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DETERMINANTS OF SELF-MEDICATION AMONG COMMUNITY RESIDENTS: IMPLICATIONS FOR PREVENTION AND CONTROL OF NON-COMMUNICABLE DISEASES

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ABSTRACT

The understanding of community health behaviour in relation to utilization of health services can help to ensure better access to quality healthcare and to large extent mitigate the idea and consequences of self-medication in effort to promote public health. Particularly, efforts geared towards prevention of non-communicable diseases in rural areas. The study examined the practice of self-medication among the people of Akungba-Akoko, Ondo State. A self-designed structured questionnaire was employed to elicit information from two hundred respondents resident in the community; selected using volunteer sampling. Data were analysed using descriptive statistics. The majority (83.5%) had practiced self-medication in the last two months. Community factors that influenced residents' self-medication include poor availability of healthcare services (70.5%), distance (59.5%), cultural norms and beliefs (43.5%) drugs not affordable (60.5%), lack of trust in orthodox drugs (55.5%) and media (61.0%). Most (55%) obtained such drugs from hawkers, Over-The-Counter, (11%), hospital (18%) and other sources (16%). Individual reasons for recent unprescribed drugs intake include to save time (28%), finance (32.5%), confidence in knowledge of drug (10.5%), while (6.05%) desired quick relief. Among illness for recent drug use are cough/cold/sore throat (16.5%), headache/stomach ache (17.0%), menstrual symptoms (17.0%), diarrhoea (17.5%), fever (16.5%), and other (15.5%). Ever had drug-related adverse reactions from self medication (37.5%). Several community and personal factors continue to exacerbate self-medication; a situation that greatly impedes the prevention and control of non-communicable diseases in Nigeria, stakeholders should gear efforts towards social and structural reforms that can reposition and predispose individual towards safer behaviour particularly among rural residents.

Keywords: Drug, Self-medication, Practice, Healthcare, Akungba Akoko,

1. INTRODUCTION

Drugs intake without prescription from a medical expert and/or Over-The-Counter (OTC) drugs is the fundamental way to explain self-medication. These drugs can also be sold by the roadside, on the bus and by hawkers in Nigeria. It is a practice of treating any self-diagnosed disorder or symptom with the use of un-prescribed drug or home remedies on patient's initiative without consulting a doctor or medical practitioner (Torres, Chibi, Middleton, Solomon and Mashamba-Thompson, 2019 Bennadi, 2013). Loyola (2004), noted that it involves acquiring medicines without prescription, resubmitting old prescription to purchase medicine, sharing medicines with relatives or members of one's social circle or using leftover medicines stored at home. Although, globally practiced as a form of self care particularly, in developing countries (Awosusi, 2015, Porteous, 2005 and Hughes, 2001) the risks of self-medication which include incorrect self-diagnosis, delays in seeking appropriate medical advice and proper treatment, potential adverse reactions, Antimicrobial Resistance (AMR), worsening of the condition the individual is trying to self-treat, dangerous drug interaction, masking of severe diseases, risk of dependence and abuse cannot be over-emphasized; particularly in relation to efforts geared towards the prevention and control of non-communicable diseases in Africa

Arguably, self-medication if practiced appropriately can help in the prevention and the treatment of signs and symptoms which do not require a visit, enable those patients with chronic conditions to take responsibility to control their own condition, decrease the pressure on the medical services, where health care personnel are inadequate and also increase health awareness among people and allow them to build confidence and take charge to manage their own health (Abdelwahed, Jassem, and Alyousbashi, 2022, Jain, 2011, Hughes, 2001). However, the practice of responsible self-medication for positive effects requires a certain level of knowledge about medications (Aljinovic-Vucic, 2005) as well as disease conditions. For an individual to self-medicate appropriately, WHO (2000) states that they must be able to accurately recognize symptoms, set therapeutic objectives, select appropriate medicine to be used for their medical condition, and determine appropriate dosage and dosage schedule taking into account one's medical history, contraindication(s) and possible side effects of the medicine. Drugs that are prone to self-medication include analgesics, anti-malarias, antibiotics and cough syrups, among others (Afolabi, 2000). Self-medication can potentially do well and also harm people. This is especially significant in those countries where prescription drugs are available over-the-counter due to lack of enforcement of regulations (Sontakke, 2011). This situation is true for Nigeria

Many studies on self-medication done in developing countries noted that it is influenced by many issues ranging from personal to societal factors; such as age, gender, environment, income, expenditure, education, society, law, availability of health care, nature of health delivery, costlier healthcare services, non-availability of health care personnel and exposure to advertisements. (Mamoon, Saleem, Fauzia, 2017, Kasulkar, 2015, Awosusi, 2015). There are many studies that highlight various risks associated with self-medication, in the worst case situation, it may lead to serious health issues or even death (Shrestha, Cooper, Coast, et al. 2018, Mustafa & Rohra, 2017).

