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RESEARCH ARTICLE

PSYCHO-SOCIAL FACTORS INFLUENCING THE INVOLVEMENT IN SELF MEDICATION AND THE PERCEIVED HEALTH IMPLICATIONS AMONG STUDENTS OF A TERTIARY INSTITUTION IN ANAMBRA STATE, NIGERIA

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ABSTRACT

Self medication is the use of medication for self treatment without consulting a physician either for diagnosis, prescription or surveillance of treatment. This study is a descriptive study that determined the psychosocial factors that influence the involvement in self medication and the perceived health implications among students of College of Health Sciences of Tertiary Institution in Anambra State, Nigeria. Structured questionnaire developed by the researchers which was validated and pilot-tested for internal consistency using Cronbach's Alpha with reliability index of 0.839, was used for data collection. Data were collected from the three academic faculties in the College with 340 respondents. Descriptive and inferential statistics analyses were applied in data analysis using SPSS version 21. Study revealed that psychological factors influence the students' involvement in self medication. Such factors include but not limited to: need for quick relief from pain (78.5%), bad experiences with health personnel (71 .5%) and previous experiences with symptoms of disease (66.2%). The socio-economic factors such as high cost of medical consultation (77.9%) and peer influence (68.5%). The students also showed positive perception of the health implications of self medication with average mean score of 3.08. Study also revealed that is correlation between socio-economic and psychological factors in self medication practices (Rho- 0.721,p< 0.001) and perceived health implications of self medication is correlated to psychological factors.

INTRODUCTION

The response to a natural quest for wellbeing includes the self-diagnosis or administration of medication without prior medical consultations in the aspects of dosage, indications of side effects and duration of treatment. Self-medication, as a component of self-care, is considered to be a primary public health resource in health care system. Self medication is the autonomous treatment of self diagnosed diseases with non-prescription drugs (Eichenberg, *et al*., 2015). Behzadifar *et al*., (2020) saw Self-medication as the self-administration of a treatment (either pharmacological or behavioral) without a prescription from a physician or a caregiver. Appropriate self-medication can cure diseases, saving time and money which would be spent on visiting doctors and can sometimes save the patient's life in acute conditions (Hughes, *et al*., 2021). According to WHO (2017), appropriate self medication should offer the consumer; efficacy, greater choice of medicine, direct and rapid access to treatment, an active role in his or her own health care. Self-medication may prove useful when used judiciously, but it is more often used erroneously, without proper guidance and rationale. This evidence was highlighted by a study conducted in Jordan, which showed that 67.1% of adults believed that antibiotics cure common cold and cough with majority sourcing for such without doctors' prescription (Shehadeh, *et al*., 2013). Self-medication is a fairly widespread practice worldwide and both developed and developing nations are giving due attention to it as a component of their health care policy (Ayalew, 2017). Nigeria stands out among the few countries of the world where drugs are freely displayed for sale in unauthorized places such as markets, shops, roadside stalls, motor parks and other public places by individuals not duly licensed (Auta, *et al*., 2014). The prevalence of self-medication from several Nigerian studies ranges between 60-90%. For example, among undergraduate students of a Nigerian university, the prevalence of self-medication was 67% (Oshikoya & Senbanjo, 2019) and in Lagos, south-west Nigeria, self-medication was reported in 67.7% of infants being treated for colic (Afolabi, 2018). A study amongst health workers in tertiary hospital in Ondo State, Nigeria, reported a prevalence of 73% (National Bureau for Statistics, 2020). In the United States of America (USA), about 71% of men and 82% of women had self-medicated at least once (WHO, 2021). The reasons for engaging in self-medication practice in developing countries have been reported to include lack of medical insurance, expensive hospitals visits/consultation fees, easy public access to the prescribed medications (Shaghaghi, *et al*.2014), suggestions of friends, inexpensiveness of the practice and previous experience (Ariaia *et al*., 2019). Generally, SM is regularly used for minor ailments such as headache, fever, sore throat, gastrointestinal

