



ASSESSMENT ON THE COMPLEMENTARY ADMINISTRATION OF HERBAL AND CONVENTIONAL MEDICINES IN JOS SOUTH LGA OF PLATEAU STATE, NIGERIA

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Abstract

In spite the development of more researched and formulated orthodox medicines, herbal medicines continue to be widely patronized by persons across the world with some patronages complementarily using both forms, oblivious of the harmful effects that may occur. Hence, this research assesses the complementary administration of herbal and conventional medicines in Jos South Local Government Area of Plateau State, Nigeria. A community based cross-sectional research design was adopted. Primary data were obtained using both quantitative and qualitative methods. In the survey, 375 questionnaires were distributed, of which 362 were retrieved, among the sample size using multi-stage sampling techniques of wards, settlements, households, and individuals. Also, qualitative data were collected using in-depth interview from community leaders, ward heads, and few people within the studied communities. Descriptive and inferential statistics of the data were carried out using Statistical Packages for Social Sciences (SPSS) Windows version 20.0. Results from the study show that the rate of herbal consumption in Jos South is very high. It also showed that, most people consume herbal medicines to complement orthodox medicine for faster results when they are dissatisfied with orthodox mode of treatment. The study also reveal that complementary use of herbal and conventional drugs can lead to drugs-herbs interaction which can have negative effect on the body system. Thus, the study recommends health professionals to always enquire the use of herbal medicine from their patients in order to give adequate administration of drugs, and be able to monitor the kinds of herbs consumed by patients in order to avoid drugs interaction in the body. Also, people should be sensitized on issues of complementary use of herbal and conventional medicines

Key words: *Complementary, Conventional Medicines, Herbal Medicines, Interaction, Jos-South*

1. Introduction

Diseases have afflicted man for ages but humans always make effort to remedy the situation in order to regain a life disturbed by these ailments. The earliest form of healing substances had been herbal medicines, but with the advent of civilization which had led to better scientific understanding of diseases and medications, orthodox medicines have become the main and well recognized products for the management of diseases in modern health systems (Ameade, Ibrahim, Ibrahim, Habib, Gbedema & DeFeo, 2018). The medical systems in developing countries involve both traditional herbal systems and orthodox medicine. The density of these herbal medicinal plants is highest in tropical rainforest zones such as in some African countries (James, Wardle, Steel & Adams, 2018) like Nigeria. Lack of medical facilities, poverty, affordability, accessibility



and inherent trust in the practice are some reasons for its continuous usage in this decade (Ogunsola and Egbewale, 2018). The pharmaceutical drugs are not within the reach of the poor and on the other side, the richness and diversity of the fauna and flora of Africa are inexhaustible sources of therapies for panoply of ailments (Sawadogo, Schumacher, Teiten, Dicato & Diederich 2012). (Hostettmann & Marston, 2002), including herbal remedies, for health maintenance and therapeutic management disease (Ernst, 2005).

Most people are not satisfied with one form of treatment; rather, most believed that to get a quick and effective result, combination of both orthodox and herbal medicines should be utilized. This is because most people are not aware of drugs interaction in the system/body. There are three primary ways that herbal medicines may interact with prescription drugs: First, the two medicines can have a similar effect, causing an exaggerated response to that effect, which can be either good or bad. Second, the two medicines can have the opposite effect, preventing either treatment from being effective. Finally, an herbal remedy may limit the absorption of a prescription drug in the body (Patil, 2017).

Sub-Saharan Africa is one region of the world in which traditional herbal medicine has long been held to be widespread, with a considerable number of its population relying on it to maintain their health or prevent and treat communicable and non-communicable diseases (Bannerman, 1983). To explain the extent of this dependence, it is estimated that in Sub-Saharan Africa, there is one traditional healer for every 500 people, whereas there is only one medical doctor for every 40,000 people (Odugbemi, 2006). In Nigeria, majority of citizens still use medicinal plants and visit traditional medicine practitioners for their health care need (ibid.).

