

# Pharmacists' knowledge and perceptions about herbal medicines: A case study of Jos and environs

Nanloh S. Jimam, Benjamin N. Joseph, Dooshima C. Agba

Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmaceutical Sciences, University of Jos, Jos, Nigeria

## ABSTRACT

**Background:** Due to increased health consciousness among the public, the use of herbal products are on the increase on a daily basis. To achieve optimal benefits, there is a need for pharmacists who are the custodians of knowledge on drugs and drugs-related products to have more understanding and interest in herbal medicine for effective counseling on the products. The purpose of this study was to assess Pharmacists' knowledge and perceptions regarding herbal medicine use. **Methods:** Self-administered questionnaires were administered to 200 pharmacists working within the study areas to fill; after which the collected data were statistically analyzed using IBM SPSS software programmer, version 20. **Results:** Only 88.5% of the respondents responded on the questionnaires, and their mean age was 34 years; median year of experience in practice was 8.2 years; and their areas of practice included hospital (56.1%), community (28.1%), academic (8.47%), and industries (4.52%). More than half (76.27%) of them believed that herbal products were more efficacious and safer (61.02%) than orthodox medicines; with almost all of them (94.92%) acknowledging the beneficial effects of incorporating herbal medicines into orthodox medicine practice. However, most of them (72.88%) confessed having little knowledge on herbal remedies, especially drug-herbs interactions (81.36%), and their main source of information on herbs was from school (56.50%). **Conclusions:** The result showed poor level of pharmacists' knowledge on herbal medicine; which might result in poor patients' counseling on herbal therapy, especially regarding their safety and potential interaction with orthodox medicine.

**Keywords:** Herbal medicine, knowledge, perception, pharmacists, safety

## Introduction

Traditional medicine has been described as the total combination of knowledge and practices whether explicable or not, used in diagnosing, preventing, or eliminating

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physical, mental, or social disease and which may rely exclusively on experience and observation, handed down from generation to generation, verbally or in writing.<sup>[1]</sup> This form of therapy covers a broad range of healing philosophies and approaches; some approaches are consistent with physiological principles of orthodox medicines, while others constitute independent healing systems. Some of the alternative approaches to the treatment of ailments include herbal medicine, homeopathy, nutraceuticals, acupuncture, bodywork and massage.<sup>[1,2]</sup>

Herbal medicine is a traditional medicinal or folk medicine practice based on the use of plants and plant extracts. It refers to the use of any plant's seeds, berries, roots, leaves, bark, or flowers for medicinal purposes. Herbal medicine is also known as botanical medicine, medicinal botany, medicinal herbalism, herbology, and phytotherapy.<sup>[1,3]</sup>

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### Address for correspondence:

Mr. Nanloh S. Jimam, Department of Clinical Pharmacy and Pharmacy Practice, Faculty of Pharmaceutical Sciences, University of Jos, Nigeria.  
E-mail: [jimamnanloh@gmail.com](mailto:jimamnanloh@gmail.com)

The use of conventional medicines in the treatment of many ailments have been recognized; though seem not to be a cure for many diseases, especially cancer, cardiovascular, and other degenerative diseases.<sup>[4]</sup> Herbal medicine has been reported as a major source of alternative healthcare (traditional medicine) for most of these ailments, and are accessible and affordable in many countries, and a lot of efforts and priorities been made in promoting awareness about its safety and effectiveness among the public and consumers.<sup>[3,5]</sup> The high levels of its patronage might be linked to its low cost and usefulness among other factors<sup>[6]</sup> though some adverse events, drug interactions, and deaths involving these products have been documented.<sup>[7-10]</sup>

The increase in public interest in the use of alternative medicine as a source of treatment has led to good levels of interest and acceptance among health professionals.<sup>[11-14]</sup> To encourage more patronage to this alternative means of treatment, the World Health Organization has been putting a lot of efforts and priorities in the promotion of the use of herbal medicines, through the creation of awareness about its safety and effectiveness among the public and consumers.<sup>[6,15]</sup>

Pharmacists are custodians of knowledge on drugs and drugs-related products such as herbal products and are in a better position to advise patients on the use of herbal medicines.<sup>[16]</sup> Studies have shown that they are continually receiving more and more questions from patients about natural products across the globe; hence, there is a need for more knowledge and interest in herbal medicine by both the trained Pharmacists and Pharmacy students, to be able to effectively advise the public.<sup>[17-19]</sup> The purpose of this survey was to assess Pharmacists' knowledge and perception regarding herbal medicine.