Habitual OTC drugs that are easily available are painkillers, cold and flu, anti-allergy medicine, vitamins and energy tonics. The most common reasons of self-medications were found to be fever, cold & cough and headache (Biswas, 2015).

There are many studies that highlight the practice of self-medication not only in case of OTC but also in prescription drugs. People usually see self-medication or self-administration an easy and safe mode of consuming drugs. Researchers have argued that self-medication is often practiced by people as self-care which is an unnecessary practice. Several studies (Awosusi, 2015, Ruiz, 2010, and Phalke, 2006) on the subject indicate that there are risks. There is no one study that gives a comprehensive view of the several interconnected issues that surround self-medication. However, particularly for Nigeria, the continued collapse of social institutions, government inadequate funding of health care delivery, worsening state of the health sector, increasing strike actions of medical professionals and currently the increased emancipation of medical professionals from the country are combined and interrelated situations that made the problems of self-medication a widespread phenomenon today among the generality of Nigerians whether educated or uneducated. Individuals find it rather convenient, affordable, comfortable and easier to visit diverse sources whether orthodox or unorthodox to buy drugs/medicine to ease whatever discomfort or health issue they might be experiencing.

Moreover, individuals rather take health related counsel from their family members, acquaintances, friends, colleagues, neighbours etc; or rely on knowledge from previous experiences of the same nature than go to a doctor or health care professional for advice, check-up, test and diagnosis or prescription. Consequently, many have found themselves in worse health situations than they originally were with unrelieved symptoms or even life-threatening conditions. Others start experiencing physical dependence and addiction to these drugs. Moreover, AMR today that results from self-medication cannot be over-stated. For instance, Llor and Bjerrum (2014) noted that drug resistance to typhoid fever, tuberculosis and gonorrhoea, are yearly increasing and significantly contribute to the high costs of individuals' health as well as societal health care delivery, particularly in developing countries. Additionally, it had been noted that in countries like Russia, India, the Philippines and South Africa, multi-drug resistant TB is anticipated to escalate significantly by 2040 (Renwick, Simpkin, Mossialos & World Health Organization, 2016).

Another worrisome trend is that the socio-cultural milieu moulds and shapes individual self-care in society. Hence, self-medication profile in Nigeria has a peculiar colouration. According to Arikpo (2010), firstly, there are individuals who consider visiting or consulting a physician at the onset of an ailment. Secondly, conventional drugs may not be as affordable to the low income earners. Thirdly, traditional herbal medicine whose dosage are not known constitute up to 50% of the drugs used for self-treatment and on the increase through vigorous media publicity. Additionally, individuals who were cured of an ailment following the use of a particular drug become consulting authority to relations, friends and close associate having similar symptoms without necessarily suffering from the same associate ailment due to the nature of the country's social system. As a result, illnesses are wrongly diagnosed and are treated with wrong drugs/medicines and wrong dosages. The attendant grave negative effects of these aforementioned have serious implications for the prevention and control of AMR and non-communicable diseases.

in Africa and Nigeria in particular. Following the increasing worsening situation of health care delivery in Nigeria, the study is an examination of correlates of self-medication among Akungba-Akoko residents in Ondo State.

2. RESEARCH OBJECTIVES

The general objective of this study is to examine determinants of self-medication among Akungba-Akoko residents in Ondo State, particularly, the implications these have for prevention and control of non-communicable diseases in Nigeria; specifically, the study will:

- i. Access the existing practice of self-medication among the people of Akungba-Akoko.
- ii. Identify the community factors associated with self-medication among people.

3. HEALTH BELIEF MODEL AND THE PRACTICE OF SELF-MEDICATION

The Health Belief Model (HBM) theory was originally developed in the 1950s and later updated in the 1980s. The Health Belief Model suggested by Hochbaum, Rosenstock and Kegels (1952) assumes that consumer attitudes and beliefs are important determinants of health action. The health belief model was developed to help understand why people did or did not use preventive services offered by public health departments in the 1950's, and has evolved to address newer concerns in prevention and detection (e.g., mammography screening, influenza vaccines) as well as lifestyle such as sexual risk behaviours and injury prevention. The HBM theorizes that people's beliefs about whether or not they are at risk for a disease or health problem, and their perceptions of the benefits of taking action to avoid it, influence their readiness to take action.