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tract problems, respiratory problems, skin disorders, ear symptoms among others (Galayee, 2017) and WHO (2019) recognize self medication as a viable tool for achieving universal health coverage Previous studies have documented that, influencing the prescribing conduct as well as knowledge of the healthcare professionals can encourage responsible self-medication (Helai & Abou, 2017). According to the World Safe Self Medication Industry (2019), people around the world tend to treat the disease, almost 50% either wait for the problem to run its course or use a home remedy. The prevalence of self – Medication among the participants across the 6 geopolitical zone was 69.4% (Ette, *et al*., (2021). The overall prevalence of self-medication in Meket district, North east Ethiopia in 2017 was found to be 35.9% (Aster *et al*., 2017). The most commonly cited reasons for self-medicating were financial problems, lack of the required drugs in the hospital, lack of time, and mildness of sickness (Aisha, *et al*., 2019). In most economically deprived countries, including Nigeria, many drugs are dispensed over the counter (OTC), and the majority of health-related problems, nearly 60%–80%, are treated through self-medication as a lower-cost alternative (Chang & Trived, 2013). Psychosocial factors such as stress, self esteem, depression, hopelessness, and job control seem associated with physical health (Macleod, 2013). In a study conducted by Al-Shagawi, *et al* (2018), academic stress was found to be the primary factor responsible for self medication among Pharmacy and Medical students, with consumption of caffeine dramatically increasing during examination periods. According to some studies, level of education, previous experience of self-medication, occupation, lack of medical insurance, lack of time to visit physicians, low income (Afolabi, 2013), female sex (Arrias *et al*. 2016), urban residence (Balamurugan & Ganesh, 2013), youth age (Garofalo *et al*.,2015) and men (Marak, *et al*., 2016) were factors associated with self medication practice. Socio-economic factors such as low income /high rate of unemployment and low level of education, poor access to health care, informal access to antibiotics, storage of antibiotics at home and health-seeking behaviours of the general population have been reported in other studies from Asia, the Middle East and South Eastern Europe (Grofalo, *et al*, 2015). Presence of long queues at health facilities and lack of time to visit the hospital was fingered among the reasons for self medication (Owen, *et al*., 2021). Dimabayao and Mohammad (2016) found the prevalence of self-medication practice among nursing students in Jazan University, Kingdom of Saudi Arabia to be 43%. Studies revealed that self-medication is common practices by students especially those in the medical related courses. Medical students, on the other hand, will be expected to handle several types of medication as well as have easy access to drugs in the near future. This can favour self prescription and self medication (Bamgboye, *et al*, 2014).

According to WHO (2018) Self-medication can lead to interaction between drugs which would be prevented, had the patient sought care from a licensed medical practitioner. Inappropriate self-medication results in irrational use of drugs, wastage of resources, increased risk of unwanted side effects, and prolonged suffering (Albaawi, 2015). Irrational usage of antibiotics leads to the emergence of resistance pathogens worldwide (Komaikey, *et al*., 2015). Furthermore, risks associated with self-medication also include potential delay in treating serious medical conditions (Kagashe, 2014).

The researchers' have over the time noticed the increase in the number of students that show symptoms of ailment but never care to seek healthcare services in the institutional clinic or hospitals elsewhere. This has given great concern to the researchers as some of these students abstain from lectures over time while some of them claim that they can manage their conditions only to embark on self medication and be seen after some days looking worse than they when they were first seen. The questions that come to the mind remain, whether these students dislike seeking medical attention or have other factors that cause them to embark on self medication or work still aware of the negative implications of self medication. It is on this backdrop that this study was conceptualized to determine the psychosocial factors influencing the involvement in self medication and the perceived health implications among students, and also bridge the gap of paucity of such study in the study area. Theory of Reasoned Action by Martin Fishbein and Icek Ajzen, was applied in this study. This theory has been used to assist in predicting and explaining several health behaviors (La Caille, 2020).

Objective of the Study

- To determine the psychological factors that influence self medication among students of a tertiary institution in Anambra State
- To determine the socioeconomic factors that influence self medication among students of a tertiary institution in Anambra State
- To determine the perceived health implications of self medication among students of a tertiary institution in Anambra State

Hypotheses

- There will be no significant correlation between psychological and socio-economic factors that influence the involvement in self medication among students
- Significant correlation will not exist between psychosocial factors and perceived health implications of involvement in self medication among students.

