

KNOWLEDGE, PERCEPTIONS AND PRACTICES OF COMMUNITY PHARMACISTS ON THE USE OF PHYTOPHARMACEUTICALS IN LAGOS, NIGERIA.

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ABSTRACT

The global increase in the use of phytopharmaceutical products (herbal medicinal formulations) partly arises from the misconception that ‘natural’ means “safe or risk-free”. To provide optimal pharmaceutical care, pharmacists need to be knowledgeable on the activities, safety and rational use of phytopharmaceutical products. This study is an Assessment of the knowledge, perception and practices of community pharmacists on the use of phytopharmaceutical products in Lagos, Nigeria. Data on pharmacists’ demographics, opinion, knowledge of

indications, side effects, interactions, contra-indications, regulations of phytopharmaceutical products and other professional practices were collected using self-administered questionnaires. Descriptive statistics was used to measure findings and main features of the study. Majority of respondents were without any form of post-graduate training on phytopharmaceutical products. Most community pharmacists sold phytopharmaceutical products and indicated that clients always sought information on the products. There was complete lack of knowledge of side effects, interactions and contra-indications of phytopharmaceutical products from the pharmacists. It was therefore established that pharmacists had limited knowledge on phytopharmaceutical products but were willing to acquire additional training. Regulatory bodies and educational institutions should organize continuing education programmes to update the knowledge of pharmacists in this area.

KEYWORDS: Community pharmacists, Phytopharmaceutical products, Knowledge and pharmaceutical care.

INTRODUCTION

Herbal medicines include herbs, herbal materials, herbal preparations, and finished herbal products that contain parts of plants or other plant materials as active ingredients.^[1] A growing percentage of the world's population use herbal products for preventive and therapeutic purposes.^[2] In Africa, a WHO report estimated that up to 80% of the population use traditional medicines either alone or in combination with orthodox therapies.^[3] In some Asian and African countries, 80% of the population depend on traditional medicine for primary health care.^[1] A wide range of products such as herbal preparations, homeopathic remedies, and nutritional supplements of natural origin constitute complementary medicine.^[4] Phytopharmaceuticals are pharmaceuticals formulated from traditional compounds derived from botanicals instead of pure chemicals. They may be found in forms such as tablets, capsules, softgels, tea, liquids and powders.^[5] Most patients (people) usually think of herbal preparations as risk-free options and as "safe and natural" alternatives to conventional orthodox drugs.^[6,7] Health professionals generally face the problem of assessing the effectiveness and safety of natural remedies. Information regarding these products is not readily available in official references. Some of these products have not been extensively studied as the conventional orthodox drugs and are usually sold without much knowledge of their mechanism of action or side effects.^[4] Though the use of complementary medicine (phytopharmaceuticals) is sometimes beneficial but the evidence for the efficiency of some of these products in literature is limited. They are often sold alongside orthodox drugs in pharmacies. Though herbal products may be beneficial, they are not harmless.^[8] The sale and use of phytopharmaceuticals in combination with orthodox medicines are on the increase, therefore the role of the pharmacists in the use of phytopharmaceuticals cannot be undermined, since these medicines are sold over-the-counter. Furthermore, patients generally depend on pharmacists for advice and information on these products.^[4] The objectives of this study are to determine whether these products are used concurrently with orthodox drugs, to assess pharmacists' knowledge and attitude on the increase in use of these products as well as their involvement in providing information to patients.

METHODS

Study site

The study was conducted among community pharmacists working in community pharmacies located in Surulere local government area of Lagos State in South-western Nigeria.

Sampling method

The study was conducted using the total population sample after considering the exclusion and inclusion criteria.

