African Journal of Pharmacy and Pharmacology Vol. 6(15), pp. 1147 - 1152, 22 April, 2012
Available online at http://www.academicjournals.org/AJPP
DOI: 10.5897/AJPP12.018
ISSN 1996-0816 ©2012 Academic Journals

Full Length Research Paper

Attitude and opinion of Nigerian community pharmacists to self medication practices

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Accepted 29 March, 2012

This study evaluated the attitude and opinion of Nigerian community pharmacists on self medication practices with respect to the definition, advantages and disadvantages of self medication, ailments for which self medication should be allowed, as well as measures that may be instituted to ensure appropriate self medication practices. Pretested structured questionnaires were administered to licensed community pharmacists practicing in Southwestern Nigeria between December, 2009 and July, 2010. Descriptive statistics were used to summarize the data. Mann Whitney U and Kruskal Wallis tests were used to evaluate the respondents' opinions in ordinal variables with $p < 0.05$ considered statistically significant. Respondents with postgraduate qualification ($p < 0.05$) believed that self medication solely done by patients without guidance of a health care professional may lead to mismanagement or subtherapeutic management of diseases (66; 91.66%), medication errors and likelihood of disease complications (68; 93.15%). Years of practice had a significant effect on community pharmacists' perception of advantages of self medication ($p < 0.05$). Rigorous monitoring of drug advertisement in the media might help in controlling the practice of self medication (63, 86.30%). Respondents believed that keeping the identity of the medications (29; 39.73%) and diagnosis details (19; 27.14%) unknown to patients is unethical. Self medication may be acceptable for fever (53; 74.65%), diarrhea (46; 67.65%) and cough (39; 53.62%), but with specific time limits, for patients on chronic medication who have stable clinical conditions, including asthma (46; 66.67%), hypertension (36; 51.43%) and diabetes (37; 52.86%). Community pharmacists in Southwestern Nigeria possess a good understanding of the concept of self medication, believed the practice should not be discouraged in totality, but should be practiced under controlled conditions, and that public enlightenment may help to ensure safe self medication practices.

Key words: Self medication, pharmacists, definition, attitude, patients.

INTRODUCTION

Self medication, an element of self care is defined as the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms (World Health Organization (WHO), 1998). Self medication has the approval of the WHO for quick and effective relief of symptoms of minor ailments without medical consultations in order to reduce burden on health care services, most especially in understaffed, inaccessible rural or remote areas (Phalke et al., 2006). The incidence of self medication is widespread. Literature shows a high incidence of self medication with over-the-counter, complementary and sometimes prescribed medicines in a range of 15.0 to 81.5% in different localities (Hardon and Van der Geest, 1987; Saeed, 1988; WHO, 1993; Ruebush et al., 1995; Ibrahim, 1996; Durgawale, 1998; Phalke et al., 2006; Indermitte et al., 2007; Goh et al., 2009). A study in Spain showed that self-medication is more prevalent among women, persons who live alone and persons who live in large cities. Also, among persons with reported acute disorders, the prevalence of self-medication was greater with higher educational levels (Figueiras et al., 2000). In another study carried out in Sri-Lanka, literacy and level of education was found to

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positively influence the incidence of self medication (Abosede, 1984). A recent study in Nigeria showed that age and marital status significantly influence self medication practices among in-patients in secondary health care settings (Fakeye et al., 2010). In developing countries, purchase of medications from drug vendors without consulting a qualified health care practitioner is a widespread practice. In such countries, the roles of pharmacists and other non-physician health care personnel are not so clearly defined. The roles of the pharmacists, especially, are flexible and have been found to largely depend on the structured and defined roles of the health care personnel in their environment of practice. The knowledge base of the pharmacists in providing appropriate advice to patients on prescribed medications, and possibly making rational drug recommendations has been shown to influence the level of confidence expressed by the patient in the pharmacist. In some cases, patients are not comfortable with pharmacists making therapeutic substitutions or performing any other drug substitution intervention even if they will be of benefit to the patient (Bradley et al., 1998). A study in the United Kingdom showed that patients who visit pharmacies and asked for advice were more likely to have asked about a specific medicine which they want to buy than to seek general health advice from their pharmacists. In the study, it was noted that only 12% of those who purchased over-the-counter medications had asked for advice (Boardman et al., 2005). Studies show that patients may not always receive appropriate advice from the pharmacist in terms of guidance on what drugs to use. A study carried out in three Asian countries showed that less than 25% of the pharmacists could give adequate advice for a fictitional case of diarrhea in an infant (Tomson and Sterky, 1986). This is in contrast with a controlled study which revealed that with special training, pharmacists were able to positively impact the outcomes of self medication in patients suffering from dyspepsia (Krishnan and Schaefer, 2000).

