

PREVALENCE OF SELF-MEDICATION WITH ANALGESICS AMONG ARTISANS IN NNEWI, ANAMBRA STATE, NIGERIA.

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ABSTRACT

The practice of self-medication is increasingly becoming a serious issue of public health concern especially in developing countries like Nigeria. Analgesics are one of the most common classes of drugs involved in the practice of self-medication. This study aimed to determine the prevalence of self-medication with analgesics among artisans in Nnewi, Anambra, Nigeria. Descriptive cross-sectional study was carried out among 430 artisans in Nnewi town using a multi stage sampling technique. The prevalence of self-medication with analgesics was found to be 75.8%. The most commonly used analgesic was paracetamol (83.1%) and Ibuprofen (31.9%). Headache was the most common indication for self-medication with analgesics and the perception of the illness as being unserious was found to be the most recurring reason for self-medication. More than half of the participants (56%) had a good knowledge of the practice of self-medication with analgesics. A statistically significant association was found with age ($\chi^2 = 31.522$; $p = 0.001$), marital status ($\chi^2 = 31.524$; $p = 0.001$)

and level of education ($\chi^2 = 14.796$; $p < 0.005$). The prevalence of self-medication with analgesics was high even when more than half of the study participants had a good knowledge of the practice of self-medication with analgesics. Thus, public health interventions that involves the education of artisans and the entire public on the health implications of irresponsible self-medication with analgesics is important.

Keywords: Analgesics, artisans, knowledge, self-medication, Anambra State

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INTRODUCTION

The practice of self-medication is as old as man himself. Self-medication is a complex behaviour that possesses an evolutionary and adaptive foundation and has manifested itself in various species from arthropods to the first humans, to combat the threats that their circumstance imposes on them, one of which is disease and the symptoms that accompany it.¹ Self-medication, a component of self-care has been a characteristic of healthcare for many years and more so nowadays that people are keen to accept more personal responsibility for their health status and to obtain as much sound information as possible from expert

sources in order to help them make correct decisions about their health.²

As defined by the World Health Organization (WHO), self-medication is the selection and administration of medications to treat self-identified ailments and symptoms or the intermittent or ongoing use of a prescribed medicine for chronic or recurrent sickness or symptoms.³

Most times, self-medication typically involves the intake of over-the-counter medications, but it may also take the form of consumption of prescription-only medication (POM).⁴ POMs are drugs which are to be dispensed only by pharmacists or professionals who are trained and licensed to dispense such prescribed drugs while over the counter (OTC) drugs are drugs which could be obtained or procured

without prescription by a health care professional.⁵ The practice of self-medication is not just limited to OTCs and POMs. According to Baracaldo-Santamaria et al, self-medication also involves the self-administration of other additional products like herbal products, home-made remedies, nutritional supplements and vitamins.¹ It is also important to clarify at this point that while the word “self” in the term “self-medication” points towards an action an individual performs on himself or herself, it can also involve a third party.¹ This can be exemplified in a scenario where a mother procures drugs without prescription and administers them to her sick child.

Generally, the most common purpose of self-medication is to promote health and wellbeing through treatment of symptoms and diseases. However, the practice of self-medication is like a 2-edged sword because of the attendant positive and negative consequences of the practice. There are numerous benefits that people can get from appropriate self-medication.

Appropriate use of OTC drugs can timely relieve minor symptoms of chronic diseases, such as upper respiratory tract infection, headache, atopic dermatitis and stomach pain, etc., thereby reducing the economic and time cost of patient care and

reducing the pressure on medical institutions and the burden on medical insurance.⁶ This means that correct use of analgesics can help individuals relieve various forms of body pain and ailments and thus enable normal functioning of individuals in their daily living/work. Conversely, inappropriate self-medication behaviours can delay or obscure the diagnosis of patients’ serious diseases and increase the risk of potential adverse effects in patients. It was found that the usage of paracetamol and combination mixtures containing paracetamol and aspirin probably produced analgesics nephropathy based on weight of evidence reviewed.⁷ Other Studies have reported paracetamol-induced acute liver failure and a life-threatening skin reaction,⁸ Stevens–Johnson syndrome, and cholestatic hepatitis following self-medication with paracetamol.⁹ Thus, currently, self-medication is viewed as a serious global issue that is quickly receiving substantial attention in healthcare policies across all

nations particularly in developing countries.^{10,11}

There are numerous factors and reasons that drive people to practice self-medication. These factors include: inadequate education, a history of self-medication, insufficient time for doctor visits, low earnings^{4,12}, young age¹³ living in an urban area, having access to more medical products, being exposed to the media, the urgency of the issue, minor health issues, not being able to access transportation, being able to control one's own symptoms, and seeing more commercials for medications.^{6,14}

