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Utilization of Herbal Medicine Among Inhabitants of an Urban Centre in North-Central Nigeria

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Abstract: This study examined utilization of herbal medicine among inhabitants of Ilorin, North-Central Nigeria. 460 participants selected through multi-stage sampling technique were included in the study. Result showed that, Pile 20.2%, was the most treated illness with herbal medicine followed closely by malaria fever 17.7% and typhoid fever 14.9%. 46.0% of the participants utilise herbal medicine because of its efficiency in treatment while 15.8% used it because it works faster for them. Socio-demographic characteristics of participants found to affect utilization of herbal medicine were: income (p=0.001), education (p=0.0001) and occupation (p=0.0005), while those found not to affect utilization of herbal medicine were: age (p=0.5330) and sex (p=0.0054).The study recommended massive enlightenment on the dangers involved in indiscrimate use of herbal medicine, regulation of herbal medicine, provision of health insurance scheme for Nigerians and more research into herbal medicine with a view to integrating it into the modern healthcare delivery system in Nigeria.

Keywords: *Herbal medicine; Utilization; Dogoyaro; Pile; Jedi-Jedi; Agbo-Iba.*

I. INTRODUCTION

Herbal medicine also called botanical medicine have been defined by [1] as herbs, herb materials, herbal preparations, and finished products that contain parts of plants or other plant materials as active ingredients that is used in treating illness and diseases. Herbal medicine has long existed among Africans, and as a cultural heritage, it is being passed from one generation to another. [2] Out of about 6,400 plant species found in tropical Africa, more than 4,000 of them are used as medicinal plants in treatment of illness and diseases among the African people. In Nigeria, a number of plants have been discovered as healing plants and used for treating various forms of illness and diseases by traditional healers and among the people. For example, Apocynaceae *Rauvolfia Vomitoria Afzel* is used to treat people with high blood pressure, stroke, insomnia and convulsion [3]. African basil *Ocimum gratissimum* is also used to treat diarrhoea disease [4] while the seed of Grapefruit *Citrus paradisi Macfad* is used to treat urinary tract infection. In addition, pure honey is used to treat infectious wounds [5] while the analgesic and inflammatory effect of Bitter kola *Garcinia kola* is also effective for osteoarthritis treatment [6].
Among the Yoruba's, in South-West Nigeria, several plants are used in treating illnesses and diseases among the people. According to[7] in a study conducted on herbal medical use among residents of Lagos State South-West Nigeria, a combination of plants such as scent leaves, grapefruit, juice extracts, bitter leaf, Sorghum leaves, naphthalene tablets and garlic can be used

to treat pile also known as *jedi-jedi* while, the bark of pineapple fruit, pawpaw leaves and seeds, 'Dongoyaro' leaves, lime juice, lemon grass , guava leaves, scented- leaves can also be prepared as (*agbo-iba*) to treat malaria fever. Although modern medicine has been around for a while, the use of alternative medicine like herbs seem to be fast gaining ground in recent times in both developed and developing countries [8, 9, 10, 11].There is also a widely held view that, over 80% of people in developing countries depend on herbal medicine as their first line of choice in the treatment of illness and diseases [12]. This is as a result of increasing cost and distrust of modern medicine which has attracted the interest of health professionals, researchers, governments and policy makers globally. [8, 13]. [12] Has also contended that, the recent trend has been as a result of cost, accessibility, effectiveness and safety of herbal medicine as perceived by the people.

According to [14], an effective health care delivery system cannot be achieved in Africa alone unless there is a proper synergy between modern medicine and herbal medicine in the country. Report also has it that, medical practitioners have equally realised the potency of herbal medicine, though with reservations in prescribing it for their patients [15]. There seem to be a major shift in the utilization of modern healthcare to herbal medicine by the Nigerian people which is evident in the on-going competition between herbal medicine and modern medicine in the country [16]. The use of herbal medicine as both complementary therapy and alternative therapy among many Nigerians is fast gaining momentum daily. A survey conducted in Benin City, South-South Nigeria, confirmed that, for every sign post that indicated modern health care facility in the city, there were three other sign posts indicating traditional healthcare facility [17]. In another related study conducted by [7], it was equally revealed that, more than half of the participants in that study use herbal medicine while other study conducted by [18] also showed a high percentage of herbal medicine users.