In many parts of Nigeria especially Plateau State, medicinal plants are the most readily available health resource available to the community. Additionally, because of culture, medicinal plants are most often the preferred option for the patients (Dawang, Mashat, Nyam, Pam & Tongwring, 2016). Plateau State has a large reserve of medicinal plants used for the management of diseases in both human and livestock; such plants are potential sources of novel anti-diarrhea medicaments (Offiah, Dawurung, Oladipo, Makoshi, Makama, Elisha, Gotep, Lohlum & Shamaki, 2012). This could be one of the contributive and motivating factors that have led to the rise in the consumption of herbal medicine among people in Plateau State.

In Plateau State, most individuals consuming herbal medicines, do not undergo diagnosis before treatment, rather, as far as an individual recommends certain herbs, it is belief on its workability. In general, many Nigerians use plant medicines that are anecdotally claimed to be safe and effective in controlling and sometimes “curing” the disease, this has led to the prevalence use of herbal medicine which may be harmful to the body system. Therefore, this study is focused on the assessment on the complementary administration of herbal and conventional medicines in Jos South Local Government Area, Plateau State.

Statement of Problem

Many orthodox drugs have their origin from traditional herbal medicines, but the main difference between the two is that the herbal drugs contain a large number of compounds, rather than a single pharmacologically active substance; hence components of both herbal and orthodox medicines may act on one another to moderate, oppose, or enhance an effect. The interference in the



metabolism of a drug by another drug, food or other foreign chemical is commonly observed and often leads to clinically significant adverse drug reactions (Delgoda, Ellington, Barrett, Gordon, Clarke & Younger, 2004). A lot of individuals are misled with the belief that all treatments have the potential to do harm as well as good; indeed, Vickers and Zollman (1999) in ABC of complementary medicine: herbal medicine, suggest that herbal medicines present the greatest risk of adverse effects of all the complementary therapies.

The use of herbal medicines, either alone or combined with conventional medicines, has been practiced widely particularly in low-income setting countries (Yeshak, Gebretekle, Tilahum & Fenta, 2020) including Plateau state. Also, their use in patients with chronic disease is very common, owing to its natural origin and perceive lesser side effects or dissatisfaction with conventional medicines (Grant, Bin, Kiat, & Chang, 2012; Sugunabai, Jayaraj, Karpaga & Varalakshmi, 2014; Thillaivanan & Samraj, 2014), which could result in potential herb-drug interaction which can lead to harmful effect of the organ system. Although herbal medicines use have been researched in Plateau state such as Ethnobotanical survey of medicinal plants used in the traditional treatment of viral infection in Jos, Plateau state, Nigeria by Ohemu, Olotu, Agunu & Ajima (2014); Ethnobotanical survey of medicinal plants used in the treatment of animal diarrhoea in Plateau State, Nigeria by Offiah, Makama, Elisha, Makoshi, Gotep (Dawurung, Oladipo & Lohlum, 2011); Ethnobotanical Study of Medicinal Plants In Barkin Ladi Local Government Area, Plateau State, Nigeria by Dawang, Mashat, Pam & Tongwring (2016). However, to the best of the knowledge of the researcher, non has been conducted on the complementary administration of herbal and conventional medicines in Jos South LGA of Plateau State, that is the gap the study intends to fill. Therefore, the study is the complementary administration of herbal and conventional medicines in Jos South Local Government Area of Plateau State, Nigeria. The aim of this study is to assess the level of complementary utilization of herbal and conventional medicines in the studied area.

2. Conceptual Framework

Some key concepts in this study are clarified as follows;

Herbal Medicine: Herbal medicine can be seen as any products that originated from plants which are used to preserve or recover health. It is also called botanical medicine, phytomedicine or plant medicine has been defined by WHO (2002) as finished labeled medicinal products that contain as active ingredient aerial or underground parts of plants or other plant materials - which include in addition to herbs, fresh juices, gums, fixed oils, essential oils, resins, and dry powders of herbs - leaves, bark, roots, rhizomes or other plant parts which may be entire, fragmented or powdered, or combinations thereof whether in the crude state or as plant preparations. Herbal medicinal product is described as “any medicinal product, exclusively containing as active ingredients one or more herbal substances or one or more herbal preparations, or one or more such herbal substances in combination with one or more such herbal preparations” (Commission of the European Communities, 2003). According to Mahomoodally (2013), herbal medicines include herbs, herbal materials, herbal preparations, and finished products that contain parts of plants or other plant materials as active ingredients.

