

**FACTORS ASSOCIATED WITH SELF-MEDICATION AMONG ADULTS  
ATTENDING PHARMACIES IN NAMUGONGO DIVISION, WAKISO DISTRICT**

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**2018BPHPT-A08**

**AN UNDERGRADUATE RESEARCH REPORT SUBMITTED TO THE  
INSTITUTE OF PUBLIC HEALTH AND MANAGEMENT IN PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF  
A BACHELOR OF SCIENCE IN PUBLIC HEALTH  
OF CLARKE INTERNATIONAL  
UNIVERSITY**

**FEBRUARY 2022**

## **DECLARATION**

I, **Izere Chelsey Lena** hereby declare that this research report submitted to the IPHM in partial fulfilment for the award of a Bachelor's Degree in Science in Public Health of Clarke International University has never been presented by anyone for the award of a degree. The work I have presented in this research report is my own and any other materials contained herein.

Signature: .....

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Date: .....

## APPROVAL

This research report entitled **“Self-medication and associated factors among adults attending pharmacies in Namugongo division, Wakiso district”** I hereby approve and submitted this report to the IPHM of Clarke International University formerly International Health Science University.



**Signature:**

**Date: 25<sup>th</sup> February 2022**

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## **DEDICATION**

I dedicate this report to the almighty God, my very supportive family; my husband Simon Kironde and Son Kironde Francis-X, my parents Pascal Ntirampeba and Perpetue Kanyange, my sisters Dusabe Lamona T., Himbaza Leana B., Mberincuti Mintsu C. and brothers Ntwari Sam N., Ngangi Ken P.

## **AKNOWLEDGEMENT**

My deepest appreciation and gratitude go towards all those whose support made this study a success. My supervisor, Mm Alimah Komuhangi for her selfless support all through the study. My husband Simon Kironde and Son Francis-Xavier for your patience whenever I had to leave home for school, to my parents and my siblings who continuously encouraged me and gave me hope during the course. To my fellows Ajok Mary Franka, Joan Nanfuka and James Wanyama for the great team you made throughout the course. And finally to the University and all my lectures who have brought me this far. May the good Lord bless you abundantly.

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## **OPERATIONAL DEFINITIONS**

**Self-medication:** refers to use medicines to treat self-diagnosed disorder/disease without consulting a physician, or without a prescription from a doctor.

## **LIST OF ABBREVIATION**

SM	Self- Medication
OTC	Over The Counter
POM	Prescription Only Medicines
MoH / PD	Ministry of Health / Pharmacy Division
MoH	Ministry of Health
WHO	World Health Organization
IPHM	Institute of Public Health and Management
CVI	Content Validity Index
MUST	Mbarara University of Science and Technology
OR	Odds Ration
SD	Standard Deviation

## ABSTRACT

**Introduction:** Self-medication is becoming increasingly common among adults in Uganda. Despite its potential risks at individual and community level, not enough studies have been done in Uganda on self-medication. This study sought to determine the prevalence and associated factors of self-medication amongst adults attending pharmacies in Namugongo Division.

**Methodology:** A cross-sectional study was conducted targeting adults attending pharmacies. A total of 381 respondents were systematically selected and interviewed using a standardized questionnaire. The outcome variable was the medication with or without prescription from a doctor / medical worker. Using STATA 15.0 for data analysis, bivariate analysis using chi square and the Odds Ratio was used to determine factors independently associated with self-medication amongst adults. A 95% confidence interval and p value of  $< 0.05$  was used to test significance.

**Results:** The prevalence of self-medication amongst adults in Namugongo division was 58.9%. Respondents that were in the age groups of 20 to 29 years (OR 1.30 (1.11-1.53)) and 40 years (OR 1.61 (1.39-1.87)); were employed (OR 1.15 (1.07-1.24)) or retired (OR 1.33 (1.23-1.43)); were married (OR 1.18 (1.10-1.27)), divorced (OR 1.37 (1.28-1.47)), widowed (OR 1.29 (1.18-1.41)); and with an average monthly income (OR 1.11 (1.01-1.23)) were more likely to self-medicate. Whereas respondents who were Muslims (OR 0.80 (0.73-0.88)) or Pentecostals (OR 0.83 (0.73-0.94)); and with a secondary level of education (OR 0.86 (0.75-0.98)), were less likely to self-medicate.

**Conclusion:** Self-medication is a common problem amongst adults attending pharmacies in Namugongo Division and it puts them at risk of adverse effects and possible poor treatment of chronic diseases. It's associated with age, marital status and occupation. There is need for Division Health Department to focus on socio-demographic factors affecting self-medication and encourage improved health seeking behavior.

## CHAPTER ONE: INTRODUCTION

### 1.0 INTRODUCTION

Self-medication is the use of medicines or herbs on one's own initiative or on the advice of another person without consulting a doctor. It includes the use of medicines that were prescribed for a previous illness for a current illness (Bennadi D, 2014). It has been considered as a component of self-care, as well as healthy activities or health related decision-making, as every day in the world people act on their own about their health (WHO, 2000).

Medicines have been classified into two categories; Prescription only medicines and over the counter medicines or OTC, referred as medicines that one can access in pharmacies without prescription such as daily aspirin, pain relievers and fever reducers among others and are considered safe when directions on the label are followed (FDA, 2018). Nevertheless, over 50% of antibiotics (prescription only medicines) worldwide are sold without a medical prescription according to Damisie G et al., 2019.

Self-medication has been followed by an increase in drug resistance, in human beings around the world (Dr. Bennadi D, 2014). Drug resistance is a phenomenon that arises from irrational overuse of drugs especially prescription only drugs through self-medication (Rather I A et al., 2017).