In Nigeria generally, prescription-only medicines can be obtained without a written order from a prescriber/physician, and there is a half-hearted control by the regulatory bodies in the country to control sale and supply of this class of drugs by non-pharmacists (Erhun et al., 2001). Pharmacists in community practice are usually the first port of call for patients' complaints on health matters, thus, providing opportunity for pharmacists to make appropriate recommendations, including referral to hospitals. More often than not, the pharmacist does recommend medications, except when he believes there is a need for the patient to see a physician. The present study was carried out to evaluate the perception and understanding of pharmacists practicing in community practice settings in Southwestern Nigeria with regards to the practices that may qualify to be defined as self medication, their opinion about whether self medication should be encouraged, the measure that may be instituted to encourage or discourage self medication and conditions that may be appropriate for self medication.

METHODOLOGY

Study site

The study was carried out between December, 2009 and July, 2010. Registered pharmacists in retail (community) practice in two of the Southwestern states in Nigeria were recruited into this study. The list of pharmacists who were registered to practice during the period of the study in those states was obtained from the Pharmacists' Council of Nigeria (PCN), the body in charge of regulating pharmacy practice and education in Nigeria. There were 90 pharmacists who were duly licensed by PCN to practice in the registered community pharmacies in the two states at the time of the study. The target sample size of 77 was calculated based on this estimated population at 5% level of error and 95% confidence level using Raosoft Sample Size Calculator (http://www.raosoft.com/samplesize.html). This was used as a guide to recruit respondents.

Inclusion criteria

Only pharmacists who were fully registered and licensed with the PCN to practice during the period of the study were included in the study. Intern pharmacists or pharmacists who were on one-year compulsory youth service corps programme were not included, since they were adjudged to be under training. Out of the eligible respondents, only pharmacists who were in attendance in their respective community pharmacies at the time of visit, and who consented to participate in the study were administered the data-collection instrument. Eighty pharmacists practicing in retail/community pharmacies were enrolled within the study period.

The instrument

The main instrument for data collection was structured questionnaire which was pretested among five pharmacists in academia. After pretesting, the response options were changed from dichotomous (Yes/No) to Likert scale format in order to enable the would-be respondents to appropriately indicate their opinion on the questions/statements. These pharmacists were asked to choose from responses ranging from strongly agree (assigned a value of 5) to strongly disagree (assigned a value of 1) in response to certain statements.

The questionnaire was divided into sections. Section A was used to obtain information on gender, year of experience, additional qualification and their opinion on the accepted definition and concept of self medication practices with respect to patients and non physician health care professionals. Section B dealt with advantages and disadvantages of self medication practices, while section C elucidated community pharmacists' opinions on the measures to discourage self medication practices if need be, as well as measures that may be instituted in order to ensure effective self medication practices among the populace. Section D sought opinion on the possible ailments or disease conditions to which self medication should be allowed and under the conditions or limit to which such should be allowed. The questionnaire also contained a question with dichotomous options to explore pharmacists' opinions on whether self medication practices should be discouraged in totality and to indicate the reason for such opinion. The questionnaire which took between 20 and 25 min to complete was

administered by the investigators. The mode of administration of the questionnaire was by visiting pharmacists in their respective community pharmacies using the current premises address on the PCN register. Out of the 80 questionnaires administered to the consented community pharmacists within the study period, 73 (91.25%) completely responded to the questionnaire and these were considered for the final analysis.

Statistical analysis

The data were analyzed using Statistical Package for Social Sciences (SPSS) statistics for Window version 17.0. Descriptive statistics including frequency and percentage were used to summarize the data. Mann Whitney U and Kruskal Wallis tests as appropriate were used to evaluate the associations between respondents' opinions (dependent ordinal variables) and different independent categorical variables including year of practice, gender as well as post qualification additional degree. Level of statistical significance was set at $p < 0.05$.