It is on this background that, this study examines the utilization of herbal medicine among inhabitants of Ilorin North-Central Nigeria. The study is expected to reveal the reasons the people in the study area utilise herbal medicine, and also the illnesses and diseases that is treated with herbal medicine while the researcher will juxtapose findings with previous studies.

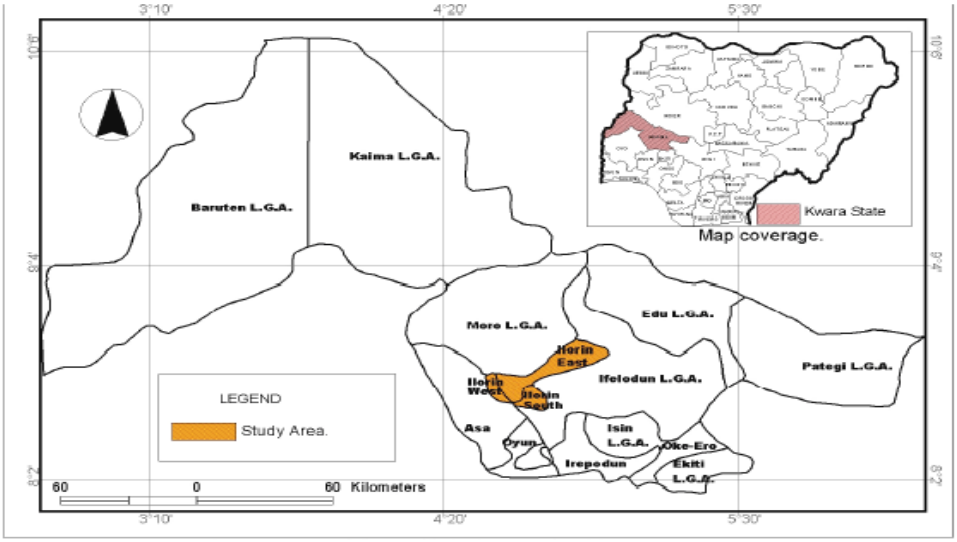

Fig 1: Map of Kwara State Nigeria showing Ilorin the study area. [19]

II. PROBLEM STATEMENT

Herbal medicines in Africa are generally not adequately researched and are weakly regulated [20]. According to [21], often times there are no detailed documentation of the traditional knowledge which is most times generally transferred verbally from generation to generation. Furthermore, it has also been noted that, most herbal products in the market today are not been subjected to

appropriate process to ensure their safety as well as effectiveness as many of them contain harmful organic substances such as mercury, lead, arsenic and corticoids which may affect the body system [22, 23]. In addition to this [24] has argued that, adverse side effects can result from indiscriminate use of herbal medicine, which may affect the body and ultimately lead to death in severe cases.

Furthermore, research has shown that, the quality control of herbal medicines has a direct impact on their safety and efficacy [25, 26]. There is also very little data on the composition and quality of most herbal medicines not only due to lack of adequate policies or government requirements but also because of lack of or accepted research methods for evaluating herbal medicines [27, 28]. The non-standardization of herbal medicine in Nigeria is major concern as many of the plants being used for treatment as herbal medicine contain hundreds of chemical constituents with little or no evidence indicating which of them might be responsible for the presumed or proven therapeutic effect in any particular situation [27].

In Ilorin, North-Central Nigeria for instance, a person was reported to have slumped and died as a result of indiscriminate consumption of local concoction after complaining of weakness none sooner than he took the concoction. [29]. [30] have also noted in the same location, a sharp increase in the use of herbal medicine among pregnant women in the treatment of malaria fever during pregnancy. Although, the use of herbs to treat malaria has been around for a while in Nigeria especially among the Yoruba's, it becomes a concern when health professionals prescribe them for their patients despite the numerous anti-malaria drugs that are readily available in the country [30].

Of utmost concern is the environment in which herbal medicine is displayed and sold to people. According to [31], herbal products are often displayed in unhygienic and contaminated environments tainted with urine, and feaces from human, animal as well as vehicular traffic.

