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PATTERNS AND EFFECTS SELF-MEDICATION IN NIGERIA: A REVIEW OF LITERATURE WITH COMPARATIVE ANALYSIS OF PRACTICES IN SELECTED NATION STATES

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Abstract
This review paper examined the patterns and effects of Self-Medication in Nigeria and compared same with what is obtainable in others cultures. Anchored on symbolic interaction theory, the study relied on secondary sources of information and examined conceptual modes of self- medication, its extent of occurrence (prevalence) in Nigeria, risks associated with it, major illnesses or symptoms for which self-diagnosis and self-medication are adopted, drugs commonly used for self- medication among others .The review revealed that the risk of drug over dose is the major risk associated with self-medication. It was also evident in literature that the most common illness that self-medication was adopted was minor conditions like body pain, headache, fever, cough, menstrual pain and cold. It was also found that the sources of drug information and places of obtaining such drugs are from family/friends and patent medicine stores respectively. The review also revealed that people self-medicate because of availability and unrestrained accessibility to drugs, poverty, gender traits, and the information people get from family/friends concerning drugs and drug usage. The commonest drugs used for self-medication as documented by most scholars were anti malaria drugs. This review paper recommends that to control the practice of self-medication, drugs should not be sold over the counter without doctor's prescription. Also, there is need for formulation of laws that prohibit the sale of drugs by drug hawkers. Furthermore, public enlightenment campaign on dangers of self-medication should be strengthened, while ensuring availability of drugs in all health centers in Nigeria at cheaper rates.

Keywords: self-care, self-diagnosis, self-medication, risks of self-medication

Introduction
The Nigeria's healthcare delivery system is yet to attain optimum levels of performance. There are not enough doctors and pharmacists in the country to direct and guide everyone who become ill on the correct use of medications. Also, user fees at public health institutions and cost of conventional drugs is very high for low income group. On the other hand, the development of pharmaceutical companies contribute to the wide spread availability of an expanded list of over-the-counter medicine (OTC) sold directly to the public (Hussain and Khanum, 2008). The situation is worsened by poverty, ignorance, illiteracy and generally limited access of the population to quality health services. This may be why many persons tend to resort to self-medication.

The World Health Organization (1998) defined self-medication as the selection and use of medicines by individuals to treat self-recognized illness or symptoms. It is the treatment of oneself especially without the advice or prescription of a medical doctor or other experienced paramedical workers. The medicine may be herb or a conventional drug which may be bought over the counter. Oftentimes, several people, friends, relatives and even patent medicine sellers (PMS) may advice the sick person the type of self-medication drugs and materials for envisaged cure.

Although, self- medication could also be seen as a behavioural response of individuals with intent to promote or restore their health, yet it has generated growing concern in Nigeria. This is due to a plethora of disadvantages associated with its practice in the general population like side effect in the form of drug resistance, wrong drugs taken for wrong ailments, taking expired drugs, taking of wrong dose (Ouma, 2007).

Nonetheless, self-medication is also practiced in other parts of the world, but there has been restriction and effective control in some developed countries. Despite the debate on the deregulation of more medicines to over the counter status, the conventional practice across nation states has been that specific drugs (e.g. antibiotics, hypertensive drugs etc,) must be prescribed by a physician before purchase over the counter in developed countries. This has not been strictly adhered to in most of Sub-saharan African countries, including Nigeria and Uganda among others (Okeke, Uzochukwu & Okafor, 2006, Kiyingi and Lauwo, 1993).

Despite growing research interest on self-medication, regular reviews and collation of facts born out of previous researches about its major determinants (especially in developing country like Nigeria) are still limited. It is against the foregoing background that this paper undertook to review some extant literature on patterns and risks associated with self-medication in Nigeria. We also brought in the picture in other nations as a comparative analysis of practices, policies and interventions.

