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Determinants of Analgesic Self-Medication among Adult Patients Seeking Care at Bweramule Health Centre III, Ntoroko District, Uganda

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ABSTRACT

The Ministry of Health in Uganda has raised awareness about the dangers of analgesic self-medication, but many Ugandans still use painkillers alongside antibiotics without a prescription. A study conducted at Bweramule Health Center III, Ntoroko District, found that 52% of patients took leftover analgesics from prescriptions, 62.2% received them from friends and family, 57.8% followed painkiller drug advertisements, 55.5% self-memed with other drugs, and 64.2% believed minor diseases were more likely to cause self-medication. Most patients could travel 5-10 kilometers for a prescription, and 74.4% of analgesics were out of stock in health facilities. 78.9% of patients reported doctors being absent to prescribe for them, 65.6% reported that health workers did not mistreat patients, and 86.7% reported long waiting times for prescribed analgesics. Both individual and facility-related factors influenced self-medication with analgesics.

Keywords: Ministry of Health, Self-medication, Analgesic, Adult patients, Painkiller drug.

INTRODUCTION

Analgesics are a type of drug taken to control or reduce pain, fever, headache and menstrual cramps [1]. Therefore, self-medication on analgesic drugs could mean taking these drugs without a clear diagnosis indication and prescription from a qualified health worker [2]. Analgesics are among medications most frequently used in self-medication i.e. a headache, cough, fever, and pain are the most common consequences of practising self-medication of analgesics [3]. Globally, it is estimated that the most commonly used classes of medicine for self-medication purposes were analgesics 64.6%, this has been due to the fact that most of these drugs are easily accessible over the counter in most parts of the world [4]. Analgesic self-medication varies across various countries from 38.5% in countries strict on analgesic over-the-counter control to 92% in pharmaceutically liberal countries [5]. Analgesic self-medication is higher in low and middle-income countries with 80% of medicines being procured without being prescribed [6]. In Africa, research studies have indicated that more than 71.2% of patients do self-medication with various types of medicines; analgesics are among the leading self-medicated drugs alongside antibiotics and traditional medicines [7]; [8]. In sub-Saharan Africa, a meta-analytical study on analgesic self-medication reviewed 1381 articles on self-medication from 13Sub Saharan African countries, findings revealed that 70% of the population self-medicate on analgesics without any prescription [9]. [10] found more than 88% of users in some sub-Saharan African countries like Ethiopia. In Tanzania, [11] revealed pain killer self-medication practices in more than 60% of the population studied, the reasons being due to inaccessibility of these drugs in health care. In Uganda, it is estimated that 67% of the self-medication used among the general population is analgesics [12]. A recent study revealed the analgesic self-medication rate being high (71%) even among Ugandan elites as reported by [13] in her study conducted in the Mbarara University community. In a few areas where influencing factors to analgesic

drugs self-medication have been studied, socio-economic patient characteristics and health-related factors have been reported to influence the practice of analgesic self-medication [14]. However, in most areas, though many people use self-medication including analgesics, why people do not seek a proper prescription from qualified health care gives before taking these medications remains largely unresearched [15]. This is a reason for the researcher doing this research study at Bweramure HC III.

Statement of Problem

Despite the Ministry of Health creating awareness of the dangers of analgesic self-medication, still Ugandans take painkillers alongside antibiotics without a prescription [13]. In the Bweramule sub-county, 3 drug shops visited that is Kirodi's drug shop, Legacy Drug Shop and Masindi Drug Shop where records from these drug shops revealed among drugs bought by clients in these places, analgesics were the most drugs dispensed and a total of 615 patients that visited the three-drug shops in the whole of January 2022, 455(74%) had been dispensed analgesics whereas in February 2022, a total of 694 clients visited the three drugs shops where 538(77.5%) were dispensed analgesics. These self-medication practices are 8.75% higher than the 67% reported by [12] and also 4% higher than the 71% reported by [13] Analgesics are taken with a prescription, however, self-medication with them results in fatal errors like hypertension, gastrointestinal problems, and breathing difficulties, which could be fatal to the self-medicating person [16]. [6] reported more dangers of analgesic self-medication including interfering with disease symptoms and hindering proper diagnosis and treatment by health workers. In order to prevent the above challenges related to analgesic self-medication, this study aims to identify factors contributing to analgesic self-medication among adult patients attending Bweramule Health Centre III, Ntoroko District.

METHODOLOGY

Study design

A descriptive cross-sectional study design using a quantitative research approach was employed for this study. This design was employed because data on factors contributing to self-medication of painkillers was collected at a specified period of time.

Area of Study

The study was carried out at Bweramule Health Center III in Ntoroko district. The facility offers both inpatient and outpatient services. It offers ANC services, immunization, general medicine, and minor surgeries. The facility is located 436.9 from Kampala through Hoima Kyenjojo Road. It is located in Ntoroko district western Uganda at latitude $0^{o}59'17''N$ and longitude $30^{o}13'29''E$. The study area was chosen based on a survey which revealed that most patients came to the facility after self-medication. The most common drugs taken before patients reported to the facility were analgesics like paracetamol, ibuprofen and diclofenac tablets.