Study design

Cross-sectional and prospective survey

Study instrument

A twenty five-item, structured, self-administered questionnaire was used to collect data from the respondents

Data collection method

A list of registered pharmacies in Lagos state was obtained from the Pharmacists Council of Nigeria (PCN) Lagos office. From the records, a total of 52 pharmacies in Surulere local government area as at December 2012 were registered at the time of this study. Questionnaires were administered to 29 pharmacists in pharmacies that had pharmacists on duty at any time during the period of this study. 26 of the questionnaires were filled and retrieved. Informed consent of the pharmacists taking part was obtained before the commencement of the study

The questionnaires were distributed to the pharmacists after validating for readability, question design and length, by pretesting on three (3) community pharmacists. The questions meant to: (i) Obtain the pharmacist's demographic data (ii) Evaluate pharmacists' perceptions and professional practices towards the use of phytopharmaceutical products and (iii) Assess pharmacists' knowledge of regulatory issues, common indications, side effects, interactions, contra-indications of ten (10) popular and commonly sold phytopharmaceuticals (Garlic, Yoyo bitters, Fijk flush, Ginseng, Ginkobiloba, Adam's desire, Bronchicum elixir, Noni juice, Extra-large size and Swedish bitters).

Inclusion and exclusion criteria

Included in the study were pharmacists working in registered pharmacies. Excluded were internees and those pharmacies without pharmacists on duty.

Ethical consideration

The Pharmacists' informed consent was sought before data was collected from them.

Data analysis

The questionnaires were analyzed using Statistical Package for Social Sciences (SPSS) version 16. Descriptive statistics (frequencies and percentages) were used to quantify the responses of the pharmacists.

RESULTSTable 1 **Demographics**

	Response	Frequency	Percentage (%)
Years of community pharmacy practice	1-5 Years	10	38.50
	6-10 Years	4	15.40
	11-15 Years	5	19.20
	16-20 Years	2	7.70
	<20 Years	3	11.50
	No Response	2	7.70
	Total	26	100.00
Community pharmacy practice as respondent's only source of income	Yes	15	57.7
	No	10	38.5
	No Response	1	3.8
	Total	26	100
Respondent's ownership of the pharmacy	Yes	15	57.7
	No	10	38.5
	No Response	1	3.8
	Total	26	100

Table 2 **Experiences and practices of respondents with regards to the use of phytopharmaceutical products.**

	Response	Frequency	Percentage (%)
Stocking of Phytopharmaceutical products	Yes	25	96.20
	No	1	3.80
	Total	26	100:00
Concurrent purchase of phytopharmaceutical products and orthodox medicine by patients	Yes	22	84.60
	No	3	11.50
	No Response	1	3.80
	Total	26	100:00
Concurrent purchase of phytopharmaceuticals and orthodox	Yes	19	72.7
	No	6	25.0

medicines used in the management of chronic diseases such as hypertension and diabetes	No Response Total	1 26	3.80 100:00
Prescription for phytopharmaceutical products by doctors	No Rarely Frequently Total	11 15 - 26	42.30 57.70 - 100:00
Frequency of request for phytopharmaceutical products by patients/clients	No Sometimes Most Times No Response Total	2 13 11 - 26	7.70 50.00 42.30 - 100:00
Prescription/recommendation of phytopharmaceutical products to patients/clients by respondents	Yes No No Response Total	18 8 - 26	69.20 30.80 - 100:00
Respondents' commonest mode of sales of phytopharmaceutical products	On patients'/clients' request Pharmacist's recommendation Doctor's prescription No Response Total	15 9 - 2 26	57.70 34.60 - 7.70 100:00
Request for information from pharmacists on phytopharmaceutical products by patients/clients	Yes No No Response Total	21 2 3 26	80.80 7.70 11.50 100:00
Counselling of patients by respondents not to use phytopharmaceuticals and orthodox medicines together	Yes No No Response Total	19 7 - 26	73.10 26.90 - 100:00
Frequency of counselling of patients by respondents on the use of phytopharmaceutical products	I don't Sometimes Most Times Always No Response Total	2 13 6 4 1 26	7.70 50.00 23.10 15.40 3.80 100:00
Respondents' source(s) of information	Official books only Internet only Product leaflet Others Two of the above Three of the above No Response Total	1 2 5 1 5 10 2 26	3.80 7.70 19.20 3.80 19.20 38.50 7.70 100:00