METHODOLOGY

Research Design: The study design is a quantitative cross-sectional survey. Aster, *et al*, (2017), used this design in a community based conducted among 722 adult household members in Meket District, North East Ethiopia on Self-medication practice and associated factors among adult household members in Meket district, North east Ethiopia".

Setting: This study was conducted among students of College of Health Sciences, Nnamdi Azikiwe University, Nnewi Campus, a tertiary institution located in Okofia, Nnewi North Local Government Area in Anambra State, Nigeria. The institution habours, Faculty of Health Sciences and Technology, Faculty of Basic Medical Sciences, and Faculty of Medicine. Students in the institution are medically and allied medically inclined students. College of Health Sciences is an ever busy College where medical and allied medical students are trained with its attendant stress. Sometimes the activities therein overwhelm some student to the extent that they may require medical attention.

Population for the Study: The target population for this study comprises of all students of College of Health Sciences, Nnewi. Information from Faculty Deans' offices in the College estimated the total number of students as 3656 at different academic levels.

Sample size: A sample size of 345 was drawn from the estimated population of 2543 using the Taro Yamane formula for sample size calculation.

Instrument for Data Collection: A researchers'-structured questionnaire on psychological, socio-economic factors that influence involvement in self medication and perception on health implications of self medication, structured in four point scale was used for data collection. Decision rule of 2.5 mean score was used for data on the perception of health implication of self medication. The instrument was subjected to face, construct and construct validation and tested for internal consistency with reliability index of 0.839 on Cronbach's Alpha.

Procedure for Data Collection: The study was carried out in the students' respective faculties during break time and at a time academic activities were not at the peak.

The researchers explained the purpose and objectives of the study to the respondents before they responded to the instrument. A total of 345 copies of questionnaire were administered to the respondents, 340 copies (98.55%) were retrieved and analyzed. Administration and retrieval of the instrument lasted for ten weeks.

Method of Data Analysis: A total of 340 copies of questionnaire were retrieved, tallied and analyzed. Data collected from the study were represented in tables with frequencies and percentages. Descriptive and inferential analysis were done using SPSS package version 21. Decision rule for the four point scale items was based at 2.5 mean score with mean score of 2.5 and above regarded as positive perception and vice versa. The hypotheses were tested with Spearman's Order Correlation at 0.05 level of significant.

Ethical Considerations: The researchers obtained approval from the institutional REC with Ref. number:

FHST/REC/023/0010: The researchers maintained the following ethical considerations during the course of the research:

Anonymity*:* the researchers ensured that the respondents did not give self-identification like name in other to ensure anonymity.

Confidentiality*:* the researchers ensured that all information's provided are treated as confidential.

Informed consent*:* The researchers ensured that the respondents gave out their approval and acceptance before responding to the items in the instrument.

Voluntary participation*:* the researchers ensured that the subjects had the right to voluntarily decide whether to participate in the study or not without any risk of penalty.

RESULTS

Table 1 shows that Three hundred and forty (340) participants were involved in this study, of which 214 (62.9%) were females and 126 (37.1%) were males. Majority 138 (40.6%) of the total participants were aged between 22-24 years, while 309 (91.5%) were single. The highest response rate was recorded in the department of Nursing Science with 56 (16.5%) responses, while the study level with the highest participants being 300 level, with 120 (35.3%) responses.

Table 1. Socio Demographic Data of the respondents n=340

Items	Class	Frequency	Percentage (%)
Age	16-18	26	7.6
	19-21	116	34.1
	22-24	138	40.6
	25 and above	64	18.8
Sex	Male	126	37.1
	Female	214	62.9
Marital status	Married	31	9.1
	Single	309	91.5
Department	Nursing science	56	16.5
	Medicine	50	14.7
	Med Rehabilitation	38	11.2
	Physiology	31	9.1
	Med. Lab Science	48	14.1
	Anatomy	39	11.5
	EHS	39	11.5
	Radiography	39	11.5
Level	200	58	17.1
	300	120	35.3
	400	94	27.6
	500	60	17.6
	600	9	2.6

Research Question 1: What are the psychological factors influencing self medication among students of College of Health sciences, Nnewi?

Table 2 shows that the psychological factor that got the highest number of responses from the participants is "the need for quick relief" with a response rate of 267(78.5%). This is followed by "bad experiences with health personnel" 243(71.5%), and "previous experience with symptoms or disease", 225(66.2%).