Study population

The study included adult patients seeking health care at Bweramule Health Centre III. These have been seen to practice a lot of self-medication, especially in catchment areas of Bweramule Health Centre III. Drugs reported to be used were analgesics, however, what influences them to take analgesics without expert prescription largely unknown and hence could be assessed by these patients.

Sample size determination

The required sample size was determined using Slovin's (1962) formula with precision of +/-10% at a confidence level of 90%. The formula has been preferred because the target population is less than 10,000. The formula is given by the expression below.

$n=N/1+N\ (E)^{2}$

Where;

n = Number of respondents.

N=Target population,

N=900 (Bweramule Health Center III receives approximately 900 patients per month according to the registrar).

E = Fixed error, E= 0.05 Therefore;

$n = 900/1+900(0.1)^2$ n= 900/ 1+9
n=900/ 10
n = 90; therefore 90 respondents were recruited for the study for the period of one month.

Sampling method

The patients were selected by simple random sampling. In this procedure, codes of "1" and "0" were assigned on small chits of paper and placed in a box. A patient will be allowed to pick only one paper at random without replacing it. All the patients who will pick a "1" were considered for the study while those who picked a "0" will not be considered a sample. This was done until the researcher got the targeted study population. Correct your English

Inclusion criteria

Adult patients attending Bweramule Health Center III who will consent to participate in the study were included.

Exclusion criteria

Adolescents below 18 years, adults unable to consent and those who were very sick and admitted were excluded from the study.

Dependent variable

These were the practices of analgesic self-medication among adult patients.

Independent variables

These included factors contributing to analgesic self-medication among adult patients who were included in the study.

Research instrument

A researcher-administered questionnaire with open and closed-ended questions was used to collect data about analgesic self-medication among adult patients and

questionnaires had open and closed-ended questions covering all objectives of this research study. It was divided into subsections that is SECTION A; addressing demographic characteristics, SECTION B; individual-related factors and SECTION C; assessing facility-related factors.

Validity and reliability

Pretesting of the questionnaire was done on 5 patients from Kyamuhunga HC III to check the completeness, and relevancy of questions and any inconsistencies were addressed before real data collection was done at Bweramule HC III. The researcher gave respondents time to which their views and responses after which the questionnaires were collected. For respondents who did not understand English, the researcher translated the questions into the local language.

Data collection procedures

The researcher got an introductory letter from the Research Ethics Committee of Kampala International University School of Nursing that introduced him to the in-charge Bweramule HC III who permitted the collection of data. The research assistant was trained to help fill in the responses of study participants. A consent form was read for adult patients who took part in this research study. Any question that was found unanswered; the researcher sought clarity from participants in order to get fully filled questionnaires without missing data. After a research assistant had fully filled the respondent responses in the questionnaires, they were checked for completeness, and stored in an envelope for analysis and presentation.

Data management

A research assistant was trained to help in data collection and was trained on research ethics confidentiality and autonomy. Collected data was kept under lock and key to avoid intrusion by unauthorized personnel,

Data analysis

Data obtained was recorded and checked for completeness then compiled, coded and analyzed using SPSS version 20.0 and statistical results were transferred to Microsoft Excel where they were converted to frequency tables, charts and graphs in order to make meaningful presentations.

Ethical considerations

The researcher obtained an introductory letter from the research ethics committee, School of Nursing Sciences, Kampala International University Western campus which he presented to in-charge Bweramule HC III for authorization of data collection. The respondents have explained the purpose, and potential risks involved and assured of confidentiality of their responses and request to participate voluntarily by signing informed consent. This was done prior to data collection. The participants were assured that all the

information they gave was confidential and their participation was very important. Participants will be informed that there are no risks involved in this study.

RESULTS

Individual factors affecting self-medication with analgesics

Table 1 shows the demographic characteristics of the respondents. n=90

Character	Variables	Frequency (f)	Percent (%)
Age	18-27	12	13.3
	28-37	12	13.3
	38-47	30	33.3
	48 and above	36	40
Level of education	None	5	5.5
	Secondary	35	38.9
	Primary	43	47.8
	Tertiary	7	7.8
Residence	Urban	23	25.6
	Rural	67	74.4
Marital status	Single	37	41.1
	Married	53	58.9
Religion	Muslim	5	5.5
	Catholic	35	38.9
	Protestant	39	43.3
	Others specify	11	12.2

From Table 1 above, the findings of this research study revealed most 36(40%) of the respondents were aged above 48 years, whereas the least 12(13.3%) were aged 18-27. It was also found that the majority 43(47.7%) of respondents had at least had primary education and the minority 5(5.5%) had not got any formal education. Most 67(74.4%) of the study respondents resided in rural residences whereas the least 23(25.5%) lived in urban settings. It was also found that the most 53(58.8%) were married and the least 37 (41.1%) were singles. More so, the 39(43.3%) were protestant whereas the Muslims formed the least of the population studied with 5(5.5%).