III. THEORETICAL ORIENTATION

The study employed the Rational Choice Theory, Health Belief Model and the Anderson's Behavioural Model of Health Service as theoretical framework. They are explained below.

III. 1. Rational Choice Theory

The rational choice theory also known as choice theory was propounded by [32]. It is a framework developed for understanding and modelling social and economic behaviour [33]. The basic assumption of the theory is that, aggregate social behaviour results from the behaviour of individual actor, each of whom is making their individual decision. The theory focuses on the determinants of the individual choices by assuming that an individual has preferences among the available choice alternatives that allow them to state which option they prefer. According to the theory, an individual will take into account available information, probabilities of events, and potential cost and benefits in determining preferences, and to act consistently in choosing the best choice of action.

The theory provides a platform in which the study can be explained. It can be assumed that, herbal medicine utilization is a function of choice made in term of cost and benefits. It is believed that a rational individual will prefer the health service that will give him/her the best service at the minimum cost. Thus, because of the prevailing economic crunch, coupled with the increasing cost of modern medicine in Nigeria [8,13], it is assumed that people would prefer to utilise herbal as an alternative therapy to modern medicine especially with the potency of herbal medicine in the cure of many illness [18].

Rational choice theory has however been criticised for, neglecting the place of reasoning in decision making.

III.2. Health Belief Model (HBM)

The health belief model was proposed by [34]. HBM suggests that a person's belief in personal threat of an illness or disease together with a person's belief in the effectiveness of the

recommended health behavior or action will predict the likelihood that the person will adopt a given health seeking behavior [35].The model assumes that an individual's action to health and preventing disease is central to four basic consideration, these confederations include:

- The individual's perceived susceptibility to disease.
- The individual's perception of illness severity.
- The individual's rational perception of benefits versus cost.
- The individual's cue to action like the media friends and family.

The third and fourth consideration could serve as a premise in which this study can be explained. Utilization of herbal medicine can be influenced by cost benefits and influence from friends, family and the media. The role of the family on in health seeking behaviour as well as friends cannot be overemphasised. In addition to this, it has been established that the media has a very strong influence on health seeking behaviour of an individual [36].

The theory has been criticised for not considering the impact of emotions on health-related behaviour, it is believed that fear for example, may also be a key determinant to health seeking behaviour [37].

III. 3. Anderson's Healthcare Utilization Model

The Anderson model of health care utilization was developed by [38]. The model involved three categories of determinants of choice of health care utilization.

- Predisposing characteristics: This involves the propensity to utilise healthcare, that is, an individual is more likely to use a health care service if he/she believes that health service is useful to the treatment of his/her illness or diseases.
- Enabling characteristics: This entails the economic status of an individual, that is an individual will utilise a healthcare service if he/she has enabling characteristics like family support, communal support, health insurance and favourable location to health service.
- The need base category: This entails the perception of need for health services. It is socially evaluated on perception of needs for the health service.

The theory provides an ideal context in which this study can be explained. The study can be explained based on the first two considerations, that is an individual will consider the utilization of a health service if he/she feels that such will cure his/her illness or disease and also if he/she has support from family and the community as well as have a favourable location to a particular health service. Therefore, if an individual believes that herbal medicine will cure him/her, it would be his/her preferred choice of healthcare service. In the same vein, if an individual lack family and communal support and also modern health care service is far from his/her location, it is believed that such an individual would rather utilise herbal medicine which is cheap and readily available.

The theory has been criticised for overemphasising health need at the expense of health beliefs and social structure [39] and also for not paying enough attention to culture and social interaction as determinants for the utilization of healthcare service [40, 41].

IV. METHODS

The study was conducted among inhabitants of Ilorin city in Nigeria. Ilorin is the capital city of Kwara State located in the North- Central region of Nigeria and has three Local Government Areas namely: Ilorin East, Ilorin South and Ilorin West. It is mostly inhabited by the Yoruba's and cohabits with other cultures like, Hausa, Igbo, Fulani, Nupe and Baruba. As of 2007, Ilorin city had a population of 847,582 making it the 13th largest city in Nigeria by population [42]. The city has a strong Islamic culture as a result of influence from northern incursions while a significant Christian population also lives in the city as a result of migration from other part of the State and Nigeria.

