

Pattern of Self-Medication with Prescription Medicines Among Residents of Ilorin in North Central Nigeria

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Authors' Contributions

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ABSTRACT

Background: The challenge posed by inappropriate use of medicine is of global concern. It is associated with patient using his discretion to choose the type of medication to self-treat a perceived ailment and the choice of medication usually devoid of health care professional input.

Objective: The significance of this study was to assess the pattern of self-medication with selected prescription medicines among residents of Agbo-Oba area of Ilorin, Kwara State.

Method: The method was a descriptive cross-sectional study of residents of Agbo Oba area of Ilorin between January to May 2019 with self-designed validated questionnaire. Convenient sampling method was used to select the participant who met the criteria for selection.

Results: The mean age of the respondents was 38.5 ± 11.8 with minimum age of 19 and maximum age of 70 years. The most occurring age group was 26-35 years and primary school level of education, and artisan/trader were the most predominant in self-medication. Among the prescription medicines, antibiotics were the most self-used followed by steroids and cyproheptadine. Females were shown to practice self-medication more than their male counterpart. Marital status and level of education were factors that influenced awareness of risk factors associated with self-medication among the study participants, p -value = 0.017 and 0.039, respectively.

Conclusion: The prevalence of self-medication with prescription medicines was high and appeared to be more among female than male. Specifically, female misuse oral corticosteroids and cyproheptadine more and marital status and occupation type are strong predictors of their awareness of potential risks associated with self-use of prescription medicines.

Keywords: Prescription medicines, self-diagnosis, prevalence, Ilorin.

INTRODUCTION

Self-medication is the use of medicine by individuals to treat self-recognized illnesses or symptoms [1]. Medicines are usually selected by intending users for symptoms of perceived ailments in which the assessment was based on how the patient feel but not based on recommendation from a prescriber [2].

Essentially, the practice of self-medication with various classes of medication whether over-the-counter or prescription medicines is a worldwide problem. The practice is more predominant in underdeveloped or developed nations where access to health care may be poor or inability of the patient to afford a prescribed medication for a particular ailment and this however lead to inappropriate treatments of the patient condition [2].

The most widely used prescription medicine in self-medication is antibiotic despite being prescription only medicines. This could be as a result of antibiotics could be from leftover medicines an individual has been previously recommended an antibiotic but did not finish the course of therapy. A friend or relative might have access to this and use with recommendation by a health care practitioner or purchase from a pharmacy or other medicine outlet in self capacity [3].

Incorrect self-diagnosis, refusal or delays in seeking necessary consultation and possible exposure to avoidable adverse effects from medicines and wrong method of administration are potential risks associate with self-use of medicines [4].

There could also be cases of disease masking, drug dependence and wrong choice of medicines among the users [4].

Peoples' lack of knowledge of antibiotic use could be an important reason for self-medication leading to inappropriate use [5].

Symptoms of some diseases that are perceived to be infectious in origin for instance, as rhinosinusitis, sore throats, bronchitis or earaches, cold and flu can be alleviated with over-the-counter medicines and in most cases, the immune system is able to deal with such mild infections [6-8].

Cyproheptadine is an antihistamine with additional and serotonergic activities. It also has a local anaesthetic effect. It's ability to improve sleep, calmness has been established. It also has negative symptoms in chronic schizophrenics who do not respond to other therapies. It's common adverse effects include drowsiness, dizziness, nausea, blurred vision, dry mouth, constipation, excitability, nervousness and restlessness [9].

Glucocorticoid dexamethasone is steroid drugs with anti-inflammatory and immunosuppressing activities. It is used to treat rheumatoid arthritis and bronchospasm. It has been clinically used in idiopathic thrombocytopenic purpura and adrenal insufficiency and Addison's disease [9].

It has been found that several African societies do not recognize obesity as a health problem, but as a display of social well-being and beauty especially among women and as such making it difficult for health care professional to achieve good weight control when needed [10].

On routine daily use, Cyproheptadine may cause several side effects, including drowsiness, tired feeling, insomnia, spinning sensation, blurred vision, and loss of coordination, upset stomach, and nausea, diarrhea, and weight gain [11].

Their ability to serve as mediators of the stress response, regulating both glucose homeostasis and the immune system explain its diverse use in many clinical important cases. It binds to specific receptor proteins in the target tissues to regulate the expression of corticosteroid responsive genes, changing the levels and arrays of proteins synthesized by the various target tissues [12, 13].

Steroid receptors are present in the brain, and interfere with various neurotransmission, including serotonin and dopamine. The direct effect of corticosteroids has been recognized which include effects on mood, behavior and brain excitability although the mechanisms whereby corticosteroids affect neuronal activity are unknown, but it has been proposed that steroids produced locally in the brain (neurosteroids) may regulate neuronal excitability [14].