Table 2: Psychological Factors influencing Students' involvement in self medication

Item	Frequency	Percentage
The need for quick relief from pain	267	78.5%
Anxiety over illness	168	49.4%
Unnecessary waiting time in the clinic	185	54.4%
Being ashamed of revealing symptoms	216	63.5%
Phobia for hospitals and clinics	138	40.6%
Previous experience with symptoms or disease	225	66.2%
Minor ailment	117	34.4%
Previous habit of self medication	167	49.1%
Bad experiences with health personnel	243	71.5%
Fear of being judged by others	109	32.1%

Research Question 2: What are the socioeconomic factors that influence self medication among students of College of Health Sciences?

Table 3 shows students' responses to the socioeconomic factors that influence their involvement in self medication where "high cost of medical consultation with the highest number of responses with a response rate of 265(77.9%),

followed by "peer influence" 233(68.5%) and "lack of needed health services" 222(65.3%).

Table 3. Socio-economic factors affecting student's involvement in self medication

Item	Frequency	Percentage %
Peer influence	233	68.5%
Ignorance	86	25.3%
Lack of health services	222	65.3%
Low income	133	39.1%
Availability of drugs at home	160	47.1%
Poverty	88	25.9%
Excessive advertisement of drugs	171	50.3%
Proximity of clinics to students	169	49.7%
Too busy to visit the clinic	217	63.8%

Research Question 3: What are the perceived health implications of self medication among students of College of Health Sciences?

Table 4 above shows that majority of the respondents 233(68.5%) strongly agreed that self medication can lead to drug resistance, 153 (45.0%) agreed that self medication can lead to renal failure, 144 (42.4%) strongly agreed that self medication predisposes one to drug abuse and 110 (32.4%) disagreed to self medication making them hardly fall sick. An average mean score of 3.08 was recorded. Table 5 shows Sperman's Order Correlation to show the relationship between psychological Factors, socioeconomic factors and health implications of self medication. Result shows that socio-economic and psychological factors are significantly associated with perceived health implications of self medication with Rho=0.220 and P <0.001; Rho=207and P < 0.001respectively.

DISCUSSION

Psychological factors that influence the involvement in self medication among students of College of Health Sciences
Findings he study revealed that need for quick relief from pain (78.5%) is the most psychological factor that influenced the students' involvement in self medication. Other psychological factors negative experiences with health personnel and previous experiences with symptoms and disease. The finding do not align with the findings of Owen, *et al*., (2021) who saw presence of long queues at health facilities and lack of time to visit the hospital as factors that influence self medication.

This finding also does not agree with the findings of Saheed, *et al* (2019) who stated that history of a disease an influencing factor for self medication. This disparity in findings could be as a result of the nature of geographical location for the this study and that of the above mentioned.

Socio-economic factors that influence the involvement in self medication among students of College of Health Sciences: Findings from this study show that the most common socioeconomic factors that influence the students' involvement in self medication are high cost of medical consultation (77.5%), peer influence (68.5%), lack of health services (65.3%) and proximity of clinic to the students (49.7%). This is in agreement with the findings of Aisha *et al* (2019) that the most commonly cited reasons for self-medicating were financial problems, lack of the required drugs in the hospital and others. The finding also agrees with that of Aster, *et al* (2017) that posits that non- accessibility of pharmacies (AOR = 3.71, 95% CI = 1.31, 10.51) was among the factors that influence involvement in self medication. These notwithstanding, it may not be totally ruled out that nature and severity of illness will cause an individual to defile the proximity of the clinic to access healthcare services.

Perceived health implications of self medication among students of College of Health Sciences: From the findings of this study, the students have a positive perception of the health implications of self medication (average mean score = 3.08). Majority of the students (68.5%) strongly agreed that it can lead to drug resistance, and a good number of them (52.6%) have strong agreement that it can lead to delay in seeking appropriate treatment leading to major complications and delayed diagnosis.

This finding aligns with that of (Al-Qahtani, *et al*., 2022) whose findings also showed that 87.3% of the medical students had positive perception of health implications of engaging in self medication. This positive perception of self medication could be because the students in these studies are medically oriented students who are assumed to have prior knowledge of health implications of self medication.