Theoretical Framework: Symbolic Interactionism

Symbolic interactionism was propounded by an American Philosopher G. H. Mead (1863 - 1931). It is an offshoot of social action theory. Symbolic interactionists look at social life as a series of interaction between individuals trying to communicate with one another. It deals with organization of symbols through interaction Abbie, (1982).

Mead, (1934) argued that three characteristics distinguish men from animals. First, it is the ability to assign symbols to represent the objects around them, giving those objects names and using these names in communication. Secondly, human beings can imagine what will happen if they pursue different lines of action in relation to the objects around them. Finally, human beings seem to choose appropriate actions from among those generalized order.

The argument is that through interaction with neighbours, friends, families, individuals get to know the type of drugs to take about a particular ailment and its role in ameliorating their sick state; thus self-medication is encouraged. Furthermore, individuals repeat actions that have proven successful in time past, hence the patients continues to self-medicate based on knowledge from significant others and his/her experience with a particular drug.

Although the symbolic interactionists are of the view that self-medication is a culture or character learnt from the society through interaction with people and situation but they fail to appreciate the issue of power and structure within the society and how they serve to constrain individual actions.

This is because there are some realities that are totally independent of individuals that affect our social construction and action. There is also over emphasis on meanings attributed to symbols by humans without taking into cognizance other social structural factors. This theory has not adequately portrayed the problem of self-medication.

Conceptualizing Self-medication

Afolabi (2008) sees self-medication as a form of self-care that involves the use of medicinal products by the consumer to treat self-recognized disorder, symptoms, recurrent disease or minor health problems. Medicines for self-medication are often called over- the -counter (OTC) drugs, which according to Kamat & Nichter, (1998), are available without a doctor's prescription through pharmacies, mostly in less developed countries.

According to World Health Organization (1998), "self-medication is the selection and use of medicines by individuals to treat self-recognized illness or symptoms'' It includes the use of non-prescription drugs and a range of different alternative medicines such as herbal remedies, food supplements and traditional products. In most illness episodes, self-medication is the first option which makes self-medication a common practice worldwide.

Some scholars are of the view that self-medication also has advantages for health care systems as it facilitates better use of clinical skills, increased access to medication and may contribute to reducing prescribed drug costs associated with publicly funded health programmes. This opinion is in line with what Cindy, Maxwell and Clarine (1989). They held that self-medication is a common practice and internationally has been reported as being on the rise with potentials of producing good result and being a convenient practice for patients.

The Concept of Risks of Self-Medication

Although drugs are useful for the treatment of health problems, their excessive use can lead to serious side effects and unfavourable reactions (Jain, 2011). For instance, the therapy may be poorly suited for the illness in question, delay diagnosis and the beginning of effective therapy, increased in organic risk(s) due to inadequate drug therapy or of unnecessary expense and drug interaction between prescription and non-prescription drugs (Habeeb & Gearhart, (1993).

Lucas et al (2007) opined that self-medication is associated with risks such as misdiagnosis, use of excessive drug dosage, prolonged duration of use, drug interaction and poly pharmacy. This may be particularly problematic in the elderly. In a study carried out in Kano metropolis by Umar, Isa, Abubakar & Ahmed (2013), the following health hazards were found to be associated with self-medication: drug resistance or failure, addiction and poisoning among others. Also, Robinson, (1993) stated that with respect to OTC medications, reported risks associated with their improper use include: addiction, gastric irritation, liver toxicity, and rebound headache syndrome.

Similarly, Okumaraj, Wakai and Umenai (2002) stated that self-medication may initially result in reduction of distress but in the long-run however, it can cause many serious

problems; symptoms may rebound, resulting in stronger desires to take more drugs, poisoning. Allergy, habituation, addiction, dependence and resistance could occur. In extreme of cases negative consequences such as depression, suicide attempt, interpersonal problems, legal problems, medical problems and in-patient psychiatric hospitalization could also occur.

