18 years and non-consenting adults were excluded from the study.

Sampling technique; The participants who met the inclusion criteria were selected from the list of registered patients using a consecutive sampling technique.

Instrument for data collection; This study utilized a semi-structured questionnaire adapted from (Mbulo, 2015 & Blouws, 2012). The questionnaire comprised of questions that assessed the use of herbal medicine**,** the types of herbal medicine products used, the perceived effectiveness of herbal medicine and so on among hypertensive patients at FETHI.

Validity of instrument; This study ensured the use of external and content validity (Elkins, 2018). The researchers and two other experts in the field of study closely examined the items in the questionnaire to ensure that they could accurately measure the intended variables.

Reliability of instrument; The test-retest method was used to assess the reliability of the questionnaire. Internal consistency of items showed an intra-class correlation coefficient of 0.75.

Method of data collection; Hypertensive patients attending the outpatient department were approached by the researchers on cardiology clinic day which is every Thursday. The patients were informed on what the questionnaire entails and were informed of their right to refuse to participate in the research. Questionnaires were shared among participants that met the inclusion criteria. Data was collected for a period of four weeks.

Method of data analysis; The data collected were first checked for errors, cleaned, and analyzed using the Statistical Package for Social Sciences (SPSS), version 25. Frequencies and percentages were calculated for demographic characteristics and responses of study participants. The Chi-square test of independence was used to determine the statistical significance between different variables of the study. The level of significance was set to $P < 0.05$.

Ethical consideration; An approval to conduct the study was given by the Research and Ethics Committee of Afe Babalola University. Also, ethical approval to conduct the study in the study setting was obtained from the Research and Ethics

Committee of the Federal teaching hospital Ido-Ekiti. Participants' rights to full disclosure and self-determination were explained. The respondents were informed about the purpose and benefits of the study and assured that their participation will not be used against them in any way. This study did not involve introducing any substance into the participants' bodies. Participants were assured of the right to withdraw from the study without any form of consequence if they felt uncomfortable going on with the research. Names or other forms of identification were not required on the questionnaire; only codes were used as participants' identity to maintain the confidentiality of the participants.

RESULTS

A total of 92 students participated in the study at a response rate of 100%. However, six questionnaires were withdrawn as a result of response deficiency bringing the number of participants to 86.

As shown in Table 1, the respondents' ages ranged from 26 to over 56 years. Majority 41(47.7%) of them belonged to a common age group of 56 years and above while a few of them 7(8.1%) were between 26-35 years old. Most 56(65.9%) of the respondents were males while 34.1% were females giving a male to female ratio of 1.9:1. The participants comprised largely of persons who were married 66(76.7%) and were Christians 59(68.6%). A higher percentage of the respondents had tertiary education 42(48.8%), while very few 2(2.3%) had no formal education. More than half of the study population 47(54.7%) were full-time workers while 3(3.5%) were unemployed.

Table 1. Socio-demographic Characteristics of Respondents

Variables		Frequency	Percent
Age	26-35	7	8.1
	36-45	10	11.6
	46-55	28	32.6
	56 and above	41	47.7
	Total	86	100.0
Sex	Male	56	65.9
	Female	29	34.1
	Total	86	100.0
Marital Status	Married	66	76.7
	Single	5	5.8
	Widowed	3	3.5
	Divorced	5	3
	Separated	7	5.8
	Total	86	100.0
Religion	Christianity	59	68.9
	Islam	19	22.1
	Traditional	8	9.3
	Total	86	100.0
Highest Education	Primary	9	10.5
	Secondary	33	38.4
	Tertiary	42	48.8
	None	2	2.3
	Total	86	100.0
Employment Status	Full-time	47	54.7
	Part-time	7	8.1
	Self-employed	17	19.8
	Unemployed	3	3.5
	Retired	12	14
	Total	86	100.0

Table 2 describes the utilization of herbal medicine among respondents. 37(43%) of the respondents were currently taking herbal drugs for hypertension while 42(48.8%) of the respondents knew people who took herbal medicine for hypertension. Majority 80(93%) of the respondents had been on herbal drugs for about two years or three years. Most of the respondents had their herbal medicine prescribed by family members 81(94.1%) and friends 80(93%) Furthermore, 70(81.3%) of the respondents sought people's opinions about herbal medicine before taking it. 73(84.9%) of the respondents took liquid herbs of 1-3 teaspoonful daily. 63(83.3%) of the participants who used herbal medicine did not use it for any other disease condition apart from hypertension. Interestingly, majority 69(80.2%) of the respondents claimed they did not experience any side effects due to herbal medication.