C**orrelation between psychological and socio-economic factors that influence the involvement in self medication among students:** With reference to findings from this study, this hypothesis was rejected as there was significant correlation between the psychological and socio-economic factors that influence the involvement in self medication (Rho- 0.721, p< 0.001). The psychological factors; the need for quick relief from pain (78.5%), bad experiences with health personnel (71.8%), previous experiences with symptoms or disease (66.2%) and the socioeconomic factors; high cost of medical consultation (77.5%), peer influence (68.55), lack of health services (65.3%) both influenced the students' involvement in self medication which might have resulted in the correlation.

C**orrelation between the psychological factors and the perceived health implications among the students:** Based on findings from this research work, this hypothesis was rejected as there was correlation between psychological factors and perceived health implications of self medication among the students (Rho=0.207, p<0.001).

Implications of findings: The findings of this study has indisputable implications in that the students prefer to treat their symptoms through the use of non prescribed drugs despite the fact that they are aware of the negative health implications. It becomes sources of worry with possible increase in the number of resistant infections and chronic disease that may defy medical treatment. This will become burden to the healthcare system and care providers.

Limitations of Study: This study has some limitations and the results should be considered with that in mind. The study failed to determine the extent the study population engage in self medication which would have expanded the applicability of the study. It is a descriptive study conducted in an institution and therefore cannot be generalized to certain extent. These not-withstanding, the study will bridge indigenous literature gap on the topic and increase the knowledge base of researchers in the field.

Table 4. Perceived health implications of self medication

Item	SA (%)	A (%)	D (%)	SD(%)	Mean
Self medication can lead to drug resistance	233(68.5)	66(19.4)	30(8.8)	11(3.2)	3.53
Self medication can lead to renal failure	133(39.1)	153(45.0)	46(13.5)	8(2.4)	3.21
Self medication makes some diseases become chronic	140(41.2)	93(42.1)	47(13.8)	10(2.9)	3.21
Self medication makes one look healthy	106(31.2)	93(27.4)	93(27.6)	47(13.8)	2.76
Self medication can lead to drug dependency	161(47.4)	121(35.6)	44(12.9)	14(4.1)	3.26
I hardly fall sick because I self medicate	66(19.4)	97(28.5)	110(32.4)	67(19.7)	2.48
Self medication can cause delayed diagnosis and delay in seeking appropriate treatment leading to major complications	179(52.6)	97(28.5)	58(17.1)	6(1.8)	3.32
Self medication can cause dangerous drug interactions	132(38.8)	118(34.7)	80(23.5)	10(2.9)	3.09
Self medication gives quick relief from pain	98(28.8)	115(33.8)	84(24.7)	43(12.6)	2.79
Self medication predisposes one to drug abuse	144(42.4)	114(33.5)	62(18.2)	20(5.9)	3.12
Self medication can cause prolonged suffering	152(44.7)	102(30.0)	64(18.8)	22(6.5)	3.13

Average of mean scores = 3.08; KEY: SA= Strongly Agree, A = Agree, D = Disagree, SD = Strongly Disagree; Mean score less than 2.5 = Negative perception , Mean score greater than 2.5 = Positive perception

Table 5. Spearman's Order Correlation showing the relationship between socio-economic factors, psychological factors and health implication of self medication

	Socio-economic Factors	Psychological Factors
Perceived health implications	Rho= 0.220 P= <0.001**	Rho= 0.207 P= < 0.001**
Socio-economic Factors		Rho= 0.721 P= <0.001**

*KEY : **=Significant at p<0.05*

CONCLUSION

Based on the findings of this study, the researcher concluded that since the students have a positive perception of the health implications of self medication, the factors that prompt their action should be considered by institutions of learning to ameliorate such situation among students in tertiary institutions.

Recommendation

Based on the findings of this study, the researchers recommend that:

School based drug education should be introduced to the students and be implemented through the collective effort of the school management and government. Cost of medical consultation should be made affordable and easily accessible to the students to help reduce their involvement in self medication. Health services should also be made readily available for the students, especially in emergency situations. Healthcare providers should pay more attention to educating the public on the health implications of self medication like drug resistance, drug dependence and others.

Conflict of interest: The researchers declare that there was no conflict of interest in the conduct of the study.

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