Conventional Medicine: Conventional medicines or drugs are chemically pure substances which when administered into the body produce pharmacological effects which may consequently lead to alleviation of the disease or help in the diagnosis or prevention of the disorder. Conventional



medicine is a system in which medical doctors and other healthcare professionals (such as nurses, pharmacists and therapists) treat symptoms and diseases using drugs, radiation, or surgery. It's also called allopathic medicine, biomedicine, orthodox medicine, mainstream medicine and western medicine (National Cancer Institute, 2021).

Complementary Medicine: The word complementary means in addition to. Complementary medicine is a term used for a wide variety of health care practices that may be used along with standard medical treatment. Complementary medicine is a system in which a non-mainstream approach is used together with conventional medicine. According to Mark (2021), complementary medicine is a group of diagnostic and therapeutic disciplines that are used together with conventional medicine. However, this paper conceptualized complementary use of herbal and orthodox medicines to mean simultaneous consumption of both herbal and orthodox medicines with sole intention of relieving pains from disease and illness.

2.1 Theoretical Framework

This study espoused the Health Belief Model (HBM). The HBM was advanced in the 1950s by Social Psychologists at the United States Public Health Service to describe and predict health related behaviors, mainly regarding the uptake of health services. The HBM is applied by focusing on the attitudes, beliefs, and practices of individuals. This model suggests that a person will take a health-related action such as use of herbal medicine if that person feels that a negative related condition or side-effects can be avoided, or has a positive expectation of taking a recommended action, or perceives that the benefits of partaking in a new behavior or new action will reduce the chances of developing a medical condition or illness and It's related symptoms (Janz & Becker, 1984).

According to this model, being ill could be a horrifying and possibly life threatening experience. The theory states that when people experience illness, adequate efforts are made, and relevant actions are undertaken to restore the body back to normal health. A process often described as health behaviour. Thus, the HBM averred that people's engagement in health behaviour depends on their belief about their health problems, perceived severity of the illness, perceived benefits of action and barriers to action as well as self-efficacy (Uzobo & Abasiokong, 2019).

The health belief model suit well to the study "assessment on the complementary administration of herbal and conventional medicines in Jos South LGA of Plateau State, Nigeria" because when people feels that they are susceptible to a particular illness they may seek to use herbal medicine as a preventive method before symptoms of the illness occur.

When individuals perceive their diagnosis to be serious in which can a threat to their health, they may consider using herbal medicines in conjunction with the treatment they are receiving from a conventional practitioner, as a way of taking advantage of all possible treatments, either by their own personal experience with herbal medicines or by learning the benefits through another avenue, such as family, friends, and religious beliefs.

Review of Related Literature

Relative to the use of herbs and other indigenous medicines, Atindanbila and Thompson (2011) in their study; Ethnobotanical survey of plants used in the management of mental illnesses in some



selected Local Government Areas of Plateau State, Nigeria found that only 2% of The psychiatric patients in the hospital used hospital drugs solely for the treatment of their disorders; the remaining patients visited the traditional healers in addition to the hospital therapies (Lor, Otimenyin, Okwori, Umar & Azila, 2017).