This study indicated that the level of utilization of herbal medicine among respondents is high (62.3%)

Table 2. Level Utilization of Herbal Medicine among Respondents

	Utilization of Herbal Medicine	Agreed	Disagreed	Undecided
1.	I currently take herbal drug for hypertension	37(43%)	49(57%)	-
2	80% of patients use herbal medicine	42 (48.8%)	44(61.2%)	-
	SUB TOTAL	45.9	59.1	
3	Duration of taking herbal medicine			
	7 months	60(69.7%)	19(22.1%)	7(8.1%)
	2 years	80(93%)	2(2.3%)	4(4.6%)
	3 years	80(93%)	5 (5.8%)	1(1.2%)
	Over 3 years	37(43%)	49(57%)	14(16%)
	SUB TOTAL	74.7	21.8	7.5
4	Herbal medicine was prescribed by; -			
	Medical Doctor	70(81.3%)	12(14%)	4(4.6)
	Traditional Doctor	74(86%)	7(8.1%)	5(5.8%)
	Chemist	60(69.7%)	18(20.9%)	8(9.3)
	Friends	80(93%)	0(0%)	6(7%)
	Family members	81(94.1%)	0(0%)	5(5.8%)
	SUB TOTAL	84.8%	8.6%	6.5%
5	Form and quantity of herbal medicine used daily			
	1-3 tablespoon/day	73(84.9%)	13(15.1%)	-
	4-6 tablespoon/day	62 (72.1%)	24(37.9%)	-
	7-10 tablespoon/day	42(48.8%)	44(61.2%)	-
	1 glass cup per day	37(43%)	49(57%)	
	Solid	60(69.8%)	20(23.3%)	6(6.9)
	SUB TOTAL	63.7%	38.9%	6.9%
	Sought anyone's opinion about herbal medicines before taking it	70(81.3%)	11(12.7%)	5(5.8%)
	Experienced any side effect due to herbal medication	17 (19.8%)	42(48.8%)	27(31.4%)
	Taking herbal medicine for other disease condition apart from hypertension	23 (26.7%)	44(61.2%)	19(22.1%)
	SUB TOTAL	42.6%	40.9%	19.8%
	TOTAL	62.3%	33.9%	8.1%

Table 3 showed that 18(20.9%) of respondents used ginger/garlic, 8(9.3%) used moringa, 8(9. 3%) used aloe vera, 7(8.1%) used onion, 11(12.7%) used cocoa powder, 15(17.4%) used snail water, 15(17.4%) use Agbo (concoction) and 4(4.7%) used Pax Herbal drugs. This result indicated that majority of the respondents used ginger/garlic 18(20.9%), cocoa powder15 (17.4%) and Agbo (concoction) 15(17.4%)

Table 3. Types of Herbal Medicine used by Respondents

	Type	Frequency	Percent
What herbal medicine are you taking	Ginger/garlic	18	20.9
	Moringa	8	9.3
	Aloe Vera	8	9.3
	Onion	7	8.1
	Cocoa powder	15	17.4
	Snail water	11	12.7
	Agbo(concoction)	15	17.4
	Pax Herbal drug	4	4.7
	Total	86	100.0

Fig 1 indicated the reasons influencing the use of Herbal Drugs

As displayed in figure 1, majority 35(40.5%) of the respondents utilized herbal medicine because they were disappointed that conventional medicine was not working. While 23(27%) respondents said that it allows them to relax and sleep, a quarter 22(25%) of them said that it relieved the symptoms of conventional medicine being received and also improves health. 13(15%) felt that it improves their physical well-being. None 0(0%) of the respondents believed that conventional medicine was not too toxic and that the use of herbal medicine is in keeping with their beliefs and their inner selves.