Pakistan reported by Umar et al (2013) also documented the risks associated with self-medication. They described the risks associated with self-medication into two headings: physiological and psychological risks. The physiological risks caused by self-medication: stomach problem 82%, skin problem 85%. Headache 90%, Decongestants 84%, Diarrhoea 85%, Sore throats 92%, menstrual pain 88%, fatigue 84%, toothache 85%, cough 90%, insomnia 86% and Dizziness 88%. While psychological risks caused by self-medication include: Trauma 82%, stress & strain 85%, Phobia 90%, Paranoia 84%, Delusions 85%, Hallucination 92%, Anxiety 88%, Tension 84%, Depression 85%, Rage and Aggressiveness 90%.

Some studies have also revealed that self-medication does not have risks associated to it as revealed by Padiya, (2013) in his study in Ahmedabad, India. Some studies also revealed benefits associated with self-medication. Afolabi's study (2008) of market women in Lagos revealed that 118 (58.0%) of the respondents felt it cured their ailments, 65 (32.0%) said it saved time and money, while 15 (7.0%) felt they had a feeling of independence to take care of themselves other responses accounted for the remaining (3.0%).

The Extent of Occurrence of Self-medication Problem

The practice is so widespread that many indulge in it without considering their action as a form of self-medication. Lucas, Lunet, Calvarho, Langa, Muanantatha, Nkuanda et al (2007) opined that even the pharmacies give some tablets without asking any question; and people buy over the counter drugs even for their children.

In Nigeria, the prevalence of the practice of self-medication according to Akanbi, Odaibo, Afolabi & Ademowo (2005) and Ifedil & Ifedil, (2008) was high in Southern part of Nigeria, and several other African countries. Conversely, low prevalence of self-medication was observed in Asia, some parts of Europe, United States of America, South Africa, Ethiopia and Ghana (Mainous et al, 2008). The lower prevalence reported in these countries may not be unconnected with their improved access to health facilities, health personnel, and high regards for health and safety.

In considering the perception of people on the occurrence of self-medication, Umar et al (2013) drew mainly on what their respondents reported during their study in Kano metropolis. They found evidences that many of their respondents that is two-third (65.0%) of the respondents correctly perceived that self-medication could be hazardous; and about half (51.8%) were aware of at least one hazard of self-medication. Also, awareness level of 47.9% and 45.2% for self-medication were reported from studies conducted in United States of America (Mainous et al, 2008) and in Nepal (Samuel et al, 2004) respectively.

In addition, the study carried out in Kano Metropolis by Umar et al (2013) revealed that the respondents' awareness of the health hazards was statistically associated with their gender (X^2 = 4. 74, P < 0.05); marital status, (X^2 = 7. 91, < 0.05), and educational status (X^2 = 38. 94, P < 0.05) but not with their age and occupation Umar et al (2013) On multivariate analysis using a model that consisted of respondents' gender, marital status, and educational status, only marital status and educational status were significantly associated with the respondents' awareness of health hazards of self-medication.

Illnesses or Symptoms for which Self-Medication is Applicable

The issue of illness and symptoms that necessitated self-medication is very pivotal in understanding the problem of study. According to Afolabi (2007) and Worku & Mariam (2003), there are illnesses that make people self-medicate and they are: headache, fever, respiratory diseases and diarrhoea.

Pankaj et al (2011) in their study in an urban slum in India found that symptoms warranting self-medication include; headache 131 (30.8%), fever 97 (22.8%), respiratory disease 78 (18.4%), Allergies 15 (3.5%), Gastrointestinal disease 67 (15.8%) others 37 (8.7%). These findings are in line with what (Worku & Mariam, 2003) and (Afolabi, 2007) found in their study: the common illnesses that led people to self-medicate are headache, fever, respiratory diseases and diarrhea.

A study done in Ahmedabad, India by Padiya (2013) revealed self-medication for several ailments as follows: Fever 211 (70.33%), Pain 195 (65.0%), Headache 192 (64.0%), Common cold 109 (36.33%), Backache 24 (8%), Diarrhea 52 (17.3%), Constipation 27 (9.0%), Weakness 63 (21.0%), others 5 (0.16%). It is also noteworthy that people afflicted with chronic illness sparingly see a doctor for their ailments as they learn to cope with using self-medication.