430 adult participants were drawn from the studied population through multi-stage sampling technique from the age of 18 years above. The first stage involved the purposive selection of two major markets within the city where herbal medicine facilities are majorly located and are being utilised by the inhabitants of the city, these markets are Oja-Oba located at the Emir's palace and Oja-Tutun (*New Market*). Both markets are located in the city centre. Thereafter, the cluster

sampling technique was used to sample the location in the markets where herbal medicine facilities are majorly located, and participants were randomly selected from those that came to patronise the herbal medicine sellers during the period the survey was carried out.

Primary data was gathered through administration of self and interviewer administered structured questionnaires with closed and open ended questions because the targeted population consisted of both literate and non-literate participants. The questionnaire contained questions on participants' socio-demographic variables, type of illness and disease treated with herbs and reasons participants use herbs. The study was analysed using the Statistical Package for Social Science (SPSS 17.0) while data was presented in tables involving frequencies and simple percentage.

V. RESULTS

Table 1: Socio-Demographic Variables of Participants

Socio-demographic factors	Frequency	Percentage (%)
Sex		
Male	151	(35.1)
Female	279	(64.9)
Total	430	(100.0)
Age		
18-45 years	304	(70.7)
46-60 years	110	(25.6)
60 years and above	16	(3.7)
Total	430	(100.0)
Marital Status		
Single	110	(25.6)
Married	320	(74.4)
Total	430	(100.0)
Religion		
Islam	369	(85.8)
Christianity	61	(14.2)
Total	430	(100.0)
Ethnic Background		
Yoruba	320	(74.4)
Igbo	38	(8.8)
Hausa	58	(13.5)
Other (*Tapa, Tiv, Edo,Baruba)*	14	(3.3)
Total	430	(100.0)
Occupational Status		
Unemployed	27	(6.3)
Self-Employed/Artisans	307	(71.4)
Professional/Civil Servant	96	(22.3)
Total	430	(100.0)
Educational Status		
None	147	(34.2)
Primary	113	(26.3)
Secondary	94	(21.9)
Tertiary	76	(17.7)
Total	430	(100.0)
Income per month(Naira)		
Nil	27	(6.3)
< 20,000	189	(44.0)
20,000-30,000	196	(45.6)
31,000 and Above	18	(4.2)
Total	430	(100.0)

Researchers' Survey, 2016

Table 2: Illness and Diseases Treated with Herbal Medicine

Illness and Diseases	Frequency	Percentage (%)
Pile	87	(20.2)
Malaria fever	76	(17.7)
Typhoid Fever	64	(14.9)
Body pain	42	(9.8)
Diabetes	35	(8.1)
Stomach Ache	32	(7.4)
Rheumatism	30	(7.0)
Cough	21	(4.9)
Headache	12	(2.8)
Ulcer	7	(1.6)
Swollen leg	6	(1.4)
Sore Throat	5	(1.2)
Eye Problem	4	(0.9)
Snake bite	3	(0.7)
Worms	2	(0.5)
Appendicitis	1	(0.2)
Blood diseases	1	(0.2)
HIV	1	(0.2)
Infertility	1	(0.2)

Researchers' Survey, 2016

Table 3: Reasons for herbal medicine utilization among participants

Reasons	Frequency	Percentage (%)
It is efficient	198	(46.0)
It works faster	68	(15.8)
It is natural	49	(11.4)
It is cheap and affordable	26	(6.0)
It is readily available	22	(5.1)
Believe that sickness can only be treated tradition	20	(4.7)
No clinical investigation	15	(3.5)
No side effects	13	(3.0)
Less waiting time	11	(2.6)
It is safe	8	(1.9)

Researchers' Survey, 2016

In table 1, 35.1% of the participants are male while 64.9% are women. 70.7% fall within the age group of 18-45 years, 25.6% fall in the age group of 46-60 years while 3.2% fall under the age group of 60 years and above. Furthermore, 25.6% of the participants are single while 74.4% are married. 85% are Muslims while 14.2 are Christians. In addition, 74.4% of the participants are Yoruba's 8.8% are Igbo's, 13.8% are Hausa's while the rest 3.3% participants belong to other minority tribe like Baruba, Nupe and Tiv.