A research by Delgoda, Ellington, Barrett, Gordon, Clarke & Younger (2004) on the practice of polypharmacy involving herbal and prescription medicines in the treatment of diabetes mellitus, hypertension and gastrointestinal disorders in Jamaica on 743 patients indicated that 80% of the respondents reported combining natural products in their treatment along with prescription medicines, with only 13% of those patients informing their physicians of such practices. Such polypharmacy practices were independent of the type of disease among both males and females and were statistically most prevalent in the 47-57-year age group. There was a significant association between such treatment practices and place of residence with 92% of the rural community engaging in polypharmacy but 70% of the urban did likewise. A study conducted by Nur, Eli, Irma and Aliya (2021) on simultaneous use of herbal medicines and anti-hypertensive drugs among hypertensive patients in the community: The research was performed in different countries worldwide including America and those in Europe, Asia, and Africa between 1960 and 2020. The factors associated with the use of herbal medicines and antihypertensive drugs were age, gender, education level, income, and residence. Herbal medicines and antihypertensive drugs are simultaneously utilized primarily due to their safety and high efficacy. Herbal medicine is frequently recommended by friends or colleagues, herbalists, advertisements, and health workers. Garlic is the most common herbal medicine used along with antihypertensive drugs. The side effects of combination therapy with herbal medicines and prescription drugs for the management of anti-hypertension include shortness of breath and cough, ulcers, diarrhea, knee cramps, and abdominal discomfort. The lack of communication between patients and health care workers could cause an increase in the simultaneous use of herbal medicines and antihypertensive drugs. Therefore, effective communication among health care workers and appropriate care are important in preventing the side effects and other risks of combined therapy.

Adeniyi, Washington, Glenn, Franklin, Scott, Aung, Niranjana and Jolly (2021) did a study on the use of complementary and alternative medicine among hypertensive and type 2 diabetic patients in Western Jamaica: A mixed methods study. To identify beliefs and practices associated with the use of alternative treatments for hypertension and type 2 diabetes mellitus among patients. A mixed-methods study including an investigator-administered survey and focus group discussion sessions using convenience sampling was conducted among patients aged ≥ 18 years during May to August 2018. Descriptive statistics were used to describe and compare demographic characteristics among groups of survey participants using JMP Pro 14.0. Thematic analysis was conducted to analyze the qualitative data using NVivo. It was found out that most study participants (87-90%) were on prescription medication for their condition, of survey participants, 69% reported taking their medication as prescribed and 70% felt that prescription medicine was controlling their condition. Almost all participants (98%) reported using alternative treatments, mainly herbal medications, and 73-80% felt that herbal medicines controlled their conditions. One-third believed that herbal medicines are the most effective form of treatment and should always be used instead of prescription medication. However, most participants (85%) did not believe that prescription and herbal treatments should be used simultaneously. Most (76-90%) did not discuss herbal treatments with their healthcare providers. Four themes emerged from the focus group sessions: first,



Simultaneous use of herbal and prescription medicine was perceived to be harmful. Second, patients did not divulge their use of herbal medicine to healthcare providers. Third, alternative medicines were perceived to be highly effective. Fourth, Religiosity and family elders played key roles in herbal use. This study provides useful insights into perceptions and use of alternative treatments by patients that can be used by healthcare providers in developing appropriate interventions to encourage proper use of prescription medicines and alternative medicines resulting in improved management of these chronic diseases.

3. Method of Data Collection

The study was conducted in Jos South Local Government Area of Plateau state. Jos South is known to be rich in savannah and forest vegetations due to its suitable climate. It houses the state governor’s office in Rayfield, and has its headquarters at Bukuru. The study area has a projected population of 306,716. The population of the study was adult members of the public, ages 18 years and above resident in both rural and urban areas of the research location. A multi-stage sampling technique was adopted to draw a sample size of 375 using Krejcie and Morgan formula. Multistage sampling involves selecting sample from another sample. In stage one, simple random sampling was employed to select the four electoral wards using lottery method. In the second stage, in each selected electoral zone, simple random sampling technique was adopted to select the main street from each electoral ward. In stage three, in each of the selected street, systematic sampling technique was utilized to select houses with adults between the ages of 18 and above. In stage four, households were picked from the selected houses as part of the sample.

Data were collected using both qualitative and quantitative method. The instruments of data collection include questionnaires and in-depth interview. The method of data analysis used was Statistical Package of Social Sciences (SPSS) windows version 20.0. Descriptive data were presented as simple frequencies and percentages.