It was reported that nearly six million Americans with self-treated arthritis never saw a doctor for their condition even with severe limitation of activity according to Rao, (1997). This was also seen among migraine sufferers in Kenya where a study revealed that 56% resorted to self-medication though 40% sought medical attention according to Bosck, Goldstein & Marcus, (1996).

According to Gordon, Mosure & Lewis (1993), in patients with sexually transmitted diseases (STD), the prevalence of self-medication might actually be higher than reported. In a study conducted in a STD clinic in the United States of America showed that while only 14% admitted self-medication with antimicrobial agents, urinary assay was positive for 60% of those using the agents. Failure to tell the truth on the questionnaire might be due to the stigma attached to their ailment.

Malaria is one of the major killers in developing countries. The use of anti -malaria was not free from self-medication as revealed by a hospital based study in Tanzania by Miyika, Killewo & Kabalima (1995) where 72.7% of patients reported having used home kept anti malaria medication for suspected malaria fever. This is in line with Reubush, Kern, Campbell & Oloo, (1995) findings where people can also self- treat for malaria

using herbal remedies or medication purchased from local shops as their study show that 60% of malaria cases were self-treated through this means while only 18% received treatment at the local health centre

Types of Drugs mostly used for Self-medication

According to William Osler (1999), "a desire to take medicine is perhaps the great feature which distinguishes man from animals". People self- medicate with all sort of drugs both traditional and orthodox. Medicines commonly misused vary from one community to another. Studies have shown that anti- malarial, analgesics and antibiotics have been inappropriately consumed without prescription of a physician. This is in line with studies carried out in Nigeria and other countries listed here (i.e. Nigeria, Akanbi, Odaibo, Afolabi, Ademowo (2005); Mozambique (Lucas, et al 2007); Sudan Awad & Eltayeb (2007); South Africa (Peltzer, 2008); Tanzania (Nsimba, 2007); Ghana (Buabeng, 2007); and Turkey (Hayran, Kravus & Aksayan, 2000). These studies reported that one or more of the above drugs topped the list of drugs commonly consumed by their respondents without physician's prescription. However, according to Ezechukwu, Egbonu and Chukwuka (2005), antibiotics were drugs least misused by the public in Niger Republic according to.

Self-medication with antibiotics is also commonly consumed for self-treatment in Nigeria. It accounted for 63.4% in an urban slum (Kehinde and Ogonnowo, 2012), while 44% among urinary tract attendees prior to hospital admission (Enwere and Agina, 2011), 39% among medical undergraduates (Fadare and Tamuno, 2011) and 24% for treating menstrual symptoms (Saptkota, Goldstein, Coker, Sweet, Sopeju, Ojo et al (2010).

According to Afolabi (2009), in his study of market women in a suburban community in Lagos Nigeria, self- medication with antibiotics accounted for 18% of all drugs used for this practice. In Afolabi's study, it was discovered that the prevalence rate of analgesics among market women was 31.3% of all drugs used in self-medication. Antonov & Isaacson (1996) in their study in Sweden found that 35% of the study population used a form of analgesics consistently for two weeks due to self-perceived poor health and pain. Also, a study by Astin, Lawton & Hist (1996) among the disabled with painful ailments revealed that about 50% self-medicated with analgesics every day. This is in line with what Ferarri, Stefani, Stenier, Bertolotti & Stenieri (1997) found in their study that majority of people with acute episodic headache self-medicated with OTC analgesics which was believed to be more adequate than if prescribed, while those with chronic headache treat themselves with prescribed drugs from previous doctor's visit. Drugs used for self-medication in some countries are prohibited or strictly regulated in other countries. Vicencio, Affara & Martinez, (1995) did a study in Mexico in some Mexican Pharmacies and discovered that while 14.3% of drugs sold are strictly regulated, 51.4% of such drugs were obtained for self-medication purposes on the streets.