## Methods

### Study setting

The study was carried out in Jos North and South Local Government Areas of Plateau State, located in North-Central part of Nigeria. The State occupies 30,913 square kilometers, and based on the 2006 National Population Commission of Nigeria census report,<sup>[20]</sup> it has an estimated population of 3,206,531 with Jos-North and South having populations of 437,217 and 311,392, respectively. The altitude of the state ranges between 1200 m (about 4000 feet) to a peak of 1829 m above sea level in the Shere Hills near Jos.

### Study population and sample size

The study population consisted of all Pharmacists practicing within the study locations. A convenience sample<sup>[21]</sup> of

200 practicing pharmacists from both public and private sectors who were representative of all the pharmacists within Jos North and South LGAs were included in the study.

### Sample selection

To ensure equal representation of the pharmacists within the study areas, the respondents were recruited from the two local government areas using the proportionate stratified random sampling method. The method was adopted, based on the theory that a homogenous population is more likely to produce a sample with a smaller sampling error than a heterogeneous one, and it was used majorly to ensure adequate or proportional representation of the different categories of pharmacists that make up study populations.

### Ethical approval

The Ethics Committee of the Faculty of Pharmaceutical Sciences, University of Jos reviewed and approved the study protocol. The purpose and objectives of the study were explained to the respondents, after which their verbal consents were obtained; and they were assured of the confidentiality of their collected information.

### Data collection

A semi-structured questionnaire was developed using the relevant information pertaining to the study variables, after which the instrument was pretested on five respondents within the study areas, and the results were excluded from the main report of the study. The pretested questionnaires were self-administered to the respondents to fill, after which they were retrieved by the researchers and coded for analysis.

## Results

Out of the 200 participants recruited for the study, 88.5% of them responded, and their mean age was 34.0 years, with 72.88% of them being men while 27.12% were women. Sixty-one percent (61.02%) of the pharmacists were married with only 38.98% still single; and their years of experience in practice ranges from 5 months to 30 years, with median age of 8.2 years; and most of them (72.43%) had bachelor of pharmacy degree as their highest qualifications, followed by master of sciences (27.57%). Their areas of practice included hospital (56.1%), community (28.1%), academic (8.47%), and industries (4.52%) [Table 1].

Table 2 shows most of them (72.88%) had little knowledge on herbal medicine, with three-quarter (81.36%) of them been not aware of any potential drug-herb interactions; and similar population (61.02%) claimed not having any knowledge regarding side effects related to the herbal medicine used.

**Table 1: Demographic characteristics of respondents (n=177)**

Variables	Frequencies (%)
Age (mean=34.0 years)	
20-30	81 (45.76)
30-50	31 (45.76)
>50	15 (8.47)
Gender	
Male	129 (72.88)
Female	48 (27.1)
Marital status	
Single	69 (38.98)
Married	108 (61.02)
Divorce	0
Years of experience (median=8.2 years)	
<8.2	99 (55.93)
>8.2	78 (44.07)
Qualification	
B. Pharm	162 (91.53)
M. Sc	15 (8.47)
Place of work	
Industrial	8 (4.52)
Community	55 (31.1)
Academic	15 (8.47)
Hospital	99 (56.1)

**Table 2: Respondents' knowledge on herbal medicines (n=177)**

Variables	Frequency (%)
General knowledge on herbal medicine	
Very well	48 (27.12)
Little	111 (72.88)
Knowledge on drug-herb interactions	
Yes	33 (18.64)
No	144 (81.36)
Knowledge on herbal medication side effects	
Yes	69 (38.98)
No	108 (61.02)

According to Table 3, the respondents' sources of information on herbal medicines were from school (56.50%) during their undergraduate programs, with about 16.38% of them admitting school and internets as their sources of information, and only 11.86% said they got information herbal medicine during their professional practices.