Dexamethasone has been known to decrease body weight, rather than causes weight gain which at variance with general assumption, and whitening skin. There is also appearance of moon face resulting from the use of this drug and this occurs at initial use of the drug which is usually misconceived as weight gain [15].

Whitening of the skin observed is as a result from prevention of melanin synthesis which is essential for the protection of skin from ultraviolet light in which it increases susceptibility of skin cancer. It also antagonizes production which could predispose the patient to diabetic mellitus or impaired glucose control in diabetic patient, with aldosterone functions [15].

The role of pharmacists in optimizing therapeutic care for the patient include implementation of strict regulatory mechanisms to restrict over the counter dispensing of prescription medicines [15]. Self-treatment with antibiotics has been shown to be prevalent in respiratory conditions and co-trimoxazole and amoxicillin were the two most common antibiotics involved [16].

Studies on pattern and prevalence are available in some parts of the world like India [17], Democratic Republic of Congo [10], Sudan [2].

In Nigeria, most findings were on general concept of self-medication without being specific except few on antibiotics [18].

In view of this, there is need to investigate the trend of use of some commonly used prescription medicine among the residents of Ilorin.

MATERIALS AND METHODS

The study was conducted among residents of Agbo-oba area of Ilorin in Ilorin West Local Government Area of Kwara State from January to May 2019. Agbo-oba is located in the North Eastern part of Ilorin bounded in the South West by Adewole area, in the East by Surulere, in the North East by Kuntu/Adeta. The residents were predominantly low income earners with petty trading and student occupants of Kwara State College of Education, Institute of Technology of Kwara State Polytechnic and Al-Hikmah University and in this study we employed a descriptive cross-sectional design, and residents who were 18 years and above were included in the study. A sample size of 294 was calculated using Fisher's formula for a study using analytical study design with the level of confidence set at 95% and a precision of 0.05 [19].

Ten percent (10%) attrition rate was used to cater for nonresponse or rejection of improperly filled questionnaires. Convenient sampling method was used for participants which was done randomly by selecting subject who patronize whether a Pharmacy, Patent Medicine Store or any other outlet where medicine could be obtained. Selection of subject included any resident that obtained a medication which involved items of interest in this study viz: selected oral antibiotics, Cyproheptadine, Dexamethasone tablet, male sexual enhancers and salbutamol tablet in any outlet for sales and dispensing of medicines. The choice of this line of medication was borne out of long time observation of over the counter use of these drugs. In the study area, there are about five registered pharmacies viz: Adewole Pharmacy, Al-Mufid Pharmacy, Island Pharmacy and Tunmise Pharmacy while there were over forty patent medicine stores spread across the streets of the community.

The questionnaire used was assessed for face and content validity by all the researchers in the study. Cronbach alpha of 0.73 was obtained when the reliability of the questionnaire was assessed and

literatures related to the study objectives were searched to enhance the quality of the questionnaire. The questionnaire was divided into two parts.

The first parts contained patient demographic information while the second part contained question items used to elicit information on self-medication with selected prescription medications like oral corticosteroids, bronchodilators, antibiotics and so on. The semi-structured questionnaire was pretested at Sawmill area of Ilorin where about 35 participants were used for the pretesting. Where necessary, the corrections were made on the questionnaires was self-administered by the respondents.

Interviewer administer method was used and respondent who could not speak the official English language were spoken to in the local language of Yoruba.

The purpose of the study was explained to the respondents and their verbal consent to participate in the study were sought and obtained before the questionnaires were administered. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 20. Data were presented in frequency tables with percentages, means, and standard deviation. Bivariate analysis was done using chi-squared and logistic regression analysis. P-value less than < 0.05 was considered to be significant.

Ethical Approval

The study was approved by the Ministry of Health, Ilorin, Kwara State. Informed consent of the participants was obtained and the participation was voluntary without any form of financial inducement or coercion.

RESULTS

Out of 294 questionnaires processed for interview, 283 were returned and suitable for use giving a response rate of 96.3%. The mean age of the respondents was 38.5 ± 11.8 with minimum age of 19 and maximum age of 70 years (Table 1).

On the awareness of the respondents on whether they were aware of the prescribing status of the medications they were taking or not, only 30.7% ($n=87$) were aware they should receive prescription from a qualified medical practitioner before taking the medications (Table 2).

Assessing the relationship between demographic variables and awareness of risk of self-medication with prescription medication provide these results (Table 3).