In the urban areas of Portugal 26.2% of the population studied had self-medicated due to different factors such as the length of waiting time for medical consultation, high level of education, professional status (Martins A P et al., 2002).

NIWANDINDA F et al. (2020) in Uganda obtained a prevalence of 63.5% of self-medicated people among MUST (Mbarara University of Science and Technology) students, which was linked with a high consultation fees, having an old prescription and

time saving as reasons of self-medication. While OCAN et al. (2014) in Northern Uganda, found 75.75% of participants have practiced antimicrobial self-medication and the practice was higher among women (72%), peasant farmers (57.9) and among low income people (30.6 to 35.4%).

This chapter will include the Background, the Problem statement, Objectives, the significance and justification of this study, and the conceptual framework.

### **1.1 BACKGROUND TO THE STUDY**

Self-medication is the selection and use of medicines by individuals to treat self-recognized illnesses or symptoms. SM is a one component of self-care next to hygiene, nutrition and lifestyle among others, and it is responsible when individuals treat their ailments and conditions with medicines which are approved and available without prescription (OTC), such medicines should be supported by information to ensure that individuals take them correctly and effectively and with knowledge of possible side effects (WHO, 2021).

Self-medication can be traced back in 1970, where one of the objectives of the World Self-Medication Industry (WSMI) was to press for worldwide regulatory classification of medical products into two classes: The prescription type and the non-prescription type (WSMI, 2006).

Globally Self-medication has been on the rise, reports SHERAZI et al (2012), especially in economically deprived communities. The report adds that in developing countries, people are not only using non-prescription drugs (OTC) but also prescription drugs as self-medication products, without supervision.

Self-medication has been a problem for public health globally, especially in under developed countries where healthcare services are not readily available and socioeconomic factors resulting in the increased proportion of self-medication, says Rehman M. et al., 2021.

In Uganda the Ministry of Health with the National Medicine Policy, published a document that includes strategies in the use of medicines to ensure maximum therapeutic benefits from medicines by the public. Some of the strategies were to strengthen the national pharmacovigilance system for both public and private sector, to strengthen programs for consumer awareness and promote community self-policing on medicines use and to enforce the use of prescription forms as a basis of dispensing of all relevant medicines in both the public and private sectors (MoH, 2015).

For the first and last strategies, we still have a gap whereby high proportions (75.7%; 91.7%) of self-medication was found in Northern Uganda and in division B Entebbe municipality, Wakiso district respectively (Ocan M et al., 2014; Manyala J, 2015).

Therefore, the study sought to determine the proportion of adults self-medicating in Namugongo, Wakiso district and the factors associated with the practice.

## **1.2 PROBLEM STATEMENT**

The proportion of self-medication among adults in Uganda is increasingly seen according to the few studies done in different areas of the country with 63.5% in Mbarara University, 75.7% in Northern Uganda, and 91.7% in division B Entebbe municipality Wakiso district (Niwandinda F et al., 2020; Ocan M et al., 2014; Manyala J, 2015).

Although the Ministry of Health has updated the National Drug Policy of 2002 in 2015 to add changes in the access of medicines (strengthening the national pharmacovigilance system for both private and public sector; enforcing the use of prescription forms as a basis of dispensing of all relevant medicines in both public and private sector) in response to the outcomes of inappropriate use of medicines (MoH, 2015), As seen in the few self-medication studies done in Uganda, the prevalence of self-medication remains quite high.



Self-medication has been shown to have potential risks at individual and community level. At the community level, improper SM could result in an increase in drug induced disease and in wasteful public expenditure; while at individual level, incorrect self-diagnosis, incorrect choice of therapy, inadequate or excessive dosage, excessively prolonged use, risk of dependence and abuse, food and drug interaction, storage in incorrect conditions or beyond the recommended shelf life, to name a few (Bennadi, 2013). In addition, SM is linked with death around 5.9% for medication like antimicrobial drugs (Ocan et al.,2015). Due to the lack of sufficient data about self-medication in Uganda it is important for this study to be conducted to complement other studies already done and give support to the upcoming ones and as a baseline data for future actions about SM in the country.

### **1.3OBJECTIVES**

#### **General Objective**

To assess the prevalence of self-medication and its associated factors among adults attending pharmacies in Namugongo division, Wakiso District.

#### **Specific Objectives**

1. To determine the prevalence of self-medication among adults attending pharmacies in Namugongo division, Wakiso district.
2. To determine self-medication practices among self-medicating adults in Namugongo division, Wakiso district
3. To establish individual factors associated with self-medication among adults attending pharmacies in Namugongo division, Wakiso district.
4. To establish the socio-economic factors associated with self-medication among adults attending pharmacies in Namugongo division, Wakiso District.

#### **1.4 RESEARCH QUESTIONS**

1. What is the prevalence of self-medication among adults attending pharmacies in Namugongo division, Wakiso district?
2. What are the self-medication practiced among self-medicating adults in Namugongo division, Wakiso district?
3. What are the individual factors associated with self-medication among adults attending pharmacies in Namugongo division, Wakiso district?
4. What are the socio-economic factors associated with self-medication among adults attending pharmacies in Namugongo division, Wakiso district?