Table 3 Respondents' perception on the safety and efficacy of phytopharmaceutical products, as well as their competence in providing information on the products to patients

	Response	Frequency	Percentage (%)
Respondents' perception on the adequacy of undergraduate pharmacognosy courses in preparing them to provide information on phytopharmaceuticals	Yes	13	50.00
	No	12	46.20
	No Response	1	3.80
	Total	26	100:00
Respondents' perception on the safety of phytopharmaceutical products	Very Safe	5	19.20
	Somewhat Safe	17	65.40
	I am not sure	4	15.40
	No Response	-	-
	Total	26	100:00
Respondents' perception on the efficiency of phytopharmaceutical products	Very Effective	3	11.50
	Somewhat Effective	16	61.50
	Never Effective	-	-
	I am not sure	4	15.40
	No Response	3	11.50
	Total	26	100:00
Respondents' opinion on the increase in the sales and use of phytopharmaceutical products	It is a positive development	14	53.80
	It is a negative development	1	3.80
	It has both positive and negative sides	10	38.50
	I don't have an opinion	1	3.80
	No Response	-	-
	Total	26	100:00
Respondents' interest in acquiring additional knowledge/training on phytopharmaceutical products	Yes	22	84.60
	No	1	3.80
	No Response	3	11.50
	Total	26	100:00

Table 4 Knowledge of respondents on phytopharmaceutical products

	Response	Frequency	Percentage (%)
Respondents knowledge on the evaluation of claims on phytopharmaceutical products by NAFDAC	Yes	4	15.40
	No	12	46.20
	No Response	10	38.40
	Total	26	100:00
Respondents' knowledge on common phytopharmaceutical products sold in their pharmacies	Indications	Pass (5-10/10) – 20	76.90
	Side Effects	Pass (5-10/10) – 0	0.00
	Interractions	Pass (5-10/10) – 0	0.00
	Contra-indications	Pass (5-10/10) – 0	0.00

DISCUSSION

A total of 26 out of 29, making 90% of the questionnaires distributed were filled, retrieved and analyzed. This is an impressive level of response which indicates community Pharmacist's willingness to be involved in research work and contribution to knowledge. This high level of response is an improvement as compared to the findings by Ndem in a similar work carried out in south-south states of Nigeria.^[9] Majority of respondents (69.2%) cited undergraduate Pharmacognosy as their highest level of training on phytopharmaceutical products which aligns with a similar study by Adisa and Fakaye which showed that 72% of respondents were without any form of post graduate studies, workshops or seminars on herbal medicinal products (phytopharmaceuticals).^[10] This could also be responsible for the overwhelming interest (> 84%) by respondents in acquiring additional knowledge/ training on phytopharmaceutical products, since there is evidence of high population of patients (> 80%) making enquiries about these medications.

Though, ironically, despite the afore mentioned findings of respondents' overwhelming interest in additional training, about 50% of respondents thought their undergraduate pharmacognosy has adequately prepared them to provide information on Phytopharmaceuticals. Although, about 65% of respondents are either ignorant or not sure of the registration status of phytopharmaceuticals with NAFDAC number which are either 'listed' or fully registered but that does not mean approval of claims made by manufacturers for indications, efficacy, lack of side effects e.t.c.^[11] This calls for greater effort by NAFDAC as a regulatory body to create awareness concerning what the NAFDAC numbers usually written on such products stand for, considering all kinds of claims often made on television, radio, product leaflets, internet e.t.c. that do not have sound scientific backings.