The association between the awareness of risk associated with use of prescription medication and willingness of the respondents to stop the practice using logistic regression analysis showed that chi square was 0.379 and a p-value of 0.538.

Table 1. Demographic characteristics of the respondents.

Variable	Values	Number	Percentage
Age	≤25	31	10.9
	26-35	123	43.5
	36-45	57	20.1
	46-55	44	15.6
	≥56	28	9.9
Gender	Male	108	38.2
	Female	175	61.8
Marital Status	Single	59	20.8
	Married	191	67.5
	Divorced/Widowed	33	11.7
Level of Education	Non Formal	52	18.4
	Primary	119	42.0
	Secondary	77	27.2
	Tertiary	35	12.4
Occupation	Unemployed	44	15.5
	Student	79	28.0
	Artisan/Trader	102	36.0
	Civil Servant	52	18.4
	Retiree	6	2.1

Table 2. Frequency distribution of the medications taken by the respondents.

Medicine Class	Medicine Name	N (%)
Antibiotics	Ampiclox	141 (49.8)
	Ampicillin	119 (42.1)
	Amoxicillin	68 (24.0)
	Chloramphenicol	79 (27.9)
	Greseofulvin (Fulcin)	23 (8.1)
	Co-trimoxazole	105 (37.1)
Corticosteroids	Dexamethasone	167 (59)
	Prednisolone	63 (22.3)
Antihistamine	Cyproheptadine	178 (62.9)
Bronchodilator	Salbutamol	94 (33.2)
	Aminophyllin	20 (7.1)
Aphrodisiac	Sildenafil	67 (62.0)*
	Tadalafil	45 (41.7)*
Sources where medicines were mostly obtained	Pharmacy	133 (47)
	Medicine store	97 (34.3)
	Both medicine and patent medicine	53 (18.7)

Reasons for taking the medication(s)	Infection	187 (66.1)
	Cough	94 (33.2)
	(Aphrodisiac) Man power	67 (62.0)*
	Weight gain	167 (59.0)
	No reasons	9 (3.2)
	Sleep	66 (23.3)
Do you seek counseling when obtaining your medications?	Yes	122 (43.1)
	No	161 (56.9)
How long have you been taking the medications(s)?	Few months (less than 1 year)	39 (13.8)
	Few years (1-10 years)	119 (42.1)
	More than 10 years	133 (47.0)
Are you aware of the possible risk associated with prolonged use of these medicines?	Yes	105 (37.1)
	No	178 (62.9)
To what extent did you perceive the danger of self-medication with prescription medicines?	High	54 (19.1)
	Moderate	55 (19.4)
	Low	56 (19.8)
	None	118 (41.7)
Are you willing to stop taking the medicines except on medical recommendation?	Yes	155 (54.8)
	No	128 (45.2)

*Out of a total number of 108 male respondents

Table 3. Association between socio-demographic variables and awareness of risk of self-medication with prescription medicines.

Variable		Awareness of risk associated with self-medication with prescription medicines		X ²	P-Value
		Yes (n=105)	No (n=178)		
Gender	Male	44 (41.9)	64 (36.0)	1.25	0.310
	Female	61 (58.1)	114 (64.0)		
Age (years)	≤25	13 (12.4)	18 (10.1)	0.473	0.976
	26-35	44 (41.9)	79 (44.4)		
	36-45	21 (20.0)	36 (20.2)		
	46-55	17 (16.2)	27 (15.2)		
	≥56	10 (9.5)	18 (10.1)		
Educational Qualification	Non Formal	21 (20)	31 (17.4)	0.734	0.865
	Primary	44 (41.9)	75 (42.1)		
	Secondary	29 (27.6)	48 (47.5)		
	Tertiary	11 (10.5)	24 (13.5)		
Marital Status	Single	13 (12.4)	46 (25.8)	8.16	0.017*
	Married	76 (72.4)	115 (64.6)		
	Divorced/ Widowed	16 (15.2)	17 (9.6)		
	Unemployed	16 (15.2)	28 (15.7)		
Occupational Status	Student	24 (22.9)	55 (30.9)	9.303	0.039*
	Artisan/Trader	34 (32.4)	68 (38.2)		
	Civil Servant	27 (25.7)	25 (14.1)		
	Retiree	4 (3.8)	2 (1.1)		

*X² with P < 0.05 is statistically significant

DISCUSSION

The survey enjoyed a high response rate from the target participants which was an indication for willingness of the participants voluntary participation in the study.

Majority of the respondents had primary school qualification as their highest level of education while only a few of them had tertiary level of education (Table 1). This could be the reason why occupational distribution of the respondents showed a higher proportion of artisans or traders above others.