Consequently, 6.3% of the participants are unemployed, 71.4% are self-employed and artisans while 22.3% are civil servants. 34.2% do not have any formal education, 26.3% have only primary school education, and 21.9% have secondary school education while 17.7% have tertiary education. As regards the income of the participants, 6.3% of the participants receive no monthly income, 44.0% earn 20,000 Naira and below, 45.6% of the participants earn between 20,000 Naira and 30,000 Naira while 4.2% of the participants earn 31,000 Naira and above per month.

In table 2, Pile was the most treated illness with herbal medicine with 20.2%, this was followed closely by Malaria fever 17.7%, Typhoid fever 14.9, Body pain 9,8%, Diabetes 8.1%, Stomach ache 7.4%, Rheumatism 7.0%, Cough 4.9%, Headache 2.8% Ulcer 1.6%, Swollen legs 1.4%,

Sore throat 1.2%, Eye problem 0.9%, Snake bite0.7%, Worms 0.5%, Appendicitis 0.2%, Blood disease 0.2%, HIV 0.2% and Infertility 0.2%.
Table 3 however contained reasons given by participants for utilizing herbal medicine. 46.0% use herbal medicine because it is efficient, 15.8% use it because it fast, 11.4% use herbal medicine because it is natural, 5.1% use it because it is cheap and affordable, 4.7% use it because of cultural belief, 3.5% use it because clinical investigation is not required, 3.0% use it because it has no side effects, 2.6% use it because does not require much waiting time while 1.9% claimed that herbal medicine is relatively safe.

V. 1. Test of Hypotheses

H01: There is no Significant Relationship between Ages of Participants and Reasons for herbal medicine utilization.

Reasons for herbal medicine utilization	Participants' Age group 18-45years Freq. (%)		46-60years Freq. (%)		60years and above		Total Freq. (%)
It is efficient	139	(70.2)	52	(26.3)	7	(3.5)	198(100.0)
It works faster	47	(69.1)	19	(27.9)	2	(2.9)	68(100.0)
It is readily available	38	(77.6)	9	(18.4)	2	(4.1)	49(100.0)
It is natural	18	(69.2)	5	(19.2)	3	(11.5)	26(100.0)
Cultural believe	13	(59.1)	9	(40.9)	0	(0.0)	22(100.0)
Less waiting time	16	(80.0)	4	(20.0)	0	(0.0)	20(100.0)
No clinical investigation	10	(66.7)	5	(33.3)	0	(0.0)	15(100.0)
No side effects	11	(84.6)	2	(15.4)	0	(0.0)	13(100.0)
It is cheap and affordable	8	(72.7)	2	(18.2)	1	(9.1)	11(100.0)
It is safe	4	(50.0)	3	(37.5)	1	(12.5)	8(100.0)
Total	304	(70.7)	110	(25.6)	16	(3.7)	430(100.0)
X2 = 16.864, df= 18, p-value = 0.5330							

Source: Researchers' Survey, 2016

H02: There is no Significant Relationship between Sex of Respondents and Reasons for herbal medicine utilization.

Reasons for herbal medicine utilization	Participants' Sex Male Freq. (%)		Female Freq. (%)		Total Freq. (%)
It is efficient	70	(35.4)	128	(64.6)	198(100.0)
It works faster	30	(44.1)	38	(55.9)	68(100.0)
It is readily available	8	(16.3)	41	(83.7)	49(100.0)
It is natural	10	(38.5)	16	(61.5)	26(100.0)
Cultural Believe	7	(31.8)	15	(68.2)	22(100.0)
Less waiting time	4	(20.0)	16	(80.0)	20(100.0)
No clinical investigation	6	(40.0)	9	(60.0)	15(100.0)
No side effects	5	(38.5)	8	(61.5)	13(100.0)
It is cheap and affordable	9	(81.8)	2	(18.2)	11(100.0)
It is safe	2	(25.0)	6	(75.0)	8(100.0)
Total	151	(35.1)	279	(64.9)	430(100.0)
X2 = 23.356, df= 9, p-value = 0.0054					

Source: Researchers' Survey, 2016

H03: There is no Significant Relationship between Participants' Occupational Status and Reasons for herbal medicine utilization.