4. Data Presentation and Analysis

Table 1: Opinion on whether respondents have ever used herbal medicine

Response	Frequency	Percentage (%)
Yes	302	83.4
No	60	16.6
Total	362	100.0

Source: Field Survey, 2021

Table 1 shows the prevalence use of herbal medicines among people of Jos South. The table revealed that majority of the respondents reported have used herbal medicines as 83.4 percent of the respondents reported to ever use herbal medicines. About 16.6 percent reported not to have used herbal medicine in life. This shows that about 7 out of 10 people use herbal medicines. This indicates that most respondents used herbal medicine for the treatment of their ailment either simultaneously or complementarily when they considered conventional medicine ineffective.

A particular informant admitted that:

Majority of our people prefer herbal medicines than the one from the hospital because it is easy for us to get it. I believe herbal medicines work faster without adding any problem. It is difficult to find anyone from this area that has never used herbal medicine (Ward Head).



Table 2: Opinion on whether respondents used herbal medicine when diagnosed with the illness or started with conventional Medicine

Response	Frequency	Percentage (%)
Have used herbal medicine from the start	121	40.1
Started using herbal medicine at some stages of the disease	129	42.7
Use both hospital and herbal medicine from the beginning	52	17.2
Total	362	100.0

Source: Field Survey, 2021.

Table 2 reveal that most of the respondents started using herbal medicine at some stages of the disease as this is represented by 42.7 percent. This indicates that they started with conventional treatment before opting for herbal medicines. 40.1 percent started using herbal medicines from the onset of the illness while 17.2 percent use both hospital and herbal medicine from the beginning. This was supported by one of the informants:

I started using conventional medicine but, when I saw the condition was not improving, I was desperate to get well so I tried the herbal medicine. You know, when you are passing through pains, you will do anything that will subside the condition.

Another informant added;

When I was sick, I started by going to the hospital for test and other things. I spent more than six months taking the drugs from the hospital, but there was no improvement. Rather, it was causing nausea to me. A friend now recommended an herbal medicine that was when I switched.

Table 3: Whether respondents use conventional medicine together with herbal medicine or at different times

Response	Frequency	Percentage (%)
Together	35	12.0
Different times	267	88.0
Total	302	100.0

Source: Field Survey, 2021.

Table 3 reveals that most of the respondents do not take herbal and conventional medicines at the same time. This is represented by 88.0 percent while 12.0 percent combine the drugs. This shows that, although the respondents consume both herbal and conventional drugs for treatment, they don't take it together; rather, they take it complementarily. When different kinds of medicines are consumed either concurrently or at different times, but for the same condition, may lead to complications. An in-depth interview informant put it this way;

I don't take conventional and herbal medicines together at once, so I always take one at a time. I take for some time, if I notice there is no improvement, I switch at once. All I need is quick result; to be up on my feet again.

Another informant stated that;



I like hospital medicines, but the process is too slow. That’s why I take herbal medicines in between and it has work very well.

Table 4: Whether respondents informed doctor of double use of hospital and herbal medicine

Response	Frequency	Percentage (%)
Yes	127	42.1
No	175	57.9
Total	302	100.0

Source: Field Survey, 2021.

Table 4 reveals that majority of respondents don’t inform their doctors of double use as this is represented by 57.9 percent while 42.1 percent informed of complementary use. This shows that doctors are not aware of patients’ double use of medicines; this can implicate the health of the patients as the doctor is not aware of the kinds of herbs consumed by the patients.

4.2 Interpretation of Findings

The study examined the complementary administration of herbal and conventional medicines in Jos South LGA of Plateau State, Nigeria. Findings of the study revealed that 84.5% of the respondents have used herbal medicines to treat one ailment or the other. This shows high prevalence of herbal consumption among people of Jos South LGA. The study also revealed that, most patients did not start using herbal medicine from the onset of the illness; rather, they switched to herbal medicines when they were not satisfied with the orthodox mode of treatment as it’s represented by 42.7%.