RESULTS

The questionnaire was administered to eighty respondents who consented to participate in the study. Of this, 73 (91.25%) were found fit for analysis. There were 45 (61.64%) male respondents and 28 (38.36%) female respondents. There were more respondents with Bachelor of Pharmacy degree (66; 90.41%) than those with postgraduate academic qualification (Master of Science, MSc and Master of Pharmacy, M.Pharm degrees) (7, 9.59%). Majority of the respondents (39; 53.43%) had between one and ten years of post qualification experience, while 10 (15.07%) had 21 to 30 years; 9 (12.33%) had 11 to 20 years; 7 (10.96%) had more than 30 years experience and 6 (8.22%) had less than 1 year experience.

Over 80% (57; 81.42%) community pharmacists believed that buying drugs without consulting a physician is an act of self medication, while 25 (34.30%) and 22 (30.10%) respondents believed that having a knowledge of the dose to use and making decision about the drug to buy even if the right decision has been made without consulting a physician, respectively, can also be defined as self medication. Less than half the respondent (24; 33.80%) believed that the act of buying drugs recommended by non-physicians (pharmacists, nurses, etc) constitutes self medication practice. A significant association exists between respondents' length of years of practice and opinion with respect to buying and taking drugs recommended by a non-physician as a form of self medication (Tukey HSD post hoc test $p < 0.05$). Respondents with 1 to 10 years and 21 to 30 years post-qualification experience were those in the majority who believed that self medication is an act of buying drugs without physician recommendation when compared to respondents with more than 30 years post qualification experience. The details of respondents' opinions on definitions of self medication are as shown in Table 1.

Majority agreed that encouraging patients to be actively involved in drug therapy decision process with the physician, or consulting a physician with the intention of selecting or identifying the most useful drugs from a list of prescribed medications should not be considered acts of self medication (Table 1). The perceptions of community pharmacists on the advantages of self medication practices are also shown in Table 1.

Over half the respondents believed that the advantages of self medication include patients being able to recognize and take care of simple ailments thereby giving the physician more time to attend to some complex medical conditions. Self medication practice by patients was also believed to help the patient to have a positive feeling of being actively involved in his health care. Sixty eight (93.15%) respondents believed self medication may encourage subtherapeutic/inadequate management of diseases and giving patients false sense of making accurate prediction of their disease condition (66; 90.41%), lead to institution of inaccurate treatment (77; 97.26%) causing medication errors and/or likelihood of disease complications which may not be adequately handled (68; 93.15%). Years of practice affected the respondents' perception of advantages of self medication with level of significance ($p < 0.05$). Respondents with more than 30 years post-qualification experience {when compared with respondents with 1 to 10 and 11 to 20 years post qualification experience ($p < 0.05$)} believed that self medication would neither lead to improper diagnosis or mismanagement of a medical condition nor give patients false sense of making true diagnosis ($p < 0.05$). Also, Mann-Whitney U test showed that post graduate qualification significantly influenced respondents' perception on the disadvantages of self medication. Respondents with academic postgraduate qualification, Master of Science and Master of Pharmacy believed that self medication may encourage inaccurate diagnosis of ailment ($p < 0.05$), as well as lead to medication errors and subsequently improper treatment ($p < 0.05$).

Almost half of the respondents (34; 47.89%) believed that counseling patients in the clinics on how to recognize simple ailments, and the steps to take when they want to buy drugs may not necessarily lead to effective and safe practice of self medication. However, they believed that general education of the populace outside the clinic will have a better impact on recognition of simple ailments and the drugs to use (Table 1).

Majority of the respondents (63; 86.30%) believed that rigorous monitoring of advertisement in the media may help in reducing the menace of self medication practice and the possible negative consequences of the practice on the patients. About one third (29, 39.73%) believed that keeping identity of the medications and diagnosis details (19; 27.54%) unknown to patients is an unethical method of discouraging self medication. Gender ($p < 0.05$) and post graduate qualification ($p < 0.05$) were

Table 1. Pharmacists' opinion about self medication and its practice.

