Original Article

Assessment of Self-Medication With Analgesics Among Farmers: A Community Survey in North-Western Nigeria

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ABSTRACT

Self-medication has emerged as a growing public health concern, particularly with the use of analgesics for both medical and non-medical purposes; this trend is exacerbated by the widespread availability of a broad range of over-the-counter (OTC) analgesics. As their use becomes more pervasive, the incidence of associated adverse effects continues to rise. The aim of this study is to determine the prevalence of analgesic use and related side effects among farmers in the community. A cross-sectional descriptive study of 139 respondents aged 17 to 70 years, recruited through a multi-staged sampling technique was carried out. A semi structured interviewer administered questionnaire was used to collect relevant demographic and analgesic use history, data was cleaned, entered and analysed using SPSS version 25. Univariate variables were summarised and presented as proportions and percentages on tables, while Chi square test of association and other appropriate tests were done for bivariate variables and those found with $p<0.05$ were taken to be significant. All respondents were male, with 39.6% aged between 17 and 24 years, and a mean age of 30.72 ± 2 standard deviations. The majority (93.5%) identified as Hausa, and 99.3% practiced Islam. However, only 39.3% had attained secondary education. The prevalence of current use of analgesic amongst farmers in the community was found to be (59.7%) with Paracetamol as the most used analgesic (81.3%). Others include diclofenac (67.6%) aspirin (51%), really extra (47.9%), tramadol (42.2%) and codeine (33.5%), Additionally, majority (74.8%) of respondents reported engaging in self-medication by acquiring analgesics directly over the counter (OTC) without prescription from medical personnel. The Knowledge of side effects of analgesics use was found to be poor amongst 97.8% of the respondents. Statistically significant association was found between Knowledge of side effect and level of education of respondents ($p=0.025$). The prevalence of analgesic use among farmers in the Community was found to be high with corresponding low Knowledge of side effects of use of analgesics. The commonly used analgesics were paracetamol, diclofenac, aspirin and codeine. Promoting appropriate health-seeking behaviour and encouraging the rational use of analgesics are critical steps to prevent the impending rise in side-effects associated with analgesic use, also there is an urgent need to raise awareness and enhance the knowledge of farmers within the community regarding the potential side effects of analgesic use.

Keywords: Analgesics, Farmers, Self-medication, Side-effect

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INTRODUCTION

Analgesics are drugs that are medically used to relieve pain and they form part of the list of essential drugs in Nigeria.[1] Pain is a warning signal, naturally protective but causes discomfort and suffering, may be unbearable and incapacitating. It is the most important symptom that brings the patient to a physician[2]. Self-medication is seen as an extreme tail of self-care as societies evolved to take personal responsibility for their health and wellbeing[3,4] Self-medication with analgesic refers to the use of analgesics without a doctor's prescription which could otherwise be said to amount to analgesic abuse.[2]Analgesics vary in analgesic, antipyretic and anti-inflammatory effects. People often believe there is a pill for every illness and so analgesics are the first point of call for every disorder without knowing the side effect especially on chronic use with several studies reporting arrays of side effects[3,5-12] The national ambulatory medical care survey reported that pain relieve drugs were among the top five therapeutic drugs requested of office-based physicians, furthermore, the main stay of treatment of pains is non-steroidal anti-inflammatory drugs (NSAIDs)[13-15] They are the most widely prescribed in the management of pain such as dental pain, post-surgery induced pain, rheumatoid arthritis, sports injuries, fractures, sprains ,acute arthritics and soft tissue injuries; relieve post operative pain, menstrual pains, headaches, and migraine pain[13]

In rural communities pain relievers have found medical use as drugs to relief general body pains and malaria, however because farmers engaged in some form of hard labour on a daily basis which are accompanied with body pains and a lot of stress these and other factors informed the use of pain relievers as therapeutic options for body pains, headache and malaria in rural communities.[13,14] Self-medication is high among rural communities and like the use of antibiotics is to urban communities, analgesics are more commonly abused in rural settings.[7,8,14]

Some of the commonly abused analgesics include Paracetamol, Codeine, tramadol,[6-8] and non-steroidal anti-inflammatory drugs (NSAIDS) like Aspirin, Ibuprofen, diclofenac, indomethacin and others.[3,5,9,13-15.] Paracetamol, a common and easily accessible drug on any street in Nigeria and included in approximately 150 preparations[2,12]carries risks of intoxication with 10 to 15 g reported as hepatotoxic for adults and 25 g can be life-threatening[12]. The widespread use of these drugs has led to an increase in the prevalence of their adverse effects, such as nausea, vomiting, dyspepsia, gastric ulceration, bleeding and diarrhoea.[16] It is estimated that 10-20% of persons who use NSAIDs experience some of these side effects[16]

From the South west of Nigeria to South East and North East, studies have reported prevalence of self-medication with analgesics and other medications (Including complementary and alternative medicines) to be high, and the trend shows that it is further likely to increase in the future, current figures are alarming and ranged from average figures to up to 100%.[3,17,18] However in developed countries, the prevalence of current use has remained less than 25%. [12] Increasing trends among women have also been reported.[7]

MATERIALS AND METHODS

Study Design and Setting

This is a cross-sectional descriptive study amongst farmers in Biye community of Sabon Gari LGA Kaduna State Nigeria.