It is a psychological model used to explain and predict health behaviours of an individual and this is done by focusing on the attitudes and beliefs of an individual. The health belief model posits that health behaviour is determined by personal beliefs or perceptions about a disease and the strategies available to decrease its occurrence. The HBM is a health specific social cognition model (Ajzen, 1991), the key components and constructs are perceived seriousness perceived susceptibility, perceived benefits, perceived barriers, modifying variables, cues of action and self-efficacy. In relation to this study Health Belief Model helps to explain why Akungba-Akoko residents will accept or reject preventive health measures to non-communicable diseases or adopt healthy lifestyle of not self-medicating. It helps us understand how people perceived their health status and also factors that could motivate peoples to take positive health action or desire to avoid negative health consequences.

4. METHOD AND MATERIALS

A self-designed structured questionnaire titled PRACTICE OF SELF-MEDICATION AMONG AKUNGBA-AKOKO RESIDENTS (PSMAAR) was employed to elicit information from the respondents. Akungba-Akoko is one of the Akoko communities that made up four local government areas in the northern district of Ondo State; Nigeria. Volunteer sampling was used to select respondents for the study. The study inclusion criteria were: the participant should be at least 18 years old and should have been resident in the community for not less than three years as at the

time of the study. Data was collected from two hundred participants who are residents of Akungba-Akoko community. Data were analyzed using descriptive statistics.

Existing practice of self-medication was measured by analysing responses to questions relating to drug use without prescription in the last 2 months, usual sources of buying these drugs, reasons for unprescribed drug intake during most recent use, illness for which the drug was taken, experience of adverse reaction for taking unprescribed drug, remedy sought for such drug adverse reaction, category of drugs mostly used without prescription and stoppage of such drugs.

Community factors that possibly explain the practice self-medication were analysed at univariate level by using responses to questions related to nature of healthcare services in the community (considered with respect to availability of health workers, equipments and drugs), proximity of healthcare centre to homesteads, cultural norms and beliefs (Considered with respect to drugs that are generally used in the community without professional consultation or used with the belief that you don't need expert advice), affordability of drugs, trust in health services information and media exposure (Television, radio and internet).

5. FINDINGS AND DISCUSSION

Two hundred copies of questionnaire were administered and returned which was used for the analysis.

Socio-demographic Characteristics

Table 1 shows the socio-demographic characteristics of the respondents. About equal halves of the respondents were male (51.0%) and female (49.0%). Some of them were younger than 20 years (32.0%), less than half were in the age group 20-64 years (43.5%), and a quarter were 65 years and older (24.5%). A few (19.0%) had no formal educational, some had primary education (27.5%) ; while some of them had secondary school education (35.5%), and only a few (18.0%) had tertiary education.

Table 1: Socio-demographic information of Respondents

Sex	Frequency	Percentage
Male	102	0.0
Female	98	100.0
Total	200	100.0
Age Range	Frequency	Percentage
Less than 20years	64	32%
20 to 64 years	87	43.5%
65 years and older	49	24.5%

Total	200	100.0
Marital status	Frequency	Percentage
Single	54	27.0%
Married	122	61.0%
Widowed/ divorced	24	12.0%
Total	200	100.0
Educational level	Frequency	Percentage
No formal education	38	19.0%
Primary	55	27.5%
Secondary	71	35.5%
Tertiary	36	18.0%
Total	200	100.0
Occupation	Frequency	Percentage
Civil servant	48	24.0%
Private employees	55	27.5%
Self-employed	67	33.5%
Unemployed	30	15.0%
Total	200	100.0
Religion	Frequency	Percentage
Christian	127	63.5%
Muslim	55	27.5%
Traditional religion	18	9.0%
Total	200	100.0
Month Income	Frequency	Percentage
Less than N5,000 naira	66	33.0%
N5,000 –N9,999	45	22.5%

N10,000 – N19,999	56	28%
N20,000 and above	33	16.5%
Total	200	100.0

Many were Christians (63.5%), more than quarter were Islamic faith adherents (27.5%), and very few were practicing traditional religion (9.0%).