Reasons for herbal medicine utilization	Participants' Occupation						Total Freq. (%)
	Unemployed Freq. (%)		Self-employed/ Artisans Freq. (%)		Professional/ Civil Servant Freq. (%)		
It is efficient	9	(4.5)	148	(74.7)	41	(20.7)	198(100.0)
It works faster	2	(2.9)	57	(83.8)	9	(13.2)	68(100.0)
It is readily available	4	(8.2)	41	83.7)	4	(8.2)	49(100.0)
It is natural	0	(0.0)	16	(61.5)	10	(38.5)	26(100.0)
Cultural believe	0	(0.0)	17	(77.3)	5	(22.7)	22(100.0)
Less waiting time	1	(5.0)	10	(50.0)	9	(45.0)	20(100.0)
No clinical investigation	5	(33.3)	4	(26.7)	6	(40.0)	15(100.0)
No side effects	2	(15.4)	7	(53.8)	4	(30.8)	13(100.0)
It is cheap and affordable	2	(18.2)	3	(27.3)	6	(54.5)	11(100.0)
It is safe	2	(25.0)	4	(50.0)	2	(25.0)	8(100.0)
Total	27	(6.3)	307	(71.4)	96	(22.3)	430(100.0)
X2 = 63.854, df= 18, p-value = 0.0005							

Source: Researchers' Survey, 2016

H04: There is no Significant Relationship between Participants' Educational Status and Reasons for herbal medicine utilization.

Reasons for herbal medicine utilization	Participants Educational Attainment				
	None Freq. (%)	Primary Freq. (%)	Secondary Freq. (%)	Tertiary Freq. (%)	Total Freq. (%)
It is efficient	76(38.4)	53(26.3)	32(16.2)	37(18.7)	198(100.0)
It works faster	22(32.4)	5(7.4)	29(42.6)	12(17.6)	68(100.0)
It is readily available	15(30.6)	18(36.7)	10(20.4)	6(12.2)	49(100.0)
It is natural	9(34.6)	3(11.5)	9(34.6)	5(19.2)	26(100.0)
Cultural believe	8(36.4)	4(18.2)	4(18.2)	6(27.3)	22(100.0)
Less waiting time	6(30.0)	9(45.0)	4(20.0)	1(5.0)	20(100.0)
No clinical investigation	2(13.3)	10(66.7)	2(13.3)	1(6.7)	15(100.0)
No side effects	3(23.1)	1(7.7)	3(23.1)	6(46.2)	13(100.0)
It is cheap and affordable	0(0.0)	8(72.7)	1(9.1)	2(18.2)	11(100.0)
It is safe	6(75.0)	2(25.0)	0(0.0)	0(0.0)	8(100.0)
Total	147(34.2)	113(26.3)	94(21.9)	76(17.7)	430(100.0)
X2 = 82.13, df= 27, p-value = 0.0003					

Source: Researchers' Survey, 2016

H05: There is no Significant Relationship between Participants' Income and Reasons for herbal medicine utilization.

Source: Researchers' Survey, 2016

Reasons for herbal medicine utilization	**Participants' Income (Naira)**				
	None Freq. < Nil (%)	**Primary Freq. <20,000(%)**	**Secondary Freq. (%) 20,000-30,000**	**Tertiary Freq. (%) 30,000-and above**	**Total Freq. (%)**
It is efficient	8(4.0)	110(55.6)	75(37.9)	5(2.5)	198(100.0)
It works faster	2(2.9)	8(11.8)	54(79.4)	4(5.9)	68(100.0)
It is readily available	3(6.1)	20(40.8)	24(49.0)	2(4.1)	49(100.0)
It is natural	7(26.9)	6(23.1)	10(38.5)	3(11.5)	26(100.0)
Cultural believe	0(0.0)	8(36.4)	13(59.1)	1(4.5)	22(100.0)
Less waiting time	4(20.0)	8(40.0)	8(40.0)	0(0.0)	20(100.0)
No clinical investigation	0(0.0)	10(66.7)	4(26.7)	1(6.7)	15(100.0)
No side effects	0(0.0)	4(30.8)	7(53.8)	2(15.4)	13(100.0)
It is cheap and affordable	0(0.0)	9(81.8)	2(18.2)	0(0.0)	11(100.0)
It is safe	2(25.0)	6(75.0)	0(0.0)	0(0.0)	8(100.0)
Total	27(6.3)	189(44.0)	196(45.6)	18(4.2)	430(100.0)
X2 = 107.4, df= 27, p-value = <0.0001					