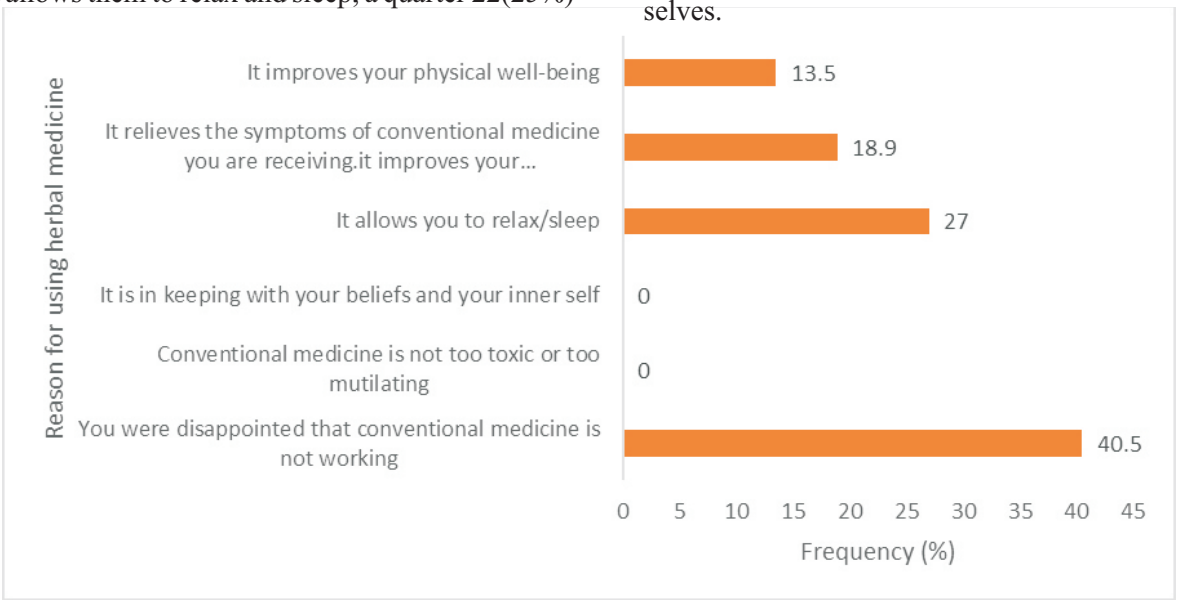

Figure 1: Reasons for using Herbal Medicine by Respondents

Table 4 showed participants' perceived effectiveness of herbal medicine on blood pressure control. This was assessed using a four-point Likert scale-based statements ranging from "not effective" to "very effective". "Effective" and "very effective" were pooled together to form one positive response of "effective". This study reported that 9(10.5%) of the study population claimed that ginger was not effective, 20(23.3%) claimed little effect (16.3%) claimed that it is effective 43(50%) claimed that it is effective and 20(23.3) claimed that it is very effective. This study also showed that 17(19.8%) of respondents admitted that Aloe Vera was also not effective while 19(22.1%) claimed little effect, 20(23.3%) claimed that it is effective and 30 (34.9%) claimed very effective. 6 (7%) of the respondents claimed that cocoa powder is not effective, while 38(44.2%) of respondents claimed that it has little effect, 29(33.7%) claimed that it is effective and 13(15.1%) claimed that it is very effective. Lastly, this study showed that 25(29.1%) of respondents that other herbal products are not effective while 32(37.2%) claimed little effect 10(11.6%) claimed effectiveness and 19(22.1%) of respondents claimed very effective. This result showed that the perceived effectiveness of herbal medicine in the treatment of hypertension is positive.