Classification by marital status indicates that some had never married (27.0%), and the most were married (61.0%), very few were divorced or widowed (12.0%). Some were civil servants (24.0%), exactly quarter were private employees (27.5%); while some were self-employed (33.5%), and a few (15.0%) were unemployed. Information about monthly income shows that some were earning less than 5 naira a month (33.0%), less than quarter were earning between 5 thousand naira and 9,999 naira (22.5%), more than a quarter were earning between 10,000 naira and 19,999 naira (28.0%), while a small percentage of them (16.5%) were earning 20,000 naira and above.

Existing Practice of Self-medication

Table 2 depict issues in respects of the existing practice of self-medication among the respondents in the community. A good number had ever used drugs without prescription (83.5%), while just (16.5%) had never. In respect of source of drugs (18.0%) noted the hospital, (11.0%) reported from OTC, most (55.0%) reported the source of buying drugs as drug hawkers, and some (16.0%) mentioned other sources (like from a health worker in the neighbourhood). Information about the reason the drugs were taken during the most recent use indicates that some took it to save time (22.5%), some took drugs without prescription for financial reason (32.5%), a few for the confidence of knowledge about medicine (10.5%), a minimal number (5.5%) wanted to avoid crowd at health care centres, while (6.05) desired quick relief, less than a quarter (23.0%) noted other reasons.

The illness for which drug was taken during recent use ranged from cough/cold/sore throat (16.5%), headache/stomach ache (17.0%), menstrual symptoms (17.0%), diarrhoea (17.5%), fever (16.5%), and other (15.5%).

Table 2: Prevalence of Self-Medication

Have used drug without prescription in the last 2 months	Frequency	Percentage
Yes	167	83.5%
No	33	16.5%
Total	200	100.0
What is your usual source of buying these drugs	Frequency	Percentage

Hospital	36	18.0
OTC	22	11.0
Drug hawker	110	55.0
Others	32	16.0
Total	200	100.0
Reason for unprescribed drug intake during most recent use	Frequency	Percentage
Time saving	45	22.5%
Financial	65	32.5%
Confidence of knowledge and medicine	21	10.5%
Crowd avoidance at health care centres	11	5.5%
Quick relief	12	6.0%
Others	46	23%
Total	200	100.0
What is the illness for which the drug was taken?	Frequency	Percentage
Cough/cold/sore throat	33	16.5%
Headache/stomach ache	34	17.0%
Menstrual symptoms	34	17.0%
Diarrhea	35	17.5%
Fever	33	16.5%
Others	31	15.5%
Total	200	100.0
Have you ever adverse reaction for taking drug?	Frequency	Percentage
Yes	75	37.5%

No	125	62.5%
Total	200	100.0
What remedy do you sought whenever you have drug adverse reaction?	Frequency	Percentage
Stop self-medication	9	12.0%
Switched to another drugs	28	37.3%
Consulted pharmacy	8	10.7%
Consulted doctor	9	12.0%
Nothing	21	28.0%
Total	75	100.0
What category of drugs do you mostly used without prescription?	Frequency	Percentage
Analgesic	34	17.0%
Antimicrobials	35	17.5%
Antispasmodics	33	16.5%
Decongestants	34	17.0%
Multivitamins	35	17.5%
Others	29	14.5%
Total	200	100.0
When do you stop taking such drugs?	Frequency	Percentage
After few days regardless of outcome	42	21.0%
After symptoms disappear	41	20.5%
Few days after recovery	40	20.0%
After consulting doctor/pharmacist	41	20.5%
After drugs ran out	36	18.0%
Total	200	100.0

Some had ever had drug-related adverse reactions (37.5%), while most had never had a reaction related to drug use (62.5%). Among those who had ever had drug-related adverse reaction, a few mentioned stopped (12.0%), some switched to another drug (37.3%) just a small percentage consulted pharmacy (10.7%) and a few consulted doctor (12.7%); while more than a quarter did nothing (28.0%).

Information about the categories of drugs mostly used without prescription reveals that analgesic (17.0%), antimicrobials (17.5%), decongestants (17.0%), and multivitamins (17.5%) were the most used drugs without prescription; while (16.5%) mentioned antispasmodics and (14.5%) reported other drugs not specifically mentioned. Finally, regarding when they stop taking such drugs, some noted after a few days regardless of outcome (21.0%), some others, after symptoms disappear (20.5%). Almost equal number said few days after recovery (20.0%), and after consulting doctors or pharmacists (20.5%). Lastly, some (18.0%) discontinue taking such drugs after drugs exhaustion.