Table 4 shows about 67.80% of the respondents had used herbal therapy in their lifetime; with most of them (62.27%) testifying that the products were more efficacious and safer (61.02%) than orthodox medicine, and almost all of them (94.92%) acknowledged the beneficial effects of incorporating herbal medicines into orthodox medicine practice.

**Table 3: Respondents' sources of information on herbal medicines (n=177)**

Variables	Frequency (%)
Studying in school	100 (56.50)
From practice	21 (11.86)
Research	3 (1.69)
School + internet	29 (16.38)
School + other sources (friends, media etc.)	6 (3.39)
School + practice	17 (9.6)

**Table 4: Respondents' perceptions on herbs medicine (n=177)**

Variables	Frequency (%)
I have personally used herbal medicine	
Yes	67.80
No	40.68
Herbal medicine are more efficacious than orthodox medicine	
Yes	135 (76.27)
No	12 (6.78)
Unsure	30 (16.95)
Herbal and orthodox medicine should be integrated	
Yes	105 (59.32)
No	72 (40.68)
Integration of herbal and orthodox medicine is more beneficial	
True	168 (94.92)
False	9 (5.08)
Use of herbs results in treatment failure	
True	111 (62.27)
False	18 (10.17)
Unsure	48 (27.10)

## Discussion

This study revealed that pharmacists' knowledge regarding herbal medicine was poor [Table 2], which was contrary to the main roles of pharmacists as custodians of knowledge on drugs and drug-related products, including herbal products, who should be in a better position to counsel patients on their medications.<sup>[16]</sup> Their admittance of inadequacy of knowledge on herbal medicine to satisfy the purpose of the needed task on the subject matter was an indication of their levels of information needs on herbal medicine beyond the present sources indicated in Table 3. Getting such required knowledge have been shown to greatly depends on the reliable source of drug information pertaining to herbal medications, in addition to the information seeking behavior of the pharmacists and how such information would be utilized.<sup>[22,23]</sup> As a way forward, in addition to the knowledge acquired in schools, the use of internet in assessing and evaluation of the information on herbal medicine could also be of benefits to the professional.<sup>[24]</sup>

The respondents' general belief on herbal products as been more efficacious was similar to the outcome of a study

carried out in Kuwait.<sup>[6]</sup> Although about 76.27% of them reported coming across treatment failure cases due to use of herbal products, some of them (59.32%) were of the view that its integration into orthodox medicine could be a better option to the patients; with almost all of them (94.92%) agreeing that such integration might be more efficacious and beneficial to patients. Despite their little understanding on the risks, benefits, and potential interactions of herbal products; they admitted its effectiveness, even believing in increased efficiency when integrated into orthodox medicine; it implies that improving their understanding on this alternative means of treatment, especially on risks, benefits, or interactions might have better benefits on the health-care system.<sup>[25]</sup> This result corresponds with a study carried out among cardiovascular patients who reported the benefits of concomitant use of dietary supplements with orthodox medications during their cardiovascular management, with positive benefits on their health, especially when appropriate lifestyles.<sup>[25-30]</sup> However, in contrast to similar studies carried out among pharmacist whose outcome showed that pharmacists, on the average, did not believe that herbal medicine is standardized or safe enough to be incorporated.<sup>[31,32]</sup>

## Conclusions

The result showed a poor level of pharmacists' knowledge on herbs; which might have negative impacts on patients' counseling on herbal therapy, especially regarding safety and potential interaction with orthodox medicine. There is a need for more information on herbal medicine to be able to meet up with the current challenges of patients' counseling. This could be possible through the introduction of herbal medicine courses in the undergraduate curriculum of pharmacy schools across the country, in addition to organizing continuing education programs for practicing pharmacists, and encouraging the culture of searching for information on herbal medicine (example through internets) among pharmacists.

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## Conflicts of interest

There are no conflicts of interest.

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