Analgesics are medications used in the practice of medicine for the management and treatment of pain without causing loss of consciousness in the patient. These drugs are usually grouped as opioid analgesics and non-opioid analgesics. The opioid analgesics are derived from the opium plant and are widely used in the management and treatment of mild to severe pain.¹⁵ They are also used alternatively in the treatment of

other medical conditions like diarrhoea and cough. Examples of opioid analgesics are morphine, codeine, tramadol, and fentanyl. On the other hand, non-opioid analgesics are other drugs (apart from the opioids) which are also employed as pain relievers in the practice of medicine. They include: non-steroidal anti-inflammatory drugs, acetaminophen, anti-depressants, anti-epileptics and local anaesthetics. These drugs also find application in the treatment of other medical symptoms or diseases like fever, inflammatory diseases, depression, epilepsy and surgery.

Artisans are skilled craft workers who are involved in the production of goods and services mainly by hand craft. Common sub-groups of artisans in Nigeria and Africa as a whole are carpenters, painters, shoe makers, carvers, goldsmiths, hairdressers, fashion designers, plumbers, electricians, panel beaters, and a host of others.^{16,17}

Majority of artisans by the nature of their work and the environment in which they work, are exposed to certain conditions and

workplace hazards which pose a serious threat to their overall health. Occupation related health issues of artisans include: musculoskeletal/joint pain, low back pain, needle pricks (especially among tailors and hairdressers), cuts and lacerations (especially among mechanics and carpenters) and even low income.¹⁸ This, combined with low availability of healthcare and easy accessibility to over the counter drugs in developing countries like Nigeria predicts that artisans are likely to resort to self-medication with analgesics in order to achieve temporary relief from their pains and to be available for work at all time and remain economically afloat. This situation informs the need to study the practice of self-medication in this population in order to get an idea of the situation on ground and to inform decisions to be made to improve the overall health of artisans and the nation as a whole.

It is important to state that several studies have revealed analgesics to be the most common class of drugs people consume

without prescription or professional advice (drug abuse). A study in south western Nigeria by Adedeji et al revealed that analgesics were the most common self-medicated drugs in that region with a lifetime frequency of 81% and paracetamol was the most common analgesic consumed by the respondents without prescription.³² Inappropriate self-medication with analgesics like paracetamol and NSAIDS can lead to poor health outcomes like analgesic nephropathy, acute liver toxicity, Steven Johnson syndrome and cholestatic hepatitis.⁷⁻⁹

This study provides the much-required information for relevant stakeholders in Nnewi and Nigeria and thus, help in policy formulation and planning of interventions as it concerns education of artisans and the entire population to reduce the prevalence of self-medication with analgesics, encourage responsible self-medication and avert accompanying negative outcomes associated with inappropriate self-medication.

METHODOLOGY

The study was conducted in Nnewi town in Nnewi North Local Government Area of Anambra State, South East Nigeria. Nnewi, the second-largest city in Anambra State in southeastern Nigeria, is renowned for its industrial prowess, particularly in transportation. The city, located in Nnewi North Local Government Area, consists of four quarters: Otolu, Uruagu, Umudim, and Nnewichi. It is well-known for fostering a diverse array of transportation entrepreneurs, from transporters to spare parts dealers and manufacturers.¹⁹ Projected population data from 2020 to 2023 indicates consistent growth, with figures rising from 1,051,000 in 2020 to 1,239,000 in 2023. This represents an increase of 5.99% in 2021, 5.66% in 2022, and 5.27% in 2023, suggesting a trend of expanding yet gradually stabilizing population growth in the metropolitan area during this period. Nnewi's economic landscape is

characterized by a robust entrepreneurial spirit, with a significant presence in trading, farming, and manufacturing sectors.²⁰

The study population was artisans who work within Nnewi town in Nnewi North local government area of Anambra State

This study was descriptive cross-sectional study among artisans who work within Nnewi town in Nnewi North local government area, Anambra state.

This was calculated using the Cochran formula.²¹

$$n = \frac{Z^2 PQ}{e^2}$$

Where n = minimum sample size. The sample size for the study was 430.

A multistage sampling technique was employed for the purpose of this study. Ethical approval was obtained from the Nnamdi Azikiwe University Teaching Hospital Health Research Ethics Committee. Informed consent was obtained from the participants.