	Response in frequency (% frequency)					50th percentile (Median value)	MW-U P value
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree		
Definition: Self medication is							
Self diagnosis and commencement of treatment (N=70)	25 (35.7)	32 (45.7)	5 (7.1)	3 (4.3)	5 (7.1)	4	0.479
Refilling prescriptions without consulting physicians (N=73)	13 (17.8)	31 (42.5)	5 (6.8)	14 (19.2)	10 (13.7)	4	0.871
Skipping clinic appointment because patient knows drug to take (N=71)	8 (11.3)	22 (31.0)	14 (19.7)	18 (25.4)	9 (12.7)	3	0.814
Consulting non-physician for diagnosis and recommendation of drugs to use (N=72)	8 (11.1)	24 (33.3)	10 (13.9)	25 (34.7)	5 (6.9)	3	0.384
Consults non-physicians for follow-up (N=71)	5 (7.0)	19 (26.8)	16 (22.5)	23 (32.4)	8 (11.3)	3	0.147
Consulting physician and partaking in drug-therapy decision (N=68)	7 (10.3)	14 (20.6)	6 (8.8)	28 (41.2)	13 (19.1)	2	0.836
Consulting physician only for recommendation. Chooses what drug(s) to buy out of doctor's prescription (N=69)	5 (7.2)	18 (26.1)	9 (13.0)	31 (44.9)	6 (8.7)	2	0.445
Perceived advantages							
Ability of patients to take care of simple ailments (N=73)	12 (16.4)	39 (53.4)	6 (8.2)	11 (15.1)	5 (6.8)	4	0.917
Saving of man-hour for physicians that could have been used to attend to patients (N=72)	6 (8.3)	31 (43.1)	12 (16.7)	19 (26.4)	4 (5.6)	4	0.614
Reduction of stress on physician due to reduction in number of patients attended to (N=72)	7 (9.7)	31 (43.1)	13 (18.1)	13 (18.1)	8 (11.1)	4	0.942
Patient's satisfaction because he feels he is involved in taking active roles (N=68)	7 (10.3)	25 (36.8)	12 (17.6)	17 (25.0)	7 (10.3)	3	0.152
Perceived disadvantages							
Encourages self diagnosis which may be false (N=73)	46 (63.0)	22 (30.1)	4 (5.5)	0 (0.0)	1 (1.4)	5	0.049*
Gives a false sense of making a true diagnosis (N=72)	36 (50.0)	30 (41.7)	5 (6.9)	0 (0.0)	1 (1.4)	5	0.059
Treatment may not be properly instituted which may lead to medication errors (N=73)	40 (54.8)	31 (42.5)	1 (1.4)	0 (0.0)	1 (1.4)	5	0.035*
To discourage self medication							
Rigorous monitoring of advert in media (N=73)	30 (41.1)	33 (45.2)	7 (9.6)	3 (4.1)	0 (0.00)	4	0.599
Keeping identity of medication dispensed to patient away from him (N=73)	7 (9.6)	22 (30.1)	8 (11.0)	28 (38.4)	8 (11.0)	3	0.200
Non-disclosure of patient's diagnosis to him (N=69)	5 (7.2)	14 (20.3)	12 (17.4)	28 (40.6)	10 (14.5)	2	0.016*
Effective self medication practice							
Population educated on how to recognize simple ailments and drugs to use (N=71)	6 (8.5)	36 (50.7)	8 (11.3)	16 (22.5)	5 (7.0)	4	0.589

*, Level of significance $p < 0.05$. **, MW-U: Mann Whitney U test.

seen to positively affect this latter opinion.

Table 2 shows that majority of the respondents believed that self medication should be encouraged for selected common ailments, including fever of less than 2-day duration (53; 74.65%); headache of less than 3-day duration (49; 71.01%) and diarrhea of less than 24 h duration (46; 67.65%) with cough of less than 3-week duration having less support (39; 56.52%). Respondents who had between 21 to 30 and >30 years post qualification experience believed that self medication should be discouraged in patients

Table 2. Pharmacists' attitude to self medication in selected disease states.

Diseases/ailments for which self medication may be encouraged	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	50th percentile	**MW-U P value
Fever of not more than 2 days duration (N=71)	11 (15.5)	42 (59.2)	8 (11.3)	8 (11.3)	2 (2.8)	4	0.291
Cough of less than 3-week duration (N=69)	7 (10.1)	32 (46.4)	10 (14.5)	14 (20.3)	6 (8.7)	4	0.274
Headache of less than 3day duration (N=69)	8 (11.6)	41 (59.4)	11 (15.9)	5 (7.2)	4 (5.8)	4	0.696
Diarrhea of less than 24 h duration (N=68)	13 (19.1)	33 (48.5)	8 (11.8)	10 (14.7)	4 (5.9)	4	0.776
Follow-up treatment for hypertension (N=70)	6 (8.6)	30 (42.9)	11 (15.7)	15 (21.4)	8 (11.4)	4	0.602
Follow-up treatment for diabetes mellitus (N=70)	7 (10.1)	30 (42.9)	10 (14.3)	15 (21.4)	8 (11.4)	4	0.727
Maintenance therapy for asthma (N=69)	7 (10.1)	39 (56.5)	8 (11.6)	9 (13.0)	6 (8.7)	4	0.964
Patients on chronic medication generally (N=67)	4 (6.0)	29 (43.3)	8 (11.9)	10 (14.9)	16 (23.9)	3	0.208