Furthermore, in a study carried out among adult residents in Kano metropolis by Umar et al (2013) revealed that the drugs commonly consumed were anti malarias (42.1%), analgesics (40.6%) and antibiotics (29.4%), cough mixtures were also used by (13.3%)

of the respondents. Similarly, 5.9% of drugs like vitamins, laxatives and oral contraceptive pills were consumed without the prescription of a doctor or other relevant health workers

Social Factors that Determine or Contribute to Self-medication

Individual's self-medication tendency during illness is shaped in the social environment. The determinants of self-medication are complex and can differ from country to country or even from one community to another. Many factors determine the state of self-medication. According to (Deak, 1986), the following are the socio-demographic determinants of self-medication: age, gender, occupation, educational level, marital status, religion, place of residence, race, income and culture. This is in line with the psychosocial factors of self-medication as opined by Saira, Fariha, Tayyab, Umair, Ahmad et al (2013): illiteracy, lower socio- economic status, repeated exposure to disease, hesitancy in visiting the doctor, anxiety, unnecessary advertisement, edge of education.

In a study done in Lahore, Pakistan by Afzal et al (2013) revealed that self-medication was found more in people below age 25 years (87%). This is similar with another study by Neil and Carlson (2012) which revealed an increased pattern of self-medication practices found in the younger age group which was 64.8%. In another study done in Mexico by Angeles (1992), it was found that self-medication was more in females (61%) as compared to males (29%).This is in line with findings by Adolfo et al (2000) and Carrasco et al (2010) in Spain which showed that self-medication is more prevalent among females.

In addition, Neil and Carlson (2012) also found out that people who were unmarried (85%) did self-medication more frequently that married (15%). This findings is in contrast to Afolabi's (2008) in his study of market women in Lagos in which he found out that (54.7%) of the married respondents obtained their medications from patent medicine stores rather than hospitals or pharmacies (32.1%) and local hawkers (13.2%) unlike the single respondents (61.0%) obtained theirs medications from the hospitals. He also found out that the divorced (80%), the widowed (76.9%) and the separated (55.2%) obtained their medications from patent medicine stores and local hawkers. Also, both Afzal et al (2013) and Neil & Carlson (2012) found that self-medication was practiced more by educated people.

Sources of Drug Information and the Places where Drugs are obtained

The public's knowledge about the proper way of dealing with drugs and potential dangers of self-medication is both insufficient and under estimated. The exact situations vary from society to society. According to May (1986), studies conducted in Switzerland revealed that nearly one third of the population lacked sufficient drug knowledge. Individuals sometimes self-administer medication through drug identification. Yelland & Vieteh (1989) opined that trade names were common means of identification and less frequently by generic names; also drug action, colour, and shape were equally relied upon in making purchases.

Ranno (1988) revealed that sources of drug information could be from the sales clerk in the chemists shop. Taylor, Stein & Jongeling (1988) are of the view that print media, family and friends are sources of drug knowledge. Pederson (1989) opined that sources of drug information could be from pharmacists, general and private medical practitioners and among individuals who interact frequently with the public like hair dressers, sales people and bank officials.

On their part, Joubert, Sebata and Van Reenan (1984) traced the common places for drug supply to pharmacies, general medicine dealers, hospitals/clinics, traditional sources, private practitioners and other sources like household medicine cabinet containing previous medical prescriptions which may not have been prescribed for the same condition. According to Kasilo, Nhachi & Mutangadura, (1991) the common sources of household medicine cabinet are chemist, pharmacy, supermarkets, hospitals/clinics, friends and relatives.

In choosing the most appropriate medicine to buy, a study by Umar et al (2013) in Kano Metroopolis revealed that majority of the respondents obtained theirs drugs from either the patent medicine stores (62.5%) in town, or from drug stores in the market (19.8%). The other sources include drug hawkers (Kafada Chemist), and family and friends. This is similar to the findings of Worku & Mariam (2003) about unsafe medication in Ethiopia where 52.4% of their respondents obtained their drugs from informal retail outlets.