Ampiclox, cyproheptadine and dexamethasone were found to be the most commonly used prescription medicines among the residents. This finding was similar to a study carried out in Kinshasa, DRC in 2016 where the prevalence of misuse of cyproheptadine was found to be 72.9%. The percentage average of antibiotics used was 30.4% which is higher than the result obtained from a study carried out in Pakistan by Nazir and Azim (2014) where a prevalence rate of 26% was obtained [20].

Antibiotic resistance has been attributed to the prevalence of antibiotic resistance which has the left clinicians with limited drug options for the treatment of bacterial infectious diseases [21].

Although majority of the respondents claimed to use the antibiotics for infection purpose there was no important mentioning of particular infection which the antibiotics were used for except in few cases of ring worm and rashes.

The use of salbutamol for management of asthma was unsubstantiated as there was no proof of diagnosis of obstructive respiratory condition except that they feel or had information that salbutamol could be used to manage cough. However, salbutamol has not been found to be useful in non- obstructive airway disease cough [22].

The most important reason why respondents took cyproheptadine and dexamethasone was weight gain. Most of the users were not aware of the risk associated with the use. Although the users might be interested in achieving this after a long period of use but this effect is short lived as reported by Karia *et al.* (2013) [23]. Most users of dexamethasone and cyproheptadine either alone or in combinations for weight gain could not hide the purpose of use as they see weight gain as a reflection of a good nutritional

wellbeing and did not see it as having any negative impact on their health.

A higher percentage (62.9%) of respondents was unaware of the risk associated with unauthorized use of prescription medicines. This could be as a result of medicines outlet not engaging in educating the recipients or their resistance to being educated about their medications. This was reflected in the study as higher number of respondents did not seek to be counseled about their medications but were willing to quit the act if they are convinced about the risk associated with their attitude. There is possibility that there was no voluntary patient education and counseling in most of the drug outlets in the study area. About half of the respondents (47%) obtained their medicines strictly from pharmacies. Documented evidence showed that pharmacists provide patient counseling and education in their premises [24] although some deficiencies affecting quality of counseling to the patient that hinders the quality of service and its beneficial effect to the patients have been identified [24, 25]. Moreover, substantial number of respondents (34.3%) sourced their medicines from proprietary medicine stores who are in the first place were not authorized to stock prescription medicines [26] where possibility of adequate knowledge to provide patient education and counseling may be unrealistic because of limited knowledge the practitioners have in drug therapy [27]. This could possibly the reason while most respondents were deficient in knowledge of prescribing status of the medicines, awareness and extent of risk associated with the medications they use.

Marital status and occupation of the respondents play a significant role in their awareness of risk associated with self-medication with prescription medicines (*p*-values 0.017 and 0.039, respectively). Younger adults tend to use more drugs than the older ones especially those within the age of 26-35 years and more of female than male. This could result from young female ones trying to use medicine that could enhance their appearances though body size increase and weight gain by using appetite stimulants like cyproheptadine and dexamethasone.

The influence of occupation of the respondents on their awareness of risk associated with self-medication with prescription medicines could be as a result of influence of educational level on knowledge of medication use. There were reasonable numbers of respondents who were artisan/trader and were with

low level of education. Consequently, there awareness of risk could be significantly low as confirmed by this study. A similar study conducted in Lagos, Nigeria also found association between occupation and self-medication to be significant [16]. Although, respondents level of education had no influence on the choice of sourcing for their medicines and awareness of risk associated with self-medication with prescription medicines. This is contrary to a study carried out in Lagos where level of education was found to be a strong predictor of self-medication [27]. Knowledge of prescribing status of the medications influenced willingness to quit self-medication practice among but not their awareness of risks associated with the medicine. One would expect that the awareness of risk would prompt the respondents to quit the practice but this was not case. This could be as a result of their poor knowledge of extent of the risks associated and with specific knowledge of those risks, of poor interaction between the residents and the owners of outlets for medicine sources. The high numbers of patient medicine vendors compared to pharmacy outlets which could debar the residents from qualitative medication counseling.

Being a student or civil servant was an independent factor for the awareness of risk associated with use of one or more of prescription medicines. This could be as a result of increased level of education and exposure among these groups of respondents. This result is consistent with a study carried out among Ras Al-Khaimah population in UAE where occupation had significant relationship with knowledge and awareness of consequences associated with self-medication practices [1].

CONCLUSION

There was high prevalence of self-medication with prescription medication among the study population which was more common among female population. There was significant relationship between respondents' knowledge of prescribing status of the medicines and their willingness to stop the practice of self-medication. Their awareness of risks associated with self-medication with prescription drug was significantly associated with marital and occupational status of the study population.

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