#### **1.5 SIGNIFICANCE OF THE STUDY**

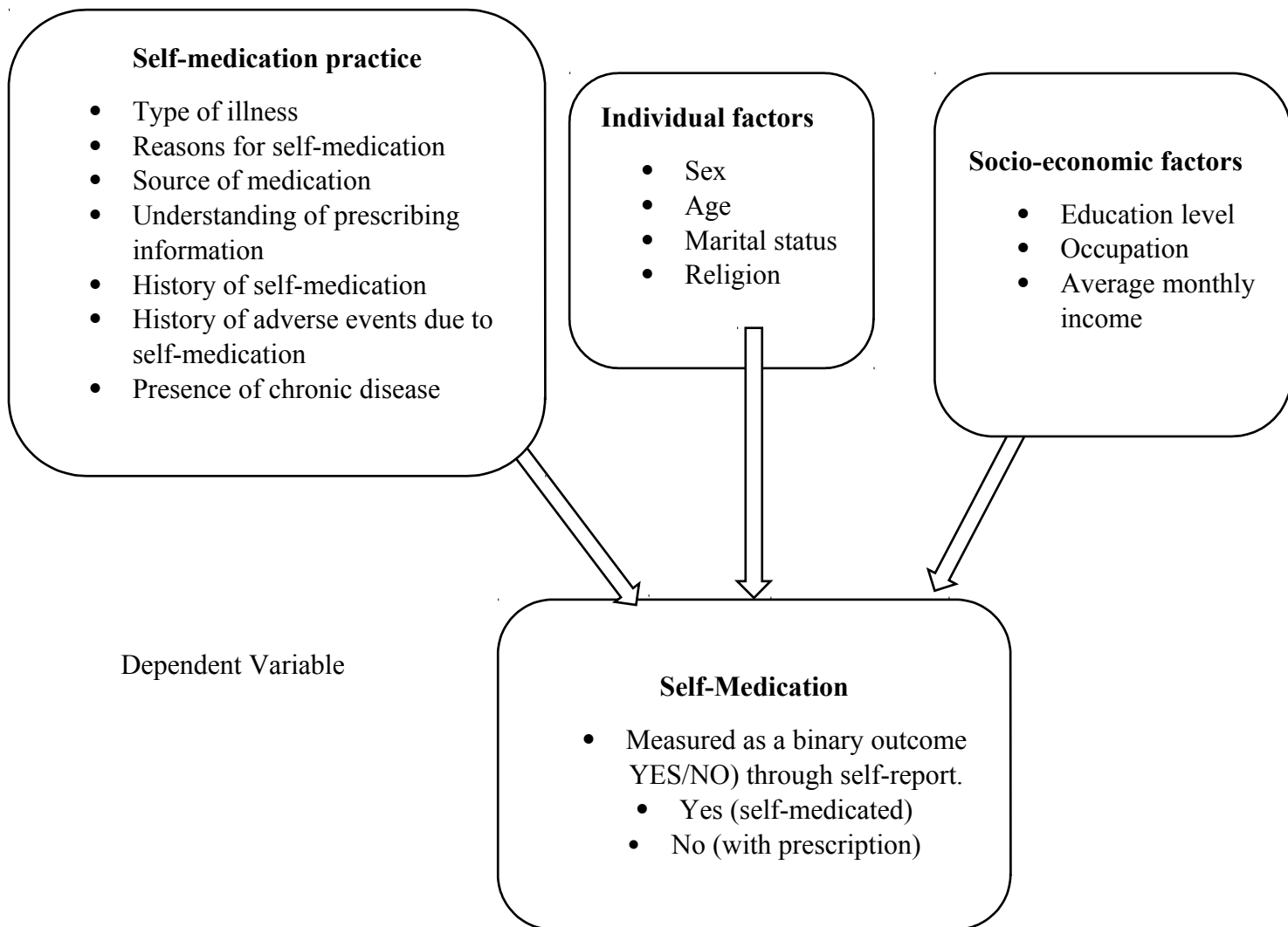
The findings of this study may reveal gaps regarding rational use of medicines and help policy makers especially the MoH/PD on strengthening the promotion of rational use of pharmaceutical products such as medicines.

Pharmacist who dispense medicines to the patients will benefit from the study results by enforcing the use of a prescription as a basis of dispensing medicines especially prescription drugs as opposed to over the counter medicines.

Future researchers will use the study findings as a source of literature and knowledge for their academic researches related to the prevalence and factors associated with self-medication among adults in Uganda.

## 1.6 CONCEPTUAL FRAMEWORK

Independent variables



## **CHAPTER TWO: LITERATURE REVIEW**

### **2.0. INTRODUCTION:**

Literature review consists of what other researchers already found in studies regarding self-medication and its associated factors. The literature review will gather information concerning the prevalence, socio-economic, and patient related factors associated with self-medication.

### **2.1. PREVALENCE OF SELF-MEDICATION**

Globally, self-medication is very common, In South Africa, US, Australia, Germany, Spain, UK, Sweden, Switzerland, Mexico and Italy, the prevalence of self-medication was respectively 14%, 13%, 11%,11%, 9%, 9%, 9%, 8%, 8%, 8% in 2014 (Dr. Darshana Bennadi, 2014).

In eleven areas of six Latin American countries, were conducted a study and found that, of the 8597 interviewed participants who had just purchased pharmaceutical products without a prescription, 68.2% drugs were intended for adults, while 10%, 14.1% and 7.9% were intended for family use, children and elderly people respectively. The study also found that only 34% of the dispensed drugs had an approved over-the-counter status, and that 24% should have been dispensed on a medical prescription (MD. Castel et al., 1997).

In a prevalence study in Portugal by Martins et al., (2002), results showed that 26.2% of participants had practiced self-medication. Then in Greece, a study found that despite the open and rapid access to primary care services, there is a high proportion of (44.6%) adult population self-medicating with antibiotics without a medical prescription (Skliros et al.,2010).

Another prevalence study done in 14 European countries, found the highest prevalence of self-medication in Poland at 49.4% and the lowest is Spain at 7.8% with a mean self-medication prevalence of 26.3% (Brandão et al.,2020).