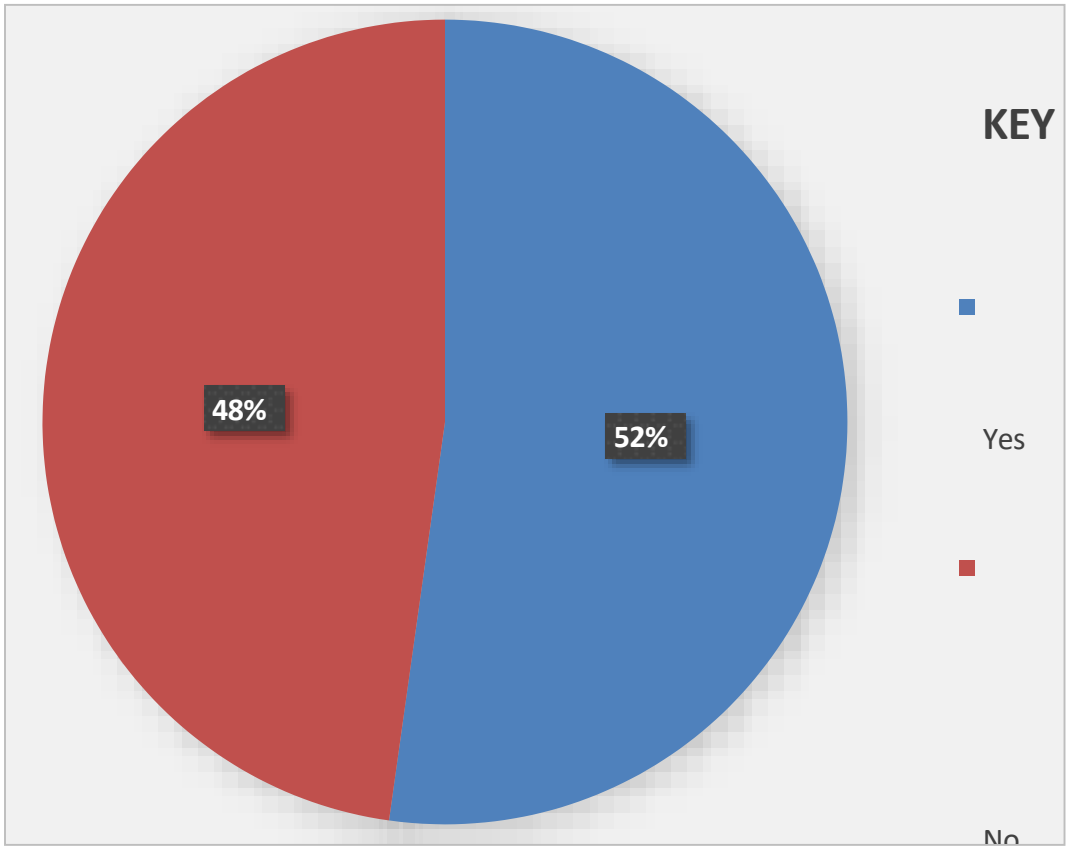

Figure 1: showing whether the respondents took analgesic left over from other people.

From figure 1 above, findings of this research study revealed most 47(52%) of the study respondents who reported that they took left over analgesics from what was prescribed and the least 43(48%) did not take left over analgesics.

Table 2: shows the individual-related factors that contributed to analgesic self-medication. n=90

Other individual related factors	Responses	Frequency (n)	Percent (%)
Friends and family members are the ones that give me painkillers	Yes	56	62.2
	No	34	37.8
I follow advertisements in community and televisions	Yes	52	57.8
	No	38	42.2
I am too busy to schedule time and go to hospital for proper prescriptions	Yes	66	73.3
	No	24	26.7
uy and take because it's cheaper and I can afford it that way	Yes	26	28.9
	No	64	71.1
Self-medication with painkillers have no side effects that are harmful	Yes	13	14.4
	No	77	85.6
I after all :even use other drugs myself without self-prescription	Yes	50	55.5
	No	40	44.5
If the disease is minor, I just take cs that don't need me to go to a doctor	Yes	56	62.2
	No	34	37.8
I know the dose that is sufficient for me painkillers	Yes	55	61.1
	No	35	38.9
I don't seek for prescription, I read on the leaflet of the drug	Yes	6	6.7
	No	84	93.3

The study revealed from Table 2 above that 56(62.2%) of respondents who did self-medication reported that their Friends and family members were the ones who gave them painkillers whereas 34(37.8%) did not have family members and friends who gave them self-medication analgesics. It was also found that most 52(57.8%) of respondents who did self-medication followed advertisement about painkiller drugs within their communities on televisions and radios whereas the least 38(42.2%) of those who did self-medication with painkillers had not followed advertisement on these painkillers. Almost three quarters 66(73.3%) of those that had done self-medication with painkillers reported that they had busy schedule hence could not go to heath facility for prescription unless they are seriously sick whereas the least of these 24(26.7%) of self-medicated patients with analgesics reported that to have not been too busy to seek expertise health advise on analgesic drugs use. 64(71.1%) of those who did self-medication reported that self-medicated painkillers were not cheaper whereas others 26(28.9%) reported that the analgesic drugs they self-medicated with were cheaper than seeking health care personnel prescription. Findings also revealed more than three quarters 77(85.6%) of those that self-medicated who reported that the analgesics they used for self-medication had side effects whereas the least 13(14.4%) reported to know that the self-medicated analgesics did not have any serious side effect on them. More so, more than a half of those that had doe self-medication with painkillers 50(55.5%) reported that they also did self-medication with even other drugs whereas the least 40(44.5%) did not do self-medication with other non-analgesic drugs. Nearly to two thirds 56(62.2%) of those that self-medicated with painkillers believed that if the disease was minor, they did not need painkiller prescription and the least of these 34(37.8%) were contrary to refusal of