RESULTS

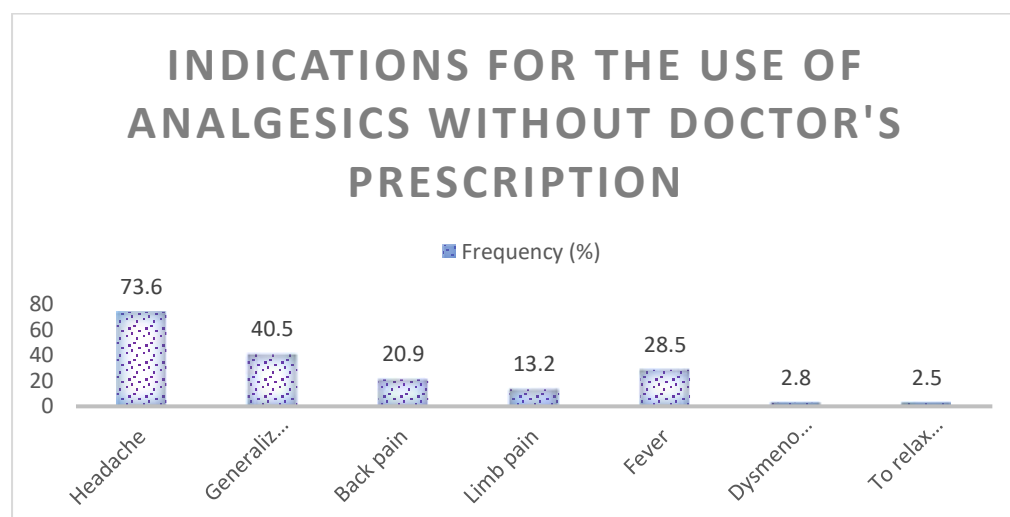
The age range of the participants was 18 to 69 years with mean age of 31.29 ± 9.44 years. The participants who were aged between 18-29 years constitute 52.3%. There were more males (73.7%) than females (26.3%). Majority were Christians (91.4%) and Igbo (93.5%). By marital status, 56.5% were single, 39.8% married, 3.3% widowed and 0.5% separated or divorced. Most of the respondents (67.4%) had secondary education as their highest level of study.

Most of the respondents (75.8%) consumed analgesics without a prescription by a

doctor. The most commonly used analgesics without doctor's prescription were Paracetamol (83.1%), Ibuprofen (31.9%) and Diclofenac (25.5%). It was noted that 15.6% used analgesics to relief pains daily; 49.1% used it 1-2 times per week, while 35.3% used it 1-2 times per month. The analgesics were mostly obtained from patent medicine dealers (94.8%).

The symptoms for which painkillers are consumed without a prescription by a doctor include headache (73.6%), generalized body pain (40.5%), fever (28.5%), back pain (20.9%), limb pain (13.2%), dysmenorrhea (2.8%), and to relax and feel high (2.5%) (see Table 1).

Figure 1: Indications for the use of analgesics without prescription by a doctor



The reasons for self-medicating with painkiller were because the illness was considered serious (55.2%), lack of money to go to hospital (51.2%), saves time (48.2%), previous experience (13.8%), long waiting time in hospitals (3.7%), and dissatisfaction with health services in the area (3.1%). Those who did not practice

self-medication said it was due to risk of wrong use of drugs (23.1%), risk of adverse effects (23.1%), risk of using wrong drugs (18.3%) and risk of wrong diagnosis (9.6%). Others (40.4%) did not indicate any reason for not practicing self-medication without doctor's prescription (see table 2).

Table 2: Reasons for self-medication with analgesics

Variable	Frequency	Percentage (%)
Reasons for self-medicating with painkiller		
Lack of money to go to hospital	167	51.2
Saves time	157	48.2
Illness not considered serious	180	55.2
Dissatisfaction with health services in the area	10	3.1
Long waiting time in hospitals	12	3.7
Previous experience	45	13.8
Others	4	1.2
Reasons for not practicing self-medication with analgesics		
Risk of using wrong drugs	19	18.3
Risk of wrong use of drugs	24	23.1
Risk of side or adverse effects	24	23.1
Risk of wrong diagnosis	10	9.6
Others	0	0.0
No indication	42	40.4

The study showed that 10.0% of the respondents said it is better to practice self-medication with analgesics than to see a doctor for prescription; 88.1% noted that self-medication with analgesics is harmful without proper knowledge of the drugs and disease; 66.3% knew that most analgesics have serious side or adverse effects like liver or renal toxicity; 7.7% said it is okay to continually treat recurrent headache and body pain with self-prescribed analgesics; 41.9% knew that self-medication with analgesics can complicate or worsen the disease or illness for which it was taken; 19.8% agreed that the combination of self-prescribed analgesics with other drugs can cause interactions and reduce the effectiveness of the drugs; 69.1% noted that the continuous use of unprescribed analgesics can result in dependency.