Furthermore, the study showed that, although people use herbal medicines, they don’t take it concomitantly as represented by 88%. Though most of studies showed high concomitant use of herbal medicines, this study expressed that individuals consume herbal medicines but not concurrently. Although patients do not consume both herbal and conventional medicine simultaneously, most consume herbal medicines to complement orthodox medicine for faster results when they are dissatisfied with orthodox mode of treatment. This can be disastrous to the body as herbal-drug interactions may occur. Also, 57.9% do not inform their doctor of herbal consumption before and after treatment. When health professionals are not aware of the kind of herbal medicines patients consume, they may prescribe a drug that contradicts the herbs; this can lead to drugs-herbs reaction in the body system which could result to different kinds of ailments, such as liver cirrhosis, kidney failure, heart attack, to mention just but a few.

4.3 Discussion of Findings

From the findings, the study revealed that there is high consumption of herbal medicines among people of Jos South LGA, Plateau State. This corroborates with the argument of Falodun and Imieje (2013) who opined that herbal medicine is receiving much attention not only in the developing countries of the world where it is estimated that about 50% of the population uses herbal medicines. The prevalence use of herbal medicines in solving health issues by majority of the respondents could be attributed to its availability and accessibility through gardens, and markets; herb sellers (Falodun et al, 2018). Furthermore, the study indicated that most of the respondents didn’t start using herbal medicines from the onset of the illness; rather, they switched along the way. This



shows that due to the excruciating pains of illness, a lot of individuals get restless and may not tolerate/endure the pain, hence, people become desperate to get well quick in which most divert to self medication including the use of herbal medicine.

Furthermore, the study revealed a high dependence on herbal medicine usage separately and in combine status with conventional medication among the respondents which could be linked to the lack of total dependence or trust in either of the two medications. This is Similar with the study done by Chukwuma, Duru, Diwe, Uwakwe, Duru, Merenu, Iwu and Oluoha (2016) which reported high dependence on combination medication of both traditional and orthodox medicine with 63.7% out of 200 respondents which suggests imperfect dependence in any of the health care delivery systems and therefore in accordance with our finding. Also, combinations of this “alternative” medicine with orthodox medicine are common practice in the city among those that desire quick recovery (even without professional consultations), which could have an adverse effect on people involved (Falodun *et al*, 2018).

Most times, patients get dissatisfied with conventional medicines and thus are more likely to complement by switching to herbal medicines. Such practice however could result in potential herb-drugs interaction which could be hazardous to health. Herb-drug interactions may be difficult to predict, especially since the quality and quantity of active ingredients are often unknown. Interactions between conventional drugs and herbal medicine can lead to adverse drug reactions, some with serious consequences and if this interaction is not dictated earlier, can have a severe implication on the health of an individual which could result to fatal (Izzo, 2001; Williamson 2001; Williamson 2013 & Fugh-Berman 2000). Most of the herbs consumed among people of Jos South include *neem, moringa, ginger, garlic, bitter leaf*, just to mention but a few. Most at times, the concoctions of these products are used by patients for adequate outcome without minding the side effect thereafter.

Many users of herbal medicines do not inform their doctor of taking the substances because they believe they are natural and therefore, harmless. This was corroborated by Kaadaaga, Ajeani, Ononge, Alele, Nakasujja, Manabe and Kakaire (2014) who stated that patients not disclose the use of herbs to the attending physician. This is because health care professionals rarely ask the patients about the use of herbs or other types of complementary and alternative medicine (Giveon, 2004).

5. Conclusions and Recommendations

From this study, it was revealed that, there is high consumption of herbal medicines among individuals. The study also proved that most of the respondents did not take herbal medicines from the onset of the illness; rather, they switched to herbal medicines when they feel dissatisfied. This act can also be dangerous since they were on drug before switching. Herb-drug interaction can be hazardous to the body, especially if the doctor is not aware of herbal consumption.

Therefore, this study recommends; health professionals should always enquire about herbal consumption from patients before administering any treatment. This will go a long way in reducing drugs-herb interactions in the body system. Also, patients should be sensitized on issues of complementary use of herbal and conventional medicines. Furthermore, considering the kinds of herbs consumed in Jos South Local Government Area, there is need for rigorous laboratory



examination of the herbs in order to avoid drug-herb interaction; this can also be efficient in educating people on the risk of consuming those herbs.

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