VI. DISCUSSION

Result showed that the illness /disease mostly treated with herbal medicine among the participants is Pile. This was followed by Malaria fever, Typhoid fever, Body pain, Stomach ache, Diabetes, Rheumatism, Cough, Headache, Ulcer, Swollen leg, Eye problem, Snake bite in that order, while Appendicitis, Blood disease, HIV and Infertility were least treated with herbal medicine. This result is in agreement with previous study carried out by [7], but contrary to the findings of [30,18] in a study conducted in Ilorin, North- Central Nigeria, and Enugu South-East Nigeria, which revealed a high use of herbal drugs during pregnancy by women in treating malaria and malaria fever as the mostly treated illness with herbal medicine respectively. Result also showed a misconception among participants that herbal medicine is efficient. This is because often times, herbal treatments do not consider clinical investigation and when the root cause of the illness is neglected and attention is paid to the symptoms, there likely to be a relapse of such illness. [43]. On the contrary however, the claim by participants that, herbal medicine works faster than modern medicine is in line with earlier study conducted by [7], although, this claim would be difficult to ascertain if herbal medicine is used alongside with modern medicine in treating an illness.

Furthermore, the claim that herbal medicine has no side effect is contrary to the study conducted by [44]. Other sstudies have also found a significant relationship between herbal medicine and chronic diseases such as renal failure [45] and hepatic failure [46]. Although very few of the participants in the study claimed that they utilise herbal medicine because it is cheap and affordable, yet, this is contrary to the view of [12], and the submissions of [8, 13]. In addition, the fact that herbs have natural origin does not automatically guarantee their safety [47]. Several cases have been reported of herbal medicine preparations or products being laden with heavy metals [48, 49]. On waiting time, studies have shown that waiting time is a key determinant to healthcare utilization [50, 51]. Waiting time however varies from country to country and even within country it varies from hospital to hospital. A waiting time of 2-4 hours has been found in some hospitals before seeing doctors [52, 53]. In Benin City, South-South Nigeria, an average waiting time of about 173 minutes was also discovered [54], while in University College Hospital Ibadan, South-West Nigeria, a mean waiting time of 1 hour 13 minutes was noted [55]. Lastly, the place of cultural belief on health seeking behaviour was also noted which corroborates the studies conducted by [56]. Socio-demographic variables found to have significant relationships with herbal medicine utilization include: education, income and occupation $p<0.05$ while there was no

relationship between age, sex and utilization of herbal medicine among participants p>0.05. This result is however similar to the findings of previous study conducted by [57] and contrary to the study conducted by [58] where socio-demographic variables of the participants had no influence on herbal medicine utilization but rather, accessibility, cost, effectiveness, safety and tradition influenced participants' use of herbal medicine.

VII. CONCLUSION AND RECOMMENDATION

The study was conducted in the two main markets where herbal medicine facilities are majorly located in Ilorin, North-Central Nigeria. 430 consenting adult participants were involved in the study that was selected through multi-stage sampling technique. Information was gathered through structured interview administered questionnaires. Pile was mostly treated illness with herbal medicine among the participants while participants' mostly utilized herbal medicine because it is effective. Significant relationships were also found between education, income, and occupation, and reasons for utilization of herbal medicine participants, while there was no relationship found between age, sex and reasons for herbal medicine utilization among the participants.

The study recommended massive health education among the people to enlighten them on dangers involved in indiscriminate use of herbal medicine. It also recommended regulation of herbal medicine by government and provision of health insurance to subsidise the health bills of the people. Furthermore, the study recommends that, government should employ more health professionals especially doctors and nurses to cater for the health needs of the teeming population so as to avoid long queues in hospital and unnecessary delay in health care service delivery especially in government hospitals. Lastly, the study recommends more research into herbal medicine with a view to integrating it into the healthcare delivery system in Nigeria.

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