In a university setting study, adult students in both health and other sectors completed the survey and 95% of them reported self-medication according to Gras et al., 2019. The results also showed that self-medication and the use of old prescription-only medicines were frequent in French university students.

According to Verma et al. 2010, in North India, 87% of professional or higher education students reported to practice self-medication and not a single student among them was aware of the dose of drug, duration of therapy among other inappropriateness of self-medication.

In Pakistan, precisely in four universities in Islamabad a study was conducted to assess the prevalence of self-medication among university students. They found a prevalence of 42%, and noted that although the prevalence of self-medication in Universities of Islamabad is low comparing to other city's universities, that with 42% prevalence there is still need for policy and regulatory interventions (Hussain A. and Khanum A., 2008).

In a university setting, a study was carried out among undergraduate medical student in India. The results showed high prevalence of self-medication (82.3%) where precisely 48.5% were prescription-only drugs used by students (Pandya R N et al., 2013).

In a study done on residents of Wuhan in China, found self-medication prevalence at 45.4% and the common reasons for self-medicating were minor and chronic diseases such as cold or cough, cardiovascular and cerebrovascular diseases (Lei et al., 2017).

Despite the shown risks that are attached to inappropriate self-medication, its prevalence doesn't seem to reduce, rather increases in some countries around the world. In a study

conducted by Alghadeer S. et al 2018 in South Arabia, it was found that 34% of respondents had practiced self-medication, among them 81.3% knew it might be harmful to their health.

In Mansoura university (Egypt), Helal R M and Abou- ElWafa H S, 2017 conducted a study where both medical and non-medical students participated. And a prevalence of 62.9% of self-medication was found.

Agbor A M. and Azodo C. C., 2011 in Cameroon conducted a survey on self-medication for oral health problems in Bamenda, Yaounde and Buea towns. The results of their survey found a prevalence of self-medication for oral health problems at 67.8%. 55.6% of those who self-medicated purchased their medicines from the pharmacy and the choice of drug to purchase was mostly influenced by their relatives which means that most of them did not consult a health professional.

In Eritrea, Araia Z.Z. et al conducted a study among the students of Asmara College of Health Sciences(ACHS) and found 79.2% of participants had practiced self-medication.

In Algeria, at five among the most visited pharmacies from five different cities in the countries, a multicenter, observational and descriptive study of self-medication with antibiotic was conducted and 12.6% of 146 participants self-medicated with antibiotics. Although the results of this survey cannot be considered as final values due to the duration of the study and the time it was conducted, however, they give an idea of the magnitude of the phenomenon (Aggabi A. et al., 2014).

Babatunde O. A. et al., 2016 conducted a study among staff of Ido-Ekiti federal medical center in Nigeria. Found a high number of 305 respondents who had self-medicated without a prescription.

In the community of Khartoum State, Sudan, a prevalence and risk factors study was done on self-medication with antibiotics and antimalarial. It found that 73.9% of the study population had used antibiotics or antimalarial without a prescription within one month before the study. While in 2006, 81.8% of respondents self-medicated within the 2 months prior to the study in three cities of Khartoum State (Awad A.I. et al., 2005; 2006).

A study of the prevalence of self-medication was conducted before and during the outbreak of Covid-19 pandemic in Kenya among healthcare workers, found prevalence of 36.2% before Covid-19 then increased to 60.4% during the pandemic (Onchonga D. et al., 2020).

In Tanzania, a university based study found a prevalence of self-medication of 57%. The study was done in two universities in Tanzania, a medical university and a non-medical university. They also found that there was no significant difference in self-medication practice between medical or non-medical students. Moreover, the survey found that some students who practiced self-medication had side effects from the medication and the commonest were worsening of the condition they had at 4.55% and body rashes at 2.67% (Chuwa et al., 2021).

Forty (40) studies from nineteen (19) countries in Africa were selected in a systematic review and meta-analysis to evaluate and compare the prevalence, reasons, sources and factors associated with self-medication with antibiotics within Africa. The results showed prevalence ranging from 12.1% to 93.9% (Yeika E V et al., 2021).

In Uganda, self-medication data isn't enough but for the few studies done, in the northern Uganda for example, Ocan M et al., 2014 in their households' self-medication study found a prevalence of 75.7% adult participants practiced self-medication. Then in Entebbe

municipality, 91.7% of the participants self-medicated without a prescription by a trained health worker (Manyala John, 2015).

In South Western Uganda, at(MUST) Mbarara University of Science and Technology, a study found that 63.5% of participants had practiced self-medication without a medical prescription (Niwandinda F et al., 2020).

Nabaweesi I et al., 2021 conducted a self-medication and antibiotics practices study at a national referral hospital in Uganda among patients, participants were mostly outpatients 74.9%. They found a self-medication prevalence 22.2% among 76% participants who had taken an antibiotic in the past 6months. The study also found that 33% of participants had not completed the treatment dosage during their last course of antibiotic treatment.

## **2.2 SELF-MEDICATION PRACTICE**

In a systematic review of household antimicrobial self-medication studies in developing countries, Ocan M et al., (2015) found that 27 studies out of 34 (79.1%) reported symptoms related to infections of; respiratory tract, gastrointestinal system, eye, ear, urinary system, skin and malaria as the reason for self-medication, and reported that the common sources of medicines were drug shops among others. In a university based study, respondents reported Headache relievers, pain relievers and antibiotics were most commonly self-medicated; and being in advanced years of study were associated with increased odds of self-medication (Niwandinda F et al., 2020).

In Eritrea, a community based study by Ateshim Y et al., 2019, found wound infection with 17.9% and sore throat with 13.9% to be the most self-recognized complaints that required self-medication. In Entebbe municipality, Wakiso district, a study showed that illness such as headache, fever, Body pain, stomach Pain where reasons for self-



medication, and the duration of illness was within 24 hours and those who fall in this group self-medicated more compared to the other groups (Manyala J, 2015).