Most of the respondents (56.0%) had a good knowledge of self-medication with analgesics; 23.5% had an average knowledge level, while 20.5% had a poor knowledge.

A statistically significant association was found with age ($\chi^2 = 31.522$; $p = 0.001$), marital status ($\chi^2 = 31.524$; $p = 0.001$) and level of education ($\chi^2 = 14.796$; $p = 0.005$). The practice of self-medication with analgesics was less prevalent with increasing age; was observed more among those aged 18-29 years (85.3%) compared

to those aged above 40 years (54.9%). Also, those who were married (88.9%) had a higher prevalence compared to those who were single (67.9%). The prevalence was more among those with no formal education (95.0%) compared to those who had secondary (70.7%) or tertiary education (81.6%)

DISCUSSION

A total of 430 artisans (aged 18 to 69 years) were enrolled into this study. Majority were within 18-29 years and this represents the bulk of the active working population in the Nigerian human workforce. The sex distribution of respondents showed a male dominance.

More than two-thirds of the artisans had junior/senior secondary school certificate and primary school certificate as their highest level of education. This is most likely due to the fact that artisan jobs are characterized by low entry requirements in terms of educational qualifications. Also, the artisan sector of the economy serves as a great employer of individuals who for financial or various other reasons cannot further their education beyond the primary or secondary school level and thus, cannot secure a job in the formal sector.

There was high prevalence of self-medication with analgesics (75.8%) among

artisans in Nnewi. This is similar to the result (75%) obtained by Halgato et al in Serbia in 2017.²² A much higher prevalence (96.6%) was obtained in a similar study in Ghana by Badzi et al.¹⁹ This is likely because the study in Ghana involved construction workers only and this subset of artisans have been shown to have a high tendency to self-medicate with analgesics as revealed in our work too (masons and builders). On the other hand, a much lower prevalence (48.7%) was reported in the study by Akinawo et al among artisans in Osun, Nigeria.²³ This discrepancy is likely due to the finding that the questions about analgesics in the work by Akinawo et al were limited to just 2 analgesics and the questionnaire was self-administered too.

The high prevalence of self-medication with analgesics obtained in this study can be attributed to the strenuous nature of work that most artisans do which predispose them to musculoskeletal pain and other stress symptoms like headache and this could lead to the frequent use of analgesics

in order to get quick relief. Also, the easy accessibility to analgesics and the presumed cost effectiveness of the practice of self-medication also contribute to the high prevalence of self-medication with analgesics especially in developing countries.

The findings from this study showed paracetamol to be the most common analgesic used by the respondents. This result is in concordance with the findings of Chindlahore et al in India,²⁴ Alexa et al in Romania,²⁵ Priscilla et al in Ghana,³¹ and Esan et al in Nigeria.²⁷ The high rate of use of paracetamol can be adduced to the widespread popularity of the drug as well as the relative ease of availability when compared to other analgesics. It is also known relatively cheaper and perceived to be less harmful when compared to other analgesics like NSAIDS.

Many NSAIDS are known for their fast onset of action and high potency thus making them a common drug of choice for

the practice of self-medication. This raises an issue of public health concern as NSAIDs, when not consumed responsibly, are known to cause a variety of adverse/side effects ranging from cutaneous drug eruptions and peptic ulcer to kidney diseases.

The most common source of the analgesics was found to be patent medicine dealers. This finding is similar to results of another study done in Ethiopia by Shafie et al²⁸ and Lawan et al²⁹ in Nigeria. This may be due to the current uncontrolled proliferation of patent medicine stores in developing countries like Nigeria. This finding is very important as thorough assessment and regulation of patent medicine sellers in Nigeria can be very crucial to achieving good regulation of over the counter drug use in Nigeria. A constant review of the number, activities and products of patent medicine dealers as well as basic training can help ensure responsible self-medication. Much less commonly, family and friends as well as left over from

previous doctor's prescription were sources of analgesics in the index study.