seeking prescription basing on whether the illness was minor or major illness. More than a half 55(61.1%) did self-medication because they believed that they knew the dose of painkiller that is sufficient for them whereas the least 35(38.9%) reported that they did not do self-medication because they believed to know the dose sufficient for them. Of these that did self-medication with analgesics, majority 84(93.3%) reported that they did not read on prescription to know the dose and indication whereas the least 6(6.7%) reported that they read leaflets for directions on painkillers they self-medicated with.

Hospital factors that influenced analgesic self-medication.

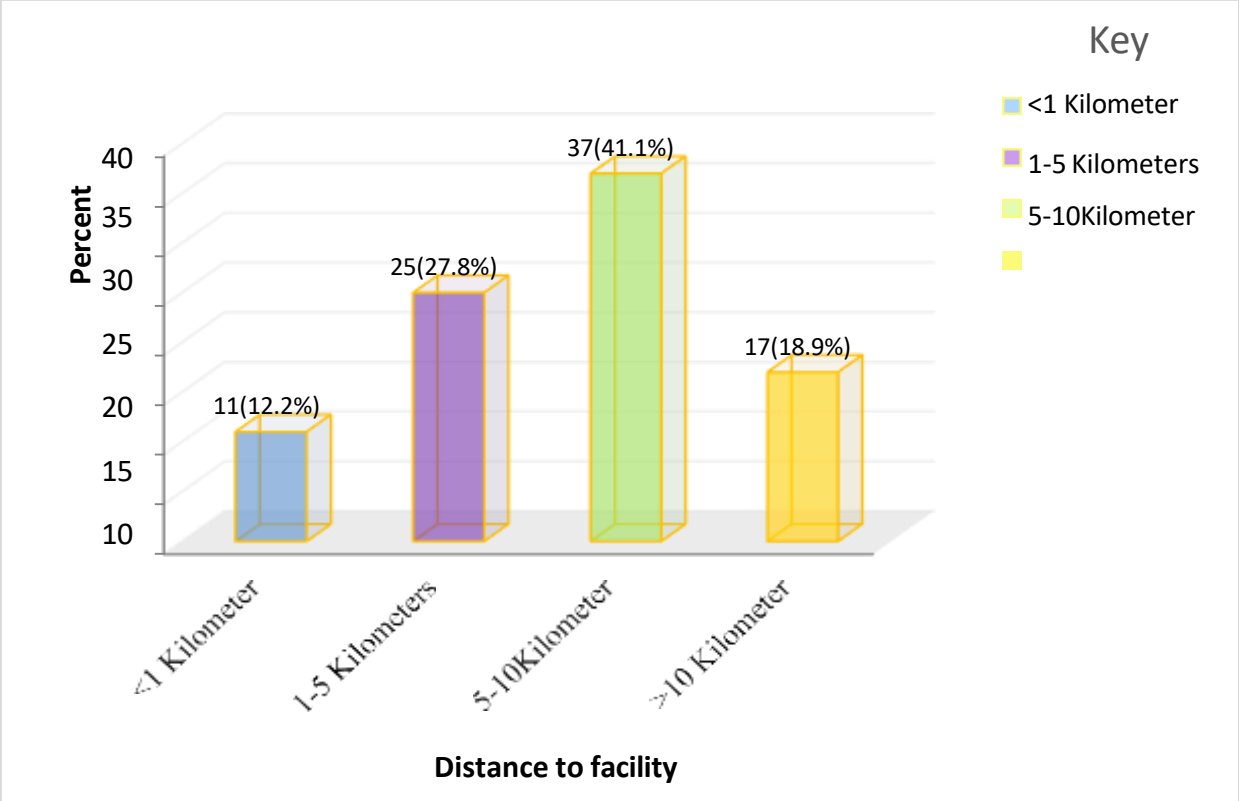

Figure 2: Showing distance covered by a respondent to reach a facility with a qualified prescriber.

From figure 2 above, findings revealed most 37(41.1%) of patients that had done self-medication reported that they needed a hospital/health centre to prescribe them analgesics, so they could move a distance of 5-10 kilometres seeking this service whereas the least 11(12.2%) reported that they needed to walk less than 1 kilometre to get a health expert in a health facility to prescribe for their painkillers.