In Mbarara University of Science and Technology, Niwandinda F et al., 2020 found that reasons for self-medication were illnesses classified as minor (33%), time-saving (15%), having old prescriptions (11%) and high consultation fees (9%). Similarly, in Amman, Jordan the most common reasons for self-medication were that the ailments were too minor to see a doctor (46.4%), the long waiting time to be seen by doctors (37.7%) and avoiding the cost of doctors' visits (31.4%) (Yousef AM et al., 2008). According to Ateshim Y et al., 2019, in their study for prevalence of self-medication with antibiotics and its associated factors, the main reasons for SM with antibiotic were previous successful experience at 34.4% and the illness being 'not serious enough to seek medical care' at 25.7%.

In Saudi Arabia, Abdulhak Bin et al., 2011 showed that 77.6% of the pharmacies are dispensing antibiotics without prescription. Among respondent students in MUST who self-medicated, 56% of them accessed drugs from pharmacies, 17% for friends/family or private clinics (15%) (Niwandinda F et al., 2020). In Colombia, a Multivariate analysis revealed an association between self-medication throughout life and storing medications at home (Machado-Alba J E et al., 2014).

Having existing allergies according to Niwandinda F et al., 2020 was associated with increased odds of self-medication.

In Iran, Vahedi S et al., 2021 found that people without basic health insurance had the highest rate of self-medication. However, those with supplementary health insurance had the lowest rate of self-medication. In an interventional study conducted in rural India results showed that 3 years post-intervention, self-medication was less practiced by insured

households than noninsured households (Dror DM et al., 2016). In another study on self-medication among adults in Mexico, results suggested that lack of government-sponsored health insurance coverage increases the propensity to self-medication. The study found that a 10% increase in the proportion of adults with health insurance coverage, could decrease the use of pharmacy consultations/ self-medication by 8% for public sector workers and by 1.7% for private sector workers (Pagán J A, 2006).

### **2.3 INDIVIDUAL FACTORS AND SELF-MEDICATION**

In two Guatemalan pharmacies, a survey was done on four hundred and eighteen respondents who had come to purchase drugs without a prescription from a physician, and they found that in both pharmacies from different regions, most respondents were women (70%) (Ramay et al., 2015). While in Spain, sex differences on self-medication was analyzed. Results showed a higher prevalence of self-medication among women (16.93%) than in men (14.46%), (Carrasco-Garrido et al., 2010).

According to Ocan et al (2015), in their systematic review on studies done in developing countries about the burden, risks factors and outcomes of self-medication, the female gender has been found to be one of the determinants of self-medication in two of the African studies selected. In addition, Niwandinda et al (2020) in MUST found that being a female student was associated with increased odds of self-medication. And in Ethiopia, a study found that females are 3.1 times more likely to practice SM than males (Kifle Z D et al., 2021).

In Spain, a study was conducted on self-medication risk factors in different age groups (16-44Years, 45-74Years and 75Years or older). The results showed that younger people (mean age 44.9; median 43.0) are the ones who engage more in self-medication than other

groups (Gracia Niclós et al., 2018), However, a previous study had shown a significant number of older people (at least 75years) self-medicate (Vacas Rodilla E et al., 2009). In another study in Jordan, people in the age bracket of 16 to 60 years are most likely to self-medicate, while outside the bracket self-medication is less likely (Yousef, AM.M. et al., 2008).

Balbuena et al (2009) found that self-medication was mostly practiced by adults who lived alone compared to married couple; while in a university based study in Egypt, already married students significantly tended to self-medicate more than the single ones (Helal R M and Abou-ElWafa H S, 2017).

In another study, unmarried people were found one (1) time more likely to practice SM than married, divorced or widowed participants (Kifle Z.D. et al., 2021).

According to Kifle Z. D. et al (2021) in Ethiopia, respondents who are Muslim followers were nearly three (3) times more likely to practice SM comparing the Orthodox Christians. Similarly, protestant followers were four (4) times more likely to practice SM than Orthodox Christians.

#### **2.4 SOCIO-ECONOMIC FACTORS ASSOCIATED WITH SELF-MEDICATION**

Education was a major factor influencing SM practice, according to Afolabi AO (2008) in Nigeria. Participants with no formal education (illiterates) were the least (27.5%) self-medicated, followed by 46.9% among the primary, then 78.9% among the secondary, and lastly 79.2% among those with post-secondary education.

Contrary to Nigeria, in Mexico SM was found more frequent among illiterate or people with low level of education compared to those with secondary education and high-school degrees ( $p = 0.0036$ ) (Balbuena, F.R. et al., 2009).

A European survey by Brandão G. R. et al (2020), found greater odds of self-medication among participants who presented with higher educational degree.

In a systematic review of self-medication practices by Dnyanesh Limaye et al., 2017, Participants with higher income were reported to be more likely to practice self-medication.

In Eritrea, a study done in university settings found that students with a monthly income or allowance were 5.5 times more likely to practice self-medication (Araia Z Z et al., 2019).