Table 4. Perceived Effectiveness of Herbal Medicine in the Treatment of Hypertension

	Not Effective	Little effective n (%)	Effective n (%)	Very effective n (%)	Total
Ginger	9(10.5)	14(16.3)	43(50)	20(23.3)	86(100.0)
Aloe Vera	17(19.8)	19(22.1)	30(34.9)	20(23.3)	86(100.0)
Cocoa Powder	6(7)	38(44.2)	29(33.7)	13(15.1)	86(100.0)
Herbal products	25(29.1)	32(37.2)	10(11.6)	19(22.1)	86(100.0)
	17%	30%	33%	21%	

DISCUSSION OF FINDINGS

This study assessed the use of herbal medicine and its perceived effectiveness among hypertensive patients attending the outpatient department (the cardio clinic) of the Federal Teaching Hospital Ido-Ekiti, Ekiti State, Nigeria. The socio-demographic characteristics of this study revealed that majority of the respondents belonged to a common age group of 56 years and above. This finding is in congruence with Anthony *et al.* (2017) who reported that majority of their respondents were between ages 45-67 years. Most of the respondents were males. This study is not consistent with Aimee *et al*., (2017) where majority of the hypertensive patients were females. Majority of the study participants were married, full-time workers and had tertiary education.

The study showed that the level of utilization of herbal medicine for hypertension among the participants is high. This study is similar to the stuy of Osamor & Owunmi (2010) that acknowledged a greater use of herbal medicine in a Nigerian community. This study is also consistent with the study of Nuwaha & Musinguzi (2014) who observed that 50% of their respondents used alternative medicine in Uganda. Similarly, this study is in agreement with the findings upheld by Liwa *et al.* (2014) in India and Morocco where majority of the respondents had been on herbal drugs for two years and Ohemu *et al*. (2017) where majority of the participants had been using herbal medicine for over a year.

This study indicated that majority of the respondents used ginger/garlic, cocoa powder and Agbo (concoction). This result is similar with a previous study conducted by Stephen and George (2017) where garlic and some other herbs were highly tolerated and acceptable by majority of the

respondents. This finding was not upheld by Olisa and Oyelola (2009) that reported that other types of herbal medicine used by respondents were Aloe vera, tea, lime juice and corn pap. This study differs from Hughes *et al.* (2015) reported in their study that 83.9% of hypertensive patients take herbal medicine in form of tea.

This study revealed that the reason for herbal medicine use is because respondents were disappointed that conventional medicine was not effective and they feel relaxed with the use of herbal medicine. This is in line with a study conducted by Erku and Mekuria (2016) where 67.5% of respondents utilize herbal medicine because they feel comfortable with it. Similarly, the findings of Shafiq *et al.* (2003) also reported that 59.0% of hypertensive patients prefer herbal medicine because of fear of adverse drug reactions of conventional medicine.

The findings of this study revealed that perceived effectiveness of herbal medicine in the treatment of hypertension is positive. These findings corroborate that of Nuwaha & Musinguzi, (2014), Ohemu *et al*., (2017), James, Wardle, Steel & Adams, (2018) where majority of the participants claimed that herbal medicine is effective and safe for the treatment of hypertension. This is also in line with a previous study conducted by Olisa and Oyelola (2009) in a Nigerian hospital where more than one-third of the hypertensive patients claimed that herbal medicines were more effective than conventional medicine.

CONCLUSION AND RECOMMENDATIONS

This study revealed that the study participants' level of utilization of herbal medicine for hypertension is high (62%). Majority of the respondents used ginger/garlic 18(20.9%), cocoa powder 15(17.4%) and Agbo (concoction) 15(17.4%) Topmost amongst the reasons cited for herbal medicine use was disappointment in the effectiveness of conventional medicine. About two-thirds 57(66.3%) of the participants perceived herbal products to be significantly effective in controlling hypertension.

These findings further underscore the growing popularity and acceptance of herbal medicine, especially in low-income countries. Hence, adequate sensitization of the extent of use, benefit and safety of herbal medicine among hypertensive patients should be properly addressed by healthcare providers. Also, a patient-centered approach should be adopted by healthcare providers to address patients' concerns, views and health beliefs about their illnesses as this will lead to better health outcome. With the increase in the utilization of herbal medicine in modern health care, medical, nursing and public health education should include adequate information about its practices.

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