Community Factors and Self-Medication

Table 3 displays the tabulation of community factors and self-medication of the respondents. More than half reported that their use of drugs was influenced by poor healthcare services in the community (70.5%), while less than half (29.5%) differed on this. A good number reported that healthcare centre was far off from their homes (59.5%), while distance to the healthcare facility was not a concern for the remaining less than half (40.5%). Some reported that cultural norms and beliefs determined their use of medical drugs (43.5%) but the most claimed otherwise (56.5%)

Table: 3 Community Factors and Self-Medication

Is your use of drugs influence by poor healthcare services in the community	Frequency	Percentage
Yes	141	70.5%
No	59	29.5%
Total	200	100.0
Proximity to healthcare centres	Frequency	Percentage
Considerable long distance	119	59.5%
Distance not a concern	81	40.5%
Total	200	100.0
Does your cultural norms and belief determine drug use?	Frequency	Percentage
Yes	87	43.5%

No	113	56.5%
Total	200	100.0
Cost of drug	Frequency	Percentage
Not affordable	121	60.5%
Affordable	79	39.5%
Total	200	100.0
Trust in health services information	Frequency	Percentage
Have trust	89	44.5%
Have no trust	111	55.5%
Total	200	100.0
Media exposure	Frequency	Percentage
Self medication not influence by media	78	39.0%
High	122	61.0%
Total	200	100.0

Also, more than half claimed that cost of drugs was not affordable to them (60.5%), some differed to this claim (39.5%); however, less than half have trust in health services information (44.5%), while many did not have such trust (55.5%). Interestingly, the majority of the respondents self-medicate on account of exposure to the media exposure (61.0%), while (39.0%) reported the contrary.

VI. DISCUSSION OF FINDINGS

Results obtained from this survey shows that more males participated than females. Most of the respondents are between the ages of 20 to 64 years. The findings revealed that majority of the respondents practiced self-medication in the last two months. Two important components of the belief model relate to the finding. The concepts of perceived seriousness and perceived susceptibility. Perceived seriousness refers to the likelihood that an individual will change his/her health behaviours to avoid a consequence depending on how serious he or she considers the consequence to be, while the construct of perceived susceptibility refers to the personal risk. This is a strong perception that prompts individuals to adopt healthier behaviours. The point is that people will not change their health behaviours unless they believe that they are at risk. The higher the perceived risk, the higher the likelihood of engaging in behaviour to decrease the risk. The finding thus indicates the level of individuals' personal perceived risk of the grave negative consequences of self-medication is low. This is quite significant particularly in relation to the increasing burden of non infectious and chronic diseases in Nigeria and Africa as a result of the

epidemiological transition. Nonetheless, financial constrain could have made the practice of self medication to persist.

Also, the findings of the study reveal that most of the residents usually source for drugs through hawkers. This does not only resonate the earlier submissions of Awosusi (2015) and Arikpo (2010) about developing countries; it is also rather worrisome. While the most probable explanation for the finding is that this source provides cheap and easily accessible drugs, the fact remains that the street is not the right place to get drugs/medicine.

Moreover, in respect of community factors that influence self-medication in the community the majority of the residents practice of self-medication is influenced by poor healthcare services, proximity, cost of drugs, lack of trust in the health services and media advertisements; excepting for cultural norms and belief. While some of these are in consonant with the works of (Abay, 2010) and (Kristiansson, 2008); it is very a disheartening and disturbing public health concern that such challenges still persist and might be on the increase with the worsening health sector problems and challenges in the nation. The point here is that it is possible for the level of individuals' personal perceived risk of the grave negative consequences of self-medication to be high but, they could not stop the practice because of such community factors as poor healthcare services, proximity of such facilities, cost of drugs, lack of trust in the health services and media advertisements.

VII. CONCLUSION AND RECOMMENDATIONS

The study has revealed that most of the residents in the community practice self-medication and thus at risk of diverse health issues including non-communicable diseases and AMR. The practice was influenced by several personal and community factors. Consequently, there is urgent need for spirited efforts by all stakeholders to improve rural infrastructure and design behavioural health promotion campaigns to inform and educate the rural people on healthy/proper health seeking behaviour. Government should as a matter of utmost concern introduce and implement new policy that will favour both the low and the high- income earners such that low- income earners will be able to access and afford medical cares. In addition, there should be legislative measures to control sales of medicines by individuals in Nigeria who are not formally trained for the profession. Finally, there might be a genuine need to rethink the role and impact of media advertisement on drug use in the country.

LIMITATIONS OF THE STUDY

The study made use of just 200 participants and low- level statistics. An enlarged sample size and the application of higher- level statistics for bivariate and multivariate analyses might probably give a different picture of the community situation.

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