## **2.5 SUMMARY OF LITERATURE REVIEW**

The literature presented from prior studies and different authors indicated a high level of self-medication among adults throughout the world (Grigoryan L et al., 2008; Corrêa da Silva et al., 2012; Morgan D J et al., 2011; Tesfamariam, S et al., 2019; Gras M et al., 2020) and in particular in Uganda (Ocan M et al., 2014; Niwandinda F et al., 2020; Nabaweesi I et al., 2021), and different socio-economic and individual factors for example gender (Ramay et al., 2015; Carrasco G et al., 2010), age (Yousef, AM.M. et al., 2008; Niclós G et al., 2018), marital status (Helal R M and Abou-ElWafa H S, 2017), religion (Kifle Z. D. et al.; 2021) educational level (Afolabi AO 2008). The practice of self-medication has been described in different studies in different ways, for example, self-medicating because it was time saving, high consultation fee (Niwandinda F et al., 2020;), having an old prescription, illness considered as minor (Yousef AM et al., 2008) among others have been associated with this trend. However, such studies have been done in different areas other than the study area of this specific study. Therefore, this study sought to determine the factors influencing self-medication among adults in Namugongo Division.

## **CHAPTER THREE: METODOLOGY**

### **3.0 INTRODUCTION**

This chapter described the methodology that was used to carry out the study which consist of the research design, study population and the area of study, sampling procedures, sampling size calculation, study variables, data collection tools and technique, data management and analysis procedure, quality control, ethical considerations and plan for dissemination of the study findings.

### **3.1 STUDY AREA**

This study was conducted in Namugongo division in Kira Municipal Council, Wakiso district, in the central region of Uganda. Approximately 12 kilometres north-east of Uganda's capital Kampala, Namugongo is bordered by Nsasa to the north, Sonde and Bukeerere to the east, Bweyogerere to the south-east, Naalya and Kireka directly to the south, Kaliwajjala to the south-west, and central Kira to the west and north-west. It has a projected population of 218,600 people and a population density of 10,607/km<sup>2</sup>. According to the National Drug Authority (NDA) register, there is an estimated 31 licensed drug outlets in Namugongo as of December 21<sup>st</sup> 2021.

### **3.2 STUDY DESIGN**

The study adopted a cross-sectional research design, using quantitative methods of data collection. This study design was suitable for this study mainly because data was collected at one point in time to identify specific factors influencing self-medication among adults in Namugongo.

### **3.3 STUDY POPULATION**

The population of this study included both male and female adults who attended pharmacies in Namugongo division at the time of the study.

#### **3.3.1 INCLUSION CRITERIA**

People who met the following criteria were included in the study;

1. Adults (18 years old and above).
2. Living in Namugongo
3. Willing to participate in the study

#### **3.3.2 EXCLUSION CRITERIA**

People who met the inclusion criteria but also had any of the following issues were not included in the study;

All participants who were too ill to participate and those with mental illness were excluded from the study.

### **3.4 DATA SOURCE**

#### **3.5 SAMPLE SIZE**

The formula by Leslie Kish (1964) shown below was used to determine the sample size using 95% confidence interval ( $Z$ ); prevalence of self-medication of 50% (this proportion was used to give the highest possible sample size as there were no similar studies to benchmark from); and acceptable error ( $\delta$ ) of 5%.

$n = \frac{Z^2 PQ}{\delta^2}$	<p>Where:</p> <p>Z – is the standard normal deviate at 95% confidence (1.96)</p> <p>P – is the estimated prevalence of the problem under study</p> <p>Q – 100% - P</p> <p><math>\delta^2</math> - the precision or maximum acceptable error the investigator is willing to accommodate</p>
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$$n = \frac{1.96^2 \times 50(100 - 50)}{5^2}$$

$$n = \frac{3.8416 \times 50 \times 50}{25}$$

$$n = 384.16$$

The minimum sample size for the study was 384 residents of Namugongo Division

### 3.6 SAMPLING PROCEDURE

Participants were recruited at selected pharmacies. To get the required sample size, participants were enrolled by systematic sampling. Every second person buying medicine at the selected pharmacies were selected and interviewed until the sample size was achieved. The first participant was randomly selected and thereafter every 2nd person was recruited. This was done after the respondents had completed their purchase of drugs.

### 3.7 STUDY VARIABLES

#### 3.7.1 DEPENDENT VARIABLES

The dependent variable is self-medication amongst adults attending a selected pharmacy in Namugongo Division. Self-medication was defined as the use of medicinal products by the consumer which is not prescribed by the physician or other health worker. This was determined by one question on whether the drug they had bought at the selected pharmacy

/ drug outlet was prescribed by a physician or other health worker or not. Those who answered no, were taken to be self-medicating.

### **3.7.2 INDEPENDENT VARIABLES**

Independent variables included individual, and socio-economic. The individual factors included; sex, age, marital status, and religion. The socio-economic factors included; occupation, education level and average monthly income.

## **3.8 DATA COLLECTION METHODS AND TOOLS**

### **3.8.1 DATA COLLECTION METHOD**

Data was collected through researcher administered questionnaires. The researcher administered questions to the respondents in relation to the specific objectives then recorded for them. Researcher administered questionnaires were used because, they enabled the researcher to establish rapport with potential participants and therefore gain their cooperation, help to keep the respondents focused on the study and was also allowed the researcher to clarify ambiguous answers and where appropriate, seek follow-up information. The researcher administering technique was used to obtain data from respondents who cannot read and write by themselves while self-administering technique was used for respondents who could read and write in either English or Luganda.

### **3.7.2 TOOLS**

#### **Researcher administered Questionnaire**

A researcher administered questionnaire was used to gather data on factors associated with self-medication among adults in Namugongo division, Wakiso district. A semi-structured questionnaire was used to gather quantitative data from participants, of which it consisted



of two parts. The first part collected information about participants' individual and socio-economic factors (sex, age, religion, marital status) and (education level, occupation, and average monthly income). The second part was composed with questions regarding the reasons for practicing self-medication (type of illness; reasons for self-medication; source of medication; understanding of prescribing information; history of self-medication; history of adverse events due to self-medication; presence of chronic disease).