Table 3: Shows other healthcare-related factors contributing to analgesic self-medication. n=90

Facility related factor	Responses	Frequency	Per cent
In hospitals, analgesics are usually out of stock	Yes	67	74.4
	No	23	25.6
At the facilities, doctors are often absent	Yes	71	78.9
	No	19	21.1
Health workers mistreat patients and I don't want their experience	Yes	31	34.4
	No	59	65.6
The waiting time at the hospital is too long	Yes	78	86.7
	No	12	13.3
Hospitals overcharge for prescribed analgesics	Yes	16	17.8
	No	74	82.2

The research study findings from Table 3 above revealed almost three quarters 67(74.4%) of respondents who had done self-medication reported that in hospitals, analgesics are usually out of stock and the least 23(25.6%) reported analgesics not being out of stock in hospitals. It was also found that the majority 71(78.9%) reported that doctors were always absent whereas the least 19(21.1%) reported not to have found doctors absent for their prescription. The study also revealed almost two-thirds 59(65.6%) reported that health workers at their facilities did not mistreat patients hence their reason for self-medication was not out of fear of health workers whereas the least 31(34.4%) reported fear of health workers who mistreat patients at health facilities hence they opted for self-medication with analgesics. More so, it was found that the majority 78(86.7%) reported that there was a long waiting time at facilities where they could get analgesics on prescription whereas the least 12(13.3%) did not do this out of fear of long waiting hours at the health facilities. Finally, it was also reported by 74(82.2%) of the patients who had done self-medication that hospitals did not overcharge for analgesic dispensing and prescription whereas the least 16(17.8%) reported that the charges for analgesics in hospitals where they could get them prescribed was high hence, they opted to buy in other sources under prescription.

DISCUSSION

Individual factors affecting self-medication with analgesics

The findings of this research study revealed that 36(40%) of respondents were aged above 48 years. This could be because this age bracket is associated with many pain-like symptoms such as back pains and others which could trigger them to use analgesics without a prescription. These findings agree with those of [9] which indicated that self-medication is common among Africans aged above 50 years due to multiple pains like symptoms with age. However, they are contrary to those of [17] in Abha, Saudi Arabia which found analgesic self-medication more so in youth >35 years than adults. It was also found that the majority 43(47.7%) of participants at least had primary education. This could be a result of universal primary education which avails free education to all Ugandans. These could have low knowledge of analgesic drug dangers and health-seeking behaviours and hence could carry out self-medication out of ignorance of its dangers. These findings are contrary to those of [9] which revealed self-medication to be more common among those with secondary and tertiary education levels. Most 67(74.4%) of participants resided in rural residences whereas the least 23(25.5%) lived in urban settings. This could be due to the fact that the research study was carried out within a rural area where health care facilities

may be scares. These findings agree with those of [18] which found painkiller self-medication common in rural areas where there are limited health facilities. More so; the majority 39(43.3%) were protestant. This could be a normal distribution of religious affiliations among the people surrounding Bweramule HC III, hence their self-medication behaviours with analgesics would be largely shaped by the protestant beliefs on painkillers and other analgesic drugs although there are no clear studies showing how belonging to the protestant faith contributes to analgesic self-medication use. These findings are contrary to [19] study in Bingham University Teaching Hospital (BHUTH), Jos which found no relationship with marital status and religious faith on analgesic self-medication. The findings of this research study revealed most 47(52%) of the study participants reported that they took leftover analgesics from what was prescribed for others. This could be due to poor analgesic drug compliance hence the remainder being by another family member without prescription. These findings are similar to [7] who also found poor drug dose compliance as an influencing factor in self-medication analgesic use as the remainder was taken by other family members when they got pain. The study revealed from Table 2 above that 56(62.2%) of participants who did self-medication reported that their Friends and family members were the ones who gave them painkillers. This could be shaped by African traditions and beliefs where care for the sick starts with family members trying with all in their knowledge before, they take the sick person to the health care. These could not know the drug rights of analgesics given to their patients hence give under doses, over doses or even contraindicated analgesics. These findings are similar to those of [21] which revealed 64% of analgesic elf medicating users due to the influence of friends. However, they disagree with [2] study which found lesser friends' influence on analgesic self-medication. It was also found that 52(57.8%) of participants who did self-medication followed advertisements about painkiller drugs within their communities on televisions and radios. This could be due to laxity in the marketing of pharmacological products in the country, whereas some of these analgesic drug advertisements are informative, others could be persuasive leading to medications in community members. These findings agree with [18] whose study found free advertisement of analgesics in the community has an influence t analgesic self-medication. Almost three-quarters 66(73.3%) of those who had done self-medication with painkillers reported that they had busy schedules and hence could not go to a health facility for a prescription unless they were seriously sick. This could indicate social economic life where most Ugandans work hand to mouth hence missing work to seek appropriate health care could mean loss of financial and survival resources which could force people to do self-medication as they keep their schedules of work. These findings are in agreement with those of [21] and [18] which revealed self-medication with analgesic drugs due to busy schedules of work. Findings also revealed more than three quarters 77(85.6%) of those that self- medicated who reported that the analgesics they used for self-medication had side effects. This could be through health talks about rational drug use as well as cautions they get from health care givers hence could have hindered them from doing self-medication. These findings agree with those of [22] in northern Uganda where school girls refused to take self-medication analgesics because they had fears that these would cause infertility. However, [19] revealed contrary to this study where analgesic self-medication in Indians and Efutu was perpetuated by a lack of awareness of possible side effects. More so, more than half of those who had done self-medication with painkillers 50(55.5%) reported that they also did self-medication with other drugs. These could be due to limited control on access to drugs without prescription in the country as well as knowledge gap on dangers this could be associated with in the community hence could trigger those who use even other drugs to also self-medicate with