Regarding the indications of self-medication with analgesics, headache, generalized and localized body pain (limb and back/waist pain) in that order were reported to be the most common indications for self-medication with analgesics. These 3 symptoms were also recurrent in the results obtained from similar studies by Jaiswal et al in Pune India,⁴⁷ Priscilla et al in Ghana,³¹ and Catherine et al in Nigeria.³²

Furthermore, generalized and localized body pain are the next common indications of self-medication with analgesics. This could be due to the strenuous and demanding nature of the work of most artisans who work with heavy machinery, repeatedly lift heavy load and maintain a specific position for a long period of time thus predisposing them to musculoskeletal problems like body pain. 2 Studies among artisans (auto-mechanics and construction workers) in Ghana revealed body pain/ache

to be one of the primary indications for self-medication with analgesics. Other less common indications with minimal frequencies were dysmenorrhea and the urge to relax and feel high (psycho-stimulation).

The most indicated reasons for the practices of self-medication with analgesics in this study are that the illness was not considered serious, lack of money to go to the hospital and time saving. Similar reasons were reported similar in the study in India,³³ Saudi Arabia,³⁴ and Nigeria,³⁵ These findings point to a poor health seeking behaviour usually seen in developing countries where individuals do not seek appropriate medical care for their symptoms until their illness becomes debilitating. Thus, appropriate health seeking behaviour will be an important area to be addressed when carrying out educational sensitization on appropriate self-medication.

Regarding the knowledge of the practice of self-medication with analgesics, a very high percentage of the participants knew that it is not better to practice self-medication with analgesics than to see a doctor for prescription (87%), that self-medication with analgesics is harmful if practiced without proper knowledge of the drugs and disease (88%) and it is not okay to continually treat recurrent headache and body pain with self-prescribed analgesics (90%). However, despite knowing the above, there were still some gaps in the knowledge uncovered by our study. For example, only 66% of the respondents knew that most analgesics have serious side or adverse effects like liver or renal toxicity. This finding is similar with the study by Amina Issah et al which highlighted poor understanding of the potential risk and adverse effects associated with self-medication with analgesics.³⁶ Also, less than half (41.9%)

knew that self-medication with analgesics can worsen the disease for which it was

taken and even a smaller amount, (about 20%) knew that the combination of self-prescribed analgesics with other drugs can cause interactions. This lack of knowledge of the specific risks, complications and possible interactions associated with self-medication with analgesics coupled with a high prevalence of self-medication with analgesic raises an issue of public health concern as it points to a high rate of irresponsible drug use. It emphasizes the need for proper informative intervention in order to fill up the existing knowledge gaps and promote responsible self-medication.

Age, marital status and level of education was found to be significantly associated with the practice of self-medication with analgesics. The practice of self-medication was observed more in the younger age group (18-29) than in older adults. This finding is similar to the results of the study by Shamekhi et al which revealed a statistically significant relationship between younger age and self-medication.³⁷ Also, those who are married are more like

to practice self-medication with analgesics than the single or separated/divorced participants. Finally, those with no formal education were more likely to take self-prescribed analgesics than those with primary and secondary education.

CONCLUSION

This study has shown that the prevalence of self-medication with analgesics among artisans in Nnewi is high. This makes the subject matter an issue of public health concern and one that requires immediate intervention in order to mitigate future negative consequences.

The following are recommended based on the above conclusions:

The State Ministry of Health in synergy with the State Ministry of Communication should commence a community-based awareness scheme in Nnewi and other communities to enlighten the community members (including artisans) on the practice of responsible self-medication with analgesics as well as the attendant risk/adverse effects that follow irresponsible self-medication. This

educational intervention should also focus on instilling prompt and appropriate health seeking behaviours into the populace. The National Agency for Food and Drug Administration and Control (NAFDAC), National Drug Law Enforcement Agency (NDLEA), the Pharmacy Council of Nigeria and other drug regulatory bodies should clamp down on the incessant proliferation of patent medicine shops in Nigeria. There should be thorough review of the competence of the vendors as well as the quality of the products they sell before they are granted permission to set up a patent medicine store. They should also be trained on basic health knowledge as they can be a source of health information to the community members. The Nigerian government should subsidize healthcare to a level that is affordable to both the rich and the poor. This would encourage individuals to seek proper medical care for their symptoms instead of looking for cheap alternatives because of financial constraints.

Limitations of The Study

1. The study focused on only selected groups of artisans thus excluding other various artisans. This may affect the generalizability of the results of this study.
2. The questions were asked based on a recall period of the past three months; thus, it is possible that some incorrect data were given due to forgetfulness, or recall bias.

Conflict of interest: The authors declare that there is no conflict of interest

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