### **3.9 DATA ANALYSIS PLAN**

The data was entered, coded and cleaned using EPIINFO 7.1.5.0 software. It was then exported to STATA 12.0 for analysis. Univariate, bivariate and multivariate analysis were conducted. The data analysis process was as follows;

**Objective 1: To determine the prevalence of self-medication among adults in Namugongo Division, Wakiso district**

Prevalence of self-medication among adults was calculated as a percentage of adult respondents who bought drugs from the selected pharmacies. The denominator was the total number of adult respondents who bought drugs from the selected facilities, and the numerator was the total number of respondents identified to have self-medicated.

**Objective 2 and 3: To determine the individual and socio-economic factors that influenced self-medication among adults in Namugongo, Wakiso district.**

Associations were tested using the Chi Square test at 95% confidence interval and P-values less than 0.05 were considered statistically significant.

### **3.10 ETHICAL CONSIDERATIONS**

The study was carried out after receiving permission and approval from Clarke International University. Further approvals were obtained from the Namugongo Division

Health Office and Pharmacy Management to conduct the study in the selected pharmacies. Informed consent was obtained from respondents after explaining adequately the aim, procedures and anticipated benefits of the study. The study tool was designed to ensure the study is conducted in an ethical manner with respect, anonymity and protection of participants. The Informed Consent Forms were signed as an evidence of the consent. The consent form was as well specified that the participation was voluntary; therefore, participants were able to withdraw their participation at any point in time of the survey without any consequence.

### **3.11 QUALITY CONTROL**

The following quality control measures were incorporated into the study design and implementation to limit threats to the validity and reliability of the study;

- a) The data was collected using experienced data collectors.
- b) The questionnaire was administered in confidentiality to ensure that the respondents were comfortable enough to provide the required information.
- c) The data was field edited every after every interview to ensure that no omissions were made and the data collected was complete.

#### **3.11.1 VALIDITY OF THE STUDY**

A regular questionnaire containing semi-structured questions as guided by the specific objectives (refer to annex II) was developed. Before beginning the study, the research tool was pretested in a pilot study proposed to be carried out. This helped the researcher to make necessary adjustments before the study was carried out. Unnecessary questions that may never add value to the study were removed. The validity and reliability of the

questionnaire was measured using a Content Validity Index (CVI) formula given as follows;

$$\text{CVI} = \frac{\text{Number of questions declared valid}}{\text{Total number of questions in the questionnaire}}$$

**A minimum of 0.75 of CVI was used to test validity (Creswell, 2012). The Content Validity Index was 0.85.**

### **3.12 DISSEMINATION OF RESULTS**

Due to the urgent nature of the research problem, the study findings with appropriate recommendations will be immediately be disseminated to key Namugongo Division stakeholders at various levels to inform their interventions on the matters. Therefore, the report will be disseminated to the following;

- a) Wakiso District Health Office – this information will be necessary and crucial for the implementation of self-medication interventions being implemented in the district.
- b) NGOs – for purposes of advocacy, the report will be shared with these organizations. They have the means to effect immediate change through advocacy and play a watch dog role on government to ensure that the issues are solved.
- c) Clarke International University as partial fulfilment for the requirement for the award of a Bachelor’s in Science in Public Health.

The study report will be provided to the stakeholders in either hard or soft copies depending on preference. For others interested in the study, a soft copy of the report will be availed on request.

## CHAPTER FOUR: RESULTS

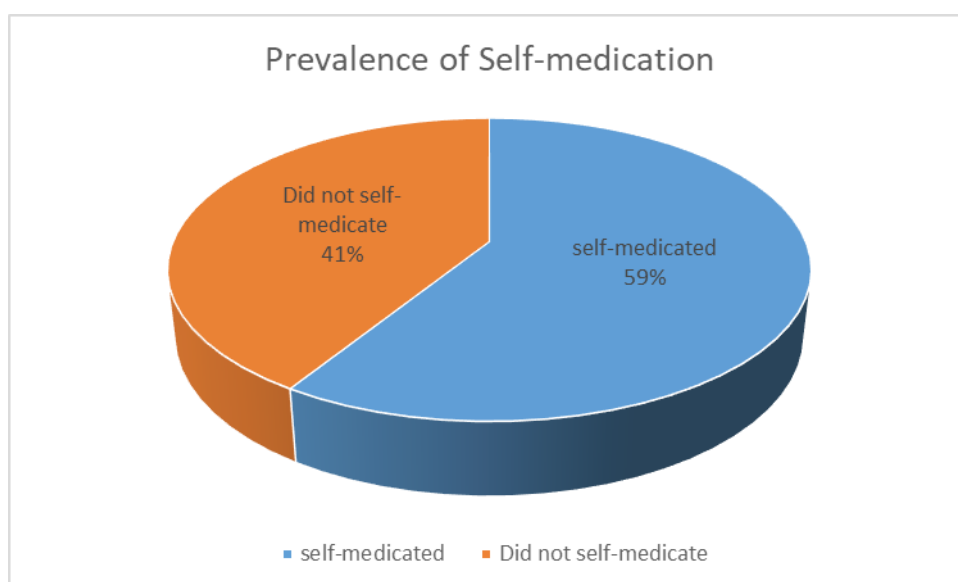
### 4.0 INTRODUCTION

This chapter contains results from 384 adult persons attending the selected pharmacies in Namugongo Division. Only 360 out of the 384 targeted respondents in the study were successfully interviewed, achieving a 93.75% response rate.