analgesics. These findings are similar to [9]'s findings which revealed analgesic self-medication among Africans was perpetuated by self-medication with other medicines and were also 5 times more likely to self-medicate themselves with painkillers. Nearly two-thirds of 56(62.2%) of those who self-medicated with painkillers believed that if the disease was minor, they did not need a painkiller prescription. This could be based on personal perception of the seriousness of her/his own illness and hence could result in irrational painkiller use since those who try treating themselves with analgesics don't have enough knowledge on the analgesic ladder and analgesic drug-food or drug-to-other drug interactions. These findings agree with those [21] study which revealed that 56% of patients self-medicated on painkillers because they underestimated their illness to be minor. Contrary to this, [15] reported a 45% of the Chinese whose self-medication was motivated by the belief that their illness was minor to see a doctor for a prescription. More than half 55(61.1%) did self-medication because they believed that they knew the dose of painkiller that was sufficient for them. This could have been from their previous prescriptions and experience yet age, weight and severity of pain keep changing hence could still take under or overdose of analgesics if they are not assessed by an expert. These findings are contrary to those of [23] in Nigeria which revealed 3.8% of those who did self-medication reported knowing their doses. Of those who did self-medication with analgesics, the majority 84(93.3%) reported that they did not read on leaflets to know the dose and indication. This could be due to limited literacy as well as a lack of knowledge of whether the directions on drug use are outlined hence could use these analgesics wrongly in the absence of an expert prescriber. These findings are contrary to those of [24] which revealed in Saharan Africa that knowledge gained from the ability to read leaflets is more predictor in determining self-medication.

Hospital factors that influenced self-medication.

From Figure 2 above, findings revealed most 37(41.1%) of patients who had done self-medication reported that if they needed a hospital/health centre to prescribe them analgesics, they could move a distance of 5-10 kilometres seeking this service. This could be a result of limited health centers and hospitals in this area hence most people depend on over-the-counter sellers with no prescription hence could contribute to self-medication. These findings are similar to those of [12] long distance to the facility was the reason why people took analgesics without a prescription. However, they disagree with those of [25] who revealed easy accessibility to facilities as a predictor of analgesic-prescribed medication. And they are also contrary to [26] who instead found proximity to a health facility a strong predictor of self-medication with analgesics. The research study findings from Table 3 above revealed almost three-quarters of 67(74.4%) of patients who had done self-medication reported that in hospitals, analgesics are usually out of stock. This could be due to the large demand doe these drugs as almost all symptoms patients present with commonly demand an addition of analgesic drug to the patient hence could influence people to seek these painkillers from other shops without a prescription. These findings are similar to those of [27], where a perceived shortage of drugs at the health facility influenced patients to buy over the counter without prescription. It was also found that the majority 71(78.9%) of patients who did self-medication reported that at health facilities where they could get prescriptions for analgesics, doctors were always absent. This indicates inadequate staffing and duty abscondment among prescribers hence patients could be forced to buy from shops where there are no expert prescribers for analgesics. Findings agree with those of [28] who also found doctors to prescribe for them at the facility were not available hence resorted to self-medication.

The study also revealed almost two-thirds

of 59(65.6%) reported that health workers at their facilities did not mistreat patients hence their reason for self-medication was not out of fear of health workers. This could be due to professional training and discipline among health workers, these could make them more approachable by patients for prescription thereby reducing rates of analgesic self-medication. These findings disagree with those of [29] who found that 26.4% reported harsh conditions and negative attitudes portrayed by health workers to them as patients promoting self-medication. Moreso, it was found that the majority 78(86.7%) reported that there was a long waiting time at facilities where they could get analgesics on prescription. This could be due to large numbers as well as health workers who have already reported that at times, they are not present and hence may need to be waited for by patients seeking pain relief, since pain is uncomfortable, many could opt for self-medication than wait for long. These findings are similar to those of [29]-[34] who found harsh conditions like long waiting times at health facilities contributed to analgesic self-medication. Finally, it was also reported by 74(82.2%) of the patients who had done self-medication that hospitals did not overcharge for analgesic dispensing and prescription. This could be because most analgesics are provided by the government and hence could even be accessed in hospitals/ government health facilities at free cost resulting in lesser self-medication since they can be prescribed in health facilities at affordable cost. These findings are similar to those of [2], and [15] which revealed only 2 and 12.1% of self-medication analgesic users had done it because of wanting to save money hence they bought just a few in their easy reach. However, they disagree with those of [21] which found a higher proportion of the population using analgesics on pain medication because they did not have enough money to see the doctor for consultation and prescription.

CONCLUSION

These research study findings revealed that both individual-related factors and health facility-related factors influenced analgesic self-medication practices among adult patients. The individual factors that positively influenced analgesic self-medication included undermining minor illnesses, taking drugs left by their family members as well some being too busy to seek prescribed analgesics. That negatively influencing self-medication includes awareness of the side effects of these analgesics as well as most being unaware of their doses. The facility-related factors that influenced analgesic self-medication positively included analgesics being out of stock in facilities at times, health workers being absent at times as well and long distances covered by some patients to access prescribed analgesic drugs from health facilities than buying over the counter. Those that negatively influenced analgesics self-medication were positive attitudes portrayed by health workers to patients as well as analgesics not being expensive in health facilities which could encourage seeking prescribed analgesic drugs.