On his part, Afolabi (2008) in his study of Ifako-Ijaye Area of Lagos found that the patent medicine dealers were the commonest sources of information on medications, the exception being educated respondents who obtained theirs from hospitals and pharmacies. He also revealed that trade and generic names were common means of drug recognition

Conclusion

The study set out to review the patterns of social determinants and risks associated with it in Nigeria with some transnational comparative analysis of trends. The literature was awash with the fact that self-medication is a widespread problem in Nigeria. Self-prescribed drugs were commonly used for malaria. However the studies reviewed pointed to poverty and unrestricted availability of drugs over the counter as primary factors that have resulted to self-medication. This suggests that with adequate laws and regulations to reduce the rate at which drugs are sold over the counter, the practice and many risks associated with self-medication could be eliminated in Nigeria.

Recommendations on Measures to Control the Practice of Self-medication

1. Measures to curb self-medication must be holistic owing to the need to enlighten the public about specific risks/side effects of self-medication and the role of the mass media and local government authorities. In relation to that (Umar et al, 2013) opined that National Agency for Foods and Drugs Administration and Control (NAFDAC), National Drugs, Law Enforcement Agency (NDLEA) and the Pharmaceutical Council of Nigeria should work together to ensure that all drug retail outlets and drug sellers are registered, controlled drugs are dispensed only

on prescription of the physician, and the laws safeguarding drug use are duly enforced.

2. Policy direction and professional support should be put in place by Nigerian government for self-care. If properly implemented, self-care will reduce the problems of irrational use of drugs and its burden on the health service. According to World Health Organization, (2009)

> Safe-care initiatives if correctly implemented can contribute immensely to the national use of medicines. Promotion of self-care is an educational and empowering process that ensures that people with the right information can make the right decision as far as their own health is concerned.

   Health care initiatives that promote self-care in the community such as the community component of integrated management childhood illnesses, Roll-back malaria programme which are already operational in Nigeria should be strengthened.
3. Public education about specific risks /side effects of self-medication must be disseminated widely by mass media and local government authorities. Afolabi (2008) canvassed the view that the practice of community pharmacy by registered pharmacists should be encouraged especially in areas where professional health care services are limited. Such professionals ensure that the practice of self-medication is accompanied by appropriate training on how to use medicines appropriately and effectively. Community pharmacists can also play an active role in the provision of primary health care by attending to minor ailments and referring patients to physicians where patients require further investigation.
4. One of the key measures by which self-medication can be controlled is through information, education and counseling of the patients by the pharmacist (Meyer (1996). This is in line with Ruegg's (1986) findings in Switzerland, that pharmacists in Switzerland had accepted this aspect of patient's education and are adjusting their education to the problems of self-medication.
5. The rate at which drugs are advertized on the media should be controlled. Comprehensive advertising practice is also recommended. Afolabi (2012) is of the view that during drug advertisement, advertising agencies should emphasize the possible side effects as they do for cigarette smoking. By this, people are well informed as they read or hear it (especially if illiterate).
6. The sale of drugs over the counter without the prescription of qualified medical personnel should be stopped. This can be done by not just making laws to this effect but by implementing these laws.
7. The poverty rate in the country has been identified as the reason behind the high rate of self-medication. Efforts should therefore be made to reduce the cost of medical treatment. Government should provide subsidies to health centers so they can reduce their cost treatment.
8. Hawking of drugs should be criminalized. Adequate laws should be passed to this effect and implemented accordingly.

9. Public awareness and enlightenment campaigns should be embarked upon by health workers to inform the public on the dangers associated with self-medication.
10. Drugs should be made available at the health centers. This will prevent the bottlenecks that have hitherto affected the health sector thereby discouraging members of the public from seeking proper medical care.

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