*Level of significance P < 0.05. **MW-U: Mann Whitney U test.

with fever or diarrhea. For chronic ailments, self medication for maintenance of asthma had the highest support (46; 66.67%), while hypertension and diabetes mellitus had almost equal number of respondents agreeing to self medication as long as the patients are stable and do not have fresh complaints (Table 2).

Less than half the respondents, 32 (43.84%) believed that self medication should be discouraged, while 40 (54.80%) believed that it should not be discouraged as long as decisions are made with help of professionals. One respondent (1.36%) was neutral.

DISCUSSION

Majority of the respondents had the first Bachelor of Pharmacy degree with 1 to 10 years post qualification experience. There were more male than female respondents probably because the study was done among pharmacists in community practice which is a male-dominated practice in pharmacy.

There was divided opinion on definition of self medication. The definition was influenced by the year of practice of the respondents. Pharmacists who had over thirty-year post qualification experience were not in agreement with strict definition of self medication as an act of buying any drug without a physician's prescription. This does sound reasonable since in some countries, a pharmacist is allowed to recommend non-prescription and pharmacy-only drugs. In Nigeria, there is no strict implementation of regulations of sale of prescription drugs. Almost all drugs could be bought over the counter without a prescription. However, in this study, we did not qualify the type of drugs referred to. Other definitions to which the respondents agreed to generally show that the respondents quite understood the term "self medication" when compared with definition of self medication (WHO, 1998).

Most respondents believed there are inherent advantages to self medication when properly monitored. Some of the monitoring measures largely agreed to include monitoring of the contents of advertisement of drugs in the media. A prior study in Southwestern Nigeria showed that advertisements of over-the-counter medications on radio, television and billboards largely made use of appeals related to efficacy (100%) and psychosocial enhancement (80%) of the medications (Yusuff and Yusuf, 2009), thereby making it attractive to the populace. This might have been one of the influencing factors for self medication in the area (Afolabi, 2008; Fakeye et al., 2010). Patient having a positive feeling of being involved in their health care is believed to be an advantage of self medication, while the patient may experience increased medication errors with practice of self medication.

Minor ailments such as fever, headache, cough and diarrhea, all of which might be symptoms of more serious endemic ailments in the country, such as malaria and tuberculosis were candidates for which self medication were generally believed to be appropriate. Usually, most patients treat symptoms. However, in this study, it was agreed that a time limit should be allowed for the ailment to be treated, after which if there is no improvement, the patient would need to see a qualified medical practitioner. It is quite interesting to note that the respondents were in support of patients buying medications without prescription

for chronic diseases, such as hypertension, diabetes and asthma as long as the patients are stable. Such patients could consult their physicians only if there are fresh complaints. The respondents were divided on whether generally self medication should be encouraged or not.

Whether or not it is recognized, self medication has become an increasingly important area within healthcare. It moves patients towards greater independence in making decisions about management of minor illnesses, thereby promoting empowerment. Self medication also has advantages for healthcare systems as it facilitates better use of clinical skills, increases access to medication and may contribute to reducing prescribed drug costs (Hughes et al., 2001). Self medication, as defined in this study should be encouraged. Patients should be able to consult the pharmacists legally for minor ailments and follow-up of some chronic diseases as long as they are stable. In situations where an appropriately trained pharmacist can recommend drugs for the management or follow-up of stable chronic ailments when the patient does not have fresh complaints, the patients is likely to make better informed and educated decision on the medication to use. Everybody, the patient and the physician would then enjoy the benefits/advantages of self medication.

Conclusion

This study showed that pharmacists in community practice are in support of self medication to a large extent, and believed that education of patients is a key point in the practice of self medication. They believed that patients who are stable with chronic ailments may also be allowed to self medicate as long as there are no fresh complaints.

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