### 4.1 DESCRIPTIVE ANALYSIS

#### 4.1.1 PREVALENCE OF SELF-MEDICATION

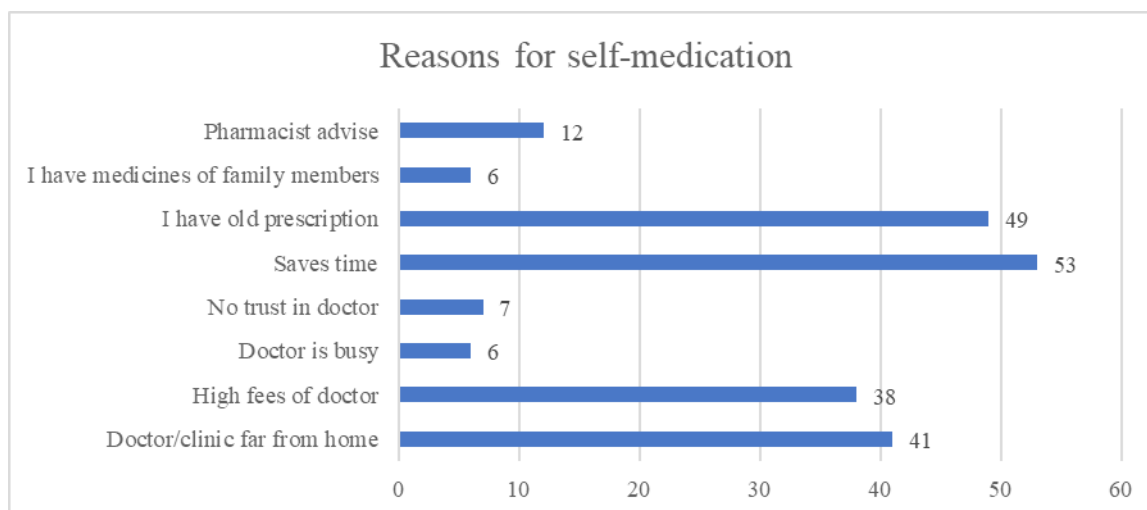
Out of 360 respondents, 212 reported having got medicines from the pharmacy without a prescription giving a prevalence of self-medication to be 59%.



*Figure 1: Prevalence of self-medication*

#### 4.1.2 SELF-MEDICATION PRACTICES

The main reasons for self-medication given by the respondents were; that is saves time 53 (25.0%); I have an old prescription 49 (23.1%); doctor / clinic is far from home 41 (19.3%); and high fees of doctor 38 (17.9%), as presented in Figure 2.



*Figure 2: Reasons for self-medication*

### **Other self-medication practices**

Respondents that had self-medicated were asked about certain medication practices and below are the results;

The commonest criteria for determining which medicine to buy was the type of medicine (42.0%) or its price (36.3%). However, many also considered the pharmaceutical company (10.9%) or the brand of the medicine (8.5%). Those who said others, mostly considered the efficacy or healing potential of the drug. When probed specifically about their reasons for selecting particular brands, majority of the respondents reported; recommendations of the pharmacist (35.5%) or peers (32.3%) as their basis for brand selection. The respondents also reported that other than the pharmacies, they also mostly got medicines from drug shops (48.1%), government health facilities (14.2%) and clinics (13.7%).

The study looked into respondents' understanding and use of prescription information. Majority of the respondents reported that they always use prescribing information (47.6%). The others only used them sometimes (36.3%) or not at all (16.0%). Most of them said they fully understood the prescribing instructions (65.7%), however, a significant proportion (32.0%) only partially understood them. Most of the respondents

had a history of self-medication going back 3 months before the study and understanding of prescribing information seems to have improved.

The study also looked at the occurrence of adverse effects as a result of unsupervised use of drugs. It was found that majority of the respondents had not had any adverse effects (50.9%), however still, a significant number 104 (49.1%) reported experiencing them. The commonest response to the occurrence of the adverse event was going to a private doctor (44.2%) or back to the pharmacy (26.9%). It should be noted that the majority who reported “other” actually did not seek any help. They rested but continued taking the drugs. Majority of the respondents were found not to be self-medicating for a chronic disease (66.0%). Only 72 (34.0%) reported self-medicating for a chronic disease. The commonest chronic diseases self-medicated on included; diabetes (19.2%), asthma (13.5%), hypertension (11.5%) and ulcers (11.5%). Most of the respondents had had these diseases for over 12 months. With 15.5% having them for 12-24 months and the majority (60.6%) for over 24 months.

Table 1: showing Self-medication practices

Variable	Frequency	Percentage %
<b>Criteria for medicine selection</b>		
Price	77	36.3%
Pharmaceutical company	23	10.9%
Type of medicine	89	42.0%
Brand	18	8.5%
Other	5	2.4%
<b>Reasons for brand selection</b>		
Recommended by pharmacist	11	35.5%
Used by peers	10	32.3%
My previous experience	3	9.7%
Old prescription of doctor	5	16.1%
Advertisement	2	6.5%
<b>Other sources of drugs for self-medication</b>		
Government facility	102	48.1%
Drug shop	29	13.7%
Clinic	23	10.9%
Private hospital	24	11.3%
Friend	4	1.9%
Online shopping	30	14.2%
<b>Use of prescribing information</b>		
Yes, always	101	47.6%
No, never	34	16.0%
Yes, sometimes	77	36.3%
<b>Understanding leaflet instructions</b>		
Fully understood	117	65.7%
Partially understood	57	32.0%
Not at all	4	2.3%
<b>History of self-medication in last 3 months</b>		
Yes	121	57.1%
No	91	42.9%
<b>History of adverse events</b>		
Yes	104	49.1%
No	108	50.9%
<b>Response to adverse events</b>		
Went to private doctor	46	44.2%
Went to government facility	12	11.5%
Went to pharmacy	28	26.9%
Stopped