Recommendation

The patients who are seeking health care at Bweramule HC III should not undermine some illnesses and practice analgesic self-medication because this could manipulate the symptomatic presentation as well as drug interaction leading to poor prognosis and diagnosis. The health workers at Bweramule HC III should continue being polite to their patients, be present timely and reduce waiting hours for patients as well as ensure timely stocking of analgesics to prevent self-medication in this study population. The Uganda National Drug Authority should put stronger measures to control access to unprescribed analgesic drugs as well as reduce advertisement of analgesics in communities to eradicate persuasive self-medication drive for analgesics and other drugs. The government of Uganda should stock enough analgesics in health facilities, monitor health workers' presence and performance as well and carry out massive education of the community on the dangers of self-medication in order to curb the rates of

analgesic self-medication as well as other drugs.

REFERENCES

1. Borgessu, H., Siddiqui, A. and Burgessu, F. (2014). Long-term opioid therapy and risk for addiction. R I Med J 2014. 97:25-28.
2. Mensah, B. N., Agyemang, I. B., Afriyie, D., Kulowg, R. and Mbayyeh, H. (2019). Self-medication practice in Akuse, a rural setting in Ghana. Nigerian Postgraduate Medical Journal, 26(3):189-194. Epub 2019/ 08/24. doi: 10.4103/ npmj. npmj_87_19. PubMed PMID: 31441458.
3. Kumar, N., Kanchan, T., Unnikrishnan, R. T., Mithra, P. and Kulkarni, V. (2013). Perceptions and practices of self-medication among medical students in coastal South India.
4. Jamhour, A., El-kheir, A. and Pharmd, P. (2017). Antibiotic knowledge and self-medication practices in a developing country: A cross-sectional study. AJIC: American Journal of Infection Control. https://doi.org/10.1016/j.ajic.2016.11.026.
5. Almuqati, A. L., Alluqmani, M. S., Balhareth, S. H., Alosaimi, M. A., Alosaimi, M. M. and Alzughaibi, A. M. (2020). Evaluation of Role of Family Physicians in Management and Diagnosis of Hypertension in Primary Health Care Centers: A Simple Literature Review. Int J Pharm Res Allied Sci., 9(1):105-9.
6. Shafie, M., Eyasu, M., Muzeyin, K., Worku, Y. and Martín-Aragón, S. (2018). Prevalence and determinants of self-medication practice among selected households in Addis Ababa community.
7. Beyene, K. G. M. and Beza, S. W. (2018). Self-medication practice and associated factors among pregnant women in Addis Ababa, Ethiopia. Tropical Medicine and Health, 46: 10. doi: 10.1186/s41182-018-0091-z. PubMed PMID: 29743807.
8. Sado, E., Kassahun, E., Bayisa, G., et al. (2017). Epidemiology of self-medication with modern medicines among health care professionals in Nekemte town, western Ethiopia. BMC Research Notes, 10(1):533. doi: 10.1186/ s13104-017-2865-5. PubMed PMID: 29084581.
9. Kawuma, R., Chimukuche, S., Francis, S., Seeley, J. and Weise, H. (2021). Knowledge, use and disuse of over-the-counter analgesics in sub-Saharan Africa. A scoping review. Global health action 14.1 195576. Doi 10.1080/16549716.1955476.
10. Ayalew, M. (2017). Self-medication practice in Ethiopia: a systematic review. Patient Prefer Adherence, 11: 401–413. Epub 2017/ 03/11. PubMed PMID: 28280312; PubMed Central PMCID: PMCPmc5338978
11. Marwa, K. J., Njalika, A., Ruganuza, D. et al. (2018). Self-medication among pregnant women attending antenatal clinic at Makongoro health centre in Mwanza, Tanzania: a challenge to health systems. BMC Pregnancy and Childbirth, 18 (1):16. doi: 10.1186/s12884-017-1642-8. PubMed PMID: 29310609.
12. Ocan, M., Obuku, E., Bwanga, F., Akena, D., Richard, S., Ogwal-okeng, J. and Obua, C. (2015). Household antimicrobial self-medication: a systematic review and meta-analysis of the burden, risk factors and outcomes in developing countries. 1–11. https://doi.org/10.1186/s12889-015-2109-3.
13. Niwandinda, F., Lukyamuzi, E. J., Ainebyona, C., et al. (2020). Patterns and practices of self-medication among students enrolled at Mbarara University of Science and Technology in Uganda. Integrat Pharm Res Pract., 9:41–48. PubMed PMID: 32104665.
14. Birru, E. M., Abay, Z., Abdelwuhab, M., et al. (2016). Management of headache and associated factors among undergraduate medicine and health science students of University of Gondar, North West Ethiopia.The Journal of Headache and Pain., 17: 56. Epub 05/23. doi: 10.1186/s10194-016- 0647-4. PubMed PMID: 27216280.
15. Lei, X. and Jiang, H. (2018). Self-