Study Population

Farmers indigenous to Biye Community 10KM from the Ahmadu Bello University teaching hospital in Shika, Sabon Gari Zaria. The people are mostly Hausa-Fulani and are predominantly Muslims.

Sampling Technique

A multistage sampling technique was employed, beginning with the random selection of one LGA out of the 23 LGAs in Kaduna state by random selection followed by selection of one ward from 10 wards in Sabon-Gari LGA by random allocation, the third stage involved selection of four settlements by balloting. In the fourth stage, all the 240 houses in all four settlements were numbered and a sampling frame of 410 households produced. Households were the sampling units and were selected using systematic sampling technique with interval of 410/139, approximately =3 with 1 in 3 household sampled.

One eligible farmer was selected from each household; where multiple farmers were present in a household, a ballot was conducted to choose one respondent.

The formula for populations less than 10,000 as given by Araoye[19] is given as follows:

$$n = \frac{\left(Z\frac{\alpha}{2}\right)^2 x\, P(1-P)}{d^2}$$

Where n=minimum sample size for a single population parameter

Z=Normal standard deviation (1.96)

P=Proportion of youth with family communication from previous study (0.91)[2]

d=desired precision

q=proportion of youth without desired family communication

In addition to 10% non-response

n=139

Instrument for Data Collection

A semi-structured interviewer administered questionnaire with questions arranged in four sections, reflecting the objectives of the study was administered.

Methods of Data Analysis

Data was manually cleaned, and checked for errors then entered into statistical software for social sciences SPSS statistics now IBM corporation version 25. Results were summarised and presented in the form of frequency tables and Charts where appropriate. Statistical test of significance was used to find associations between variables with level of significance set at $p<0.05$

Ethical Clearance

Ethical approval was obtained from the health research and ethics committee of Ahmadu Bello University teaching hospital Zaria, furthermore, permission was sought from the district heads in addition to informed consent from the respondents.

Table 1: Socio-demographic characteristics of the respondents

Variable	Frequency (n=139)	Percentage (%)
Age (Years)		
17 -24	55	39.6
25 -32	46	30.2
33 -40	16	11.5
41 -48	11	7.9
49 -56	8	5.8
57 -64	5	3.6
65 -70	2	1.4
Sex		
Male	139	100
Female	-	-
Ethnic Distribution		
Hausa	130	93.5
Fulani	09	6.5
Religion		
Islam	138	99.3
Christianity	1	0.7
Marital status		
Single	55	39.6
Married	76	54.7
Separated	4	2.9
Widowed	4	2.9
Education		
Primary	23	16.5
Secondary	55	39.3
Tertiary	14	10.1
Quranic	46	33.1
None	1	0.7
Prevalence		
Ever used		
Yes	136	97.8
No	3	2.2
Current Use		
Yes	83	59.3
No	54	38.8
Frequency of Use of analgesics		
Everyday		
Twice weekly	33	23.7
Once a month	50	36
Several times per month	31	22.3
Source of analgesics used by		
respondents	25	18
Self - Prescription		
Chemist		
Doctors' prescription	104	74.8
Knowledge of side effects of	19	13.7
analgesic	16	11.5
Poor		
Good		
	136	97.8
	3	2.2

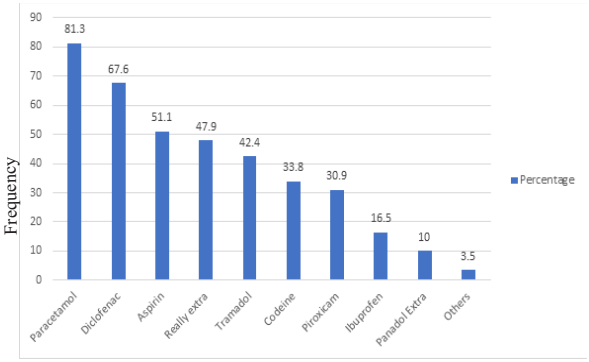

Fig 1: Type of analgesic consumed by respondents in the Community

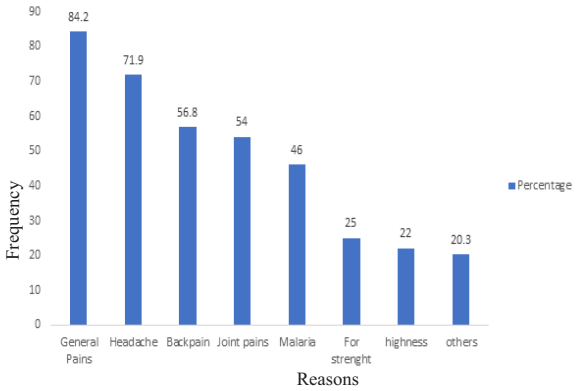

Fig 2: Reasons for use of analgesics by the respondents in the Community

Table 2: Association between knowledge of side effects of analgesics and sociodemographic variables