About 54% of the respondents were ignorant that claims made by manufacturers of the products were not evaluated by NAFDAC.^[11] despite the fact that a notice to that effect was written on each pack of such products sold in Nigeria, though such is usually written with very tiny prints that are hardly legible. Therefore NAFDAC needs to ensure that such important information are boldly written to serve their purpose of informing healthcare providers and users of the products alike. Respondents overwhelmingly (>96%) agreed to stocking phytopharmaceutical products in their premises which is an indication that pharmacists believed that they should be in charge of the sales and supplies of these products, as equally seen in previous studies by.^[10,12] However' when viewed against the backdrop of

apparent deficit in knowledge, one tends to question the justification for pharmacists to stock products that they are ill-equipped for effective patient counseling, thereby raising the seeming conflict between profit motive and practice ethics.^[12] Consequently, this buttresses the urgent need for training on Phytopharmaceutical products to enhance and promote effective practice. On the other hand, stocking of these products by pharmacists brings such products under the control of professionals who, if adequately prepared and having the right attitude could counsel patients appropriately on the safe and rational use of these products, resulting in improved quality of life for patients.

There was a high level of self-medication with phytopharmaceuticals by patients which was shown by almost 60% of respondents who agreed that the commonest mode of sales of these products was by patients' request, this places much responsibility on the pharmacists, being the link in between the patients and medication usage as also described by Lin et al.^[13] Furthermore, majority of respondents (>80%) attested that patients sought for information on phytopharmaceutical products from them. This is similar to a finding by Ndem.^[9] Also, about 50% of respondents indicated they sometimes counselled patients on the use of these products, with only about 20% of the respondents indicating that they counselled patients most times. This could be as a result of the deficit in knowledge of respondents on phytopharmaceuticals. Consequently, this possibly justifies the strong interest by respondents in additional training on herbal products and it correlates with the importance of patients counselling which is central to pharmaceutical care which is concerned with the "responsible provision of drug therapy for the purpose of achieving definite outcomes that improve patient's quality of life."^[14] Globally, pharmacists are encouraged to embrace this concept of pharmaceutical care to improve patient's care and this involves: Identifying actual and potential drug therapy problems, preventing potential drug therapy Problems and resolving actual drug therapy problems, possibly stemming from indications errors, dosages errors, side effects, interactions etc.

The need for continuing education on phytopharmaceutical products was further underscored by the result of the knowledge base test of indications, side effects, interactions and contra-indications of ten (13) commonly used as well as researched phytopharmaceutical products, which revealed a very poor knowledge of respondent. About 76 % of the respondents have an above average knowledge of indications, while virtually all respondents have well below average knowledge on interactions, side effects, and contra-indications.

However, from these results, pharmacists did reasonably well in questions bordering on the indications of these products as was also observed by.^[5,9,15,16,17] Seeing the high level of purchase of phytopharmaceuticals along with orthodox medicines (> 80%) especially purchase of phytopharmaceuticals along with orthodox drugs used in the management of chronic diseases such as hypertension and diabetes, (>70%), the possibility of herb-drug interactions is very high, which may result in treatment failure and other adverse drug events. This becomes even more worrisome because these patients often have to be on medications for life.

Although, majority of respondents (over 70%) indicated that they counselled patients not to use phytopharmaceuticals and orthodox medicines together, it is necessary to go further in acquiring knowledge on specific side effects, interactions, contra-indications etc. of these products especially on those commonly sold and used in their respective places of practice, but as it is now, they grossly lack such knowledge as revealed by this study and other earlier studies as cited above.

Most respondents thought phytopharmaceutical products are somewhat safe (about 65%) and somewhat effective (about 60%), such a perception need to be justified by thorough search for scientifically proven, credible sourced information, otherwise pharmacists should thread cautiously in recommending these products to patients at it is done presently, as about 70% of pharmacists recommended these products to their patients. This could be a result of their ignorance on the registration status of these products by NAFDAC.^[11] among other possible factors.

CONCLUSION

Phytopharmaceutical products and orthodox medicines are often used concurrently by patients. Community pharmacists have limited knowledge of the side effects, interactions, contra-indications and regulations of the commonly used phytopharmaceutical products. Most community pharmacists thought the increase in the use of phytopharmaceutical products is entirely a positive development, which shows they are possibly ignorant of the safety concerns of these products. Community pharmacists were overwhelmingly interested in undergoing additional training on phytopharmaceutical products. Community pharmacists have been providing information to patients on the safe and rational use of phytopharmaceutical products.

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