Medication Practice and Associated Factors among Residents in Wuhan, China. 2. https://doi.org/10.3390/ijerph15010068.
16. Kontogiorigis, C., Nena, E. and Berberloglou, E. (2016). Estimation of consumers' knowledge and attitudes on the use of over-the-counter analgesics in Greece. The case of paracetamol, 5.19epub 12/22.
17. Al-wora, Y. M., Bahamdan, A. K. and Vigneshwaran, E. (2019). Self-Medication Among King Khalid University Students, Saudi Arabia. 243–249.
18. Aldossary, K. (2021). Prevalence and predictors of self-medication practices in the population of Saudi Arabia: systematic review. 0–5.
19. Azonobo, G. and Alexander, A. A. (2015). Family Factors Affecting Self Medication for Acute Febrile Illness.
20. Badzi, C. and Ackumey, M. (2017). Factors influencing the use of analgesics among construction workers in Ga- East municipality of the Greater Accra region, Ghana. Ghana Medical Journal, 51(4):156-163. PubMed PMID: 29622829.
21. Tesfamariam, S., Anand, I. S., Kaleab, G. and Mutomb, G. (2019). Self-medication with over-the-counter drugs, the prevalence of risky practice and its associated factors in pharmacy outlets of Asmara, Eritrea. BMC Public Health.2019;19(1):159. doi: 10.1186/s12889- 019-6470-5. PubMed PMID: 30727984.
22. Ahmed, S. M., Sundby, J., &Aragaw, Y. A (2020). Self-Medication and Safety Profile of Medicines Used among Pregnant Women in a Tertiary Teaching Hospital in Jimma, Ethiopia: A Cross-Sectional Study.
23. Miiro, G., Rutakumwa, R., Nakiyingi-Miiro, J., et al., (2018). Menstrual health and school absenteeism among adolescent girls in Uganda (MENISCUS): a feasibility study. BMC Womens Health, 18(1):4. Epub 2018/ 01/05. doi: 10.1186/ s12905-017-0502-z. PubMed PMID: 29298699; PubMed Central PMCID: PMCPMC5753466.
24. Gbagbo, F. and Nkrumah, J. (2020). Public Health in Practice Implications of self-medication in pregnancy for Safe Motherhood and Sustainable Development Goal-3 in selected Ghanaian communities. https://doi.org/10.1016/j.puhip.2020.100017.
25. Anyanechi, C. an Saheeb, S. (2012). Toothache and Self-Medication Practices: A Study of Patients Attending a Niger Delta Tertiary Hospital in Nigeria. 4(6): 12-25
26. Torres, N., Chibi, B., Middleton, L., Solomon, V. and Mashamba-thompson, P. (2018). Evidence of factors influencing self-medication with antibiotics in low and middle-income countries: a systematic scoping review. Public Health, 168, 92–101. https://doi.org/10.1016/j.puhe.2018.11.018.
27. Abdi, A., Faraji, A., Dehghan, F. and Khatony, A. (2018). Prevalence of self-medication practice among health sciences students in Kermanshah, Iran. BMC Pharmacol Toxicol., 19(1):36.
28. Chipwaza, B., Mugasa, J. P., Mayumana, I., et al. (2014). Self-medication with antimalarials is a common practice in rural communities of Kilosa district in Tanzania despite the reported decline of malaria. Malaria Journal, 13: 252. doi: 10.1186/1475-2875-13-252. PubMed PMID: 24992941.
29. Lawan, U. M., Abubakar, I. S., Jibo, A. M, et al., (2013). Pattern, awareness and perceptions of health hazards associated with self-medication among adult residents of Kano metropolis, northwestern Nigeria. Indian Journal of Community Medicine, 38(3):144-51. Epub 2013/ 09/11. doi: 10.4103/0970-0218.116350. PubMed PMID: 24019599; PubMed Central PMCID: PMCmc3760322.
30. Sisay, M., Mengistu, G. and Edessa, D. (2018). Epidemiology of self-medication in Ethiopia: a systematic review and meta-analysis of

observational studies. BMC Pharmacology and Toxicology, 19(1):56.
31. Mary, M. (2023). Awareness and Practice of Patients on Insulin Self Medication among Diabetic Patients Attending KIUTH Medical Ward. INOSR Applied Sciences. 10(1), 86-98.
32. Dotia, T. (2023). Evaluation of the factors that contribute to patient self-medication in outpatient department (OPD) at Kabwohe Health Centre IV. IDOSR Journal of Scientific Research. 8(2), 29-39.
33. Paska, L. (2023). Awareness, attitude and practice of self-medication among some selected second year medical students of KIU western campus. IDOSR Journal of Experimental Sciences. 9(2), 44-50.
34. Daudah, J. (2023). Assessment of Self-Medication Practices and its Associated Factors among First-Year Medical Students at Kampala International University Western Campus. IDOSR Journal of Applied Sciences, 8(3), 59-72.
35. Kajula, S. (2023). Factors Influencing Self Medication Practice among Students Attending Bachelor of Medicine and Bachelor of Surgery at Kampala International University, Ishaka Bushenyi District. Eurasian Experiment Journal of Medicine and Medical Sciences (EEJMMS). 4(1), 9-15.

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