Variable	Knowledge		χ^2	P-value
Age (Years)	Good	Poor		
17-24	1	54		
25-32	2	40		
33-40	-	16		
41-48	-	11	4.205	0.858
49-56	-	8		
57-64	-	5		
65-70	-	2		
Education				
Primary	-	23		
Secondary	1	54		
Tertiary	2	12	11.325	0.025*
Informal	-	47		
Marital Status				
Single	3	73		
Married	-	55		
Separated	-	4	3.542	0.384
Widowed	-	4		

p<0.05

DISCUSSION

A total of 139 farmers participated in the survey, with majority of them between the ages of 17 and 24, and a mean age of 20 years (±2 SD). This finding aligns with a study conducted in Nnewi, Anambra State, which reported that most respondents fell within 18–29 age range.[3] This trend is expected, given that farming being the predominant occupation among men in the community typically demands physical strength, endurance, and youthfulness. Also, majority (93.5%) of the respondents were Hausa speaking, married (54.7%), Secondary education (39.3%)and Muslims (99.3%), this does not present the same respondents' characteristic as NDHS 2024 findings of age range of 15 -19 years, Married (67%) or living with partner (53%), Secondary education (46%)this may be as the NDHS 2024 includes a female contribution of up to 21% and urban representation of (49%)[20] also that this current study was done in North Western Nigerian community where majority of people are Hausa and practice Islam as a religion whereas the former was nationwide.[20]

Almost all respondents (97.8%) had ever used analgesic in the community, while the prevalence of current use was (59.7%), this is similar to findings in Niger delta,[13] and Builders et al,[14] in addition, studies have reported current prevalence of self-medication with analgesics to be (75.8%)[3] in Nnewi Anambra state, In Ede Osun state the prevalence of self-medication was 47.8% ranging from 14.2% for antibiotics and 51.1% for alternative medicine.[17] in another study from south western Nigeria the prevalence of complementary and alternative medicine therapy for musculoskeletal pain was found to be 96.8% among farmers[18] In Germany the

current prevalence is said to have increased from 19% to 21%. [12] this increase was attributed to increase in self-medication as prescription analgesics has remained constant[12]These findings highlighted the urgent need to enhance public education, raise awareness, and sensitize communities about the adverse effects of analgesics and the risks associated with self-medication.[3,12,17,18]

Paracetamol was the most commonly abused analgesics (81.3%) both as single formulation and as combination analgesic, tramadol (42%) and codeine (33.8%); this corresponds to similar findings in Nnewi Anambra State[3], and this could be as a result of ease of access, affordability and availability of the drug. However, it is higher than that found in Ede, Osun State with Paracetamol found to be 22.2%, tramadol 26.5% and codeine cough syrup (14.7%).[17] The later study also focuses on other drugs like antibiotics, herbal medications etcetera; this likely has diluted the weight on single drugs as in the previous studies. About one in four farmers in the community consume analgesic everyday while 36% take it twice per week. The reason for taking the medications are body pains, headache and back pain; this is similar to findings by Ike and Colleagues,[3] while (46%) of the respondents take it to cure Malaria. These could be reason why patients present late to hospital with more severe symptoms and diseases after self-medication. Unhealthy use of paracetamol and NSAIDS can lead to complications such as liver failure, analgesic nephropathy, Steven Johnson syndrome and cholestatic hepatitis.[2,3.]

The knowledge of side effects of analgesics among the farmers was found to be poor (97.8%), this contrast with lower values found in Bayelsa[13] and South Easternpart of Nigeria[3] This could be because the current study was done in a rural community in the Northwest of Nigeria with one of the lowest literacy rates in the country.[21]

The most common side effect known by the respondents are heartburn, peptic ulcer and chest pain, there was a statistically significant association between level of education and knowledge of side effects of analgesic use (p=0.025).

CONCLUSION

The prevalence of analgesic use was high amongst farmers in the community with paracetamol being the most used analgesic followed by diclofenac, reasons for usage were body pains while others took them to treat Malaria; major non-medical reason for taking analgesics was to get energy for farming activities. The knowledge of side effects of analgesic use was found to be low.

Recommendation

This study recommends the need for public health awareness on the dangers of self-medication and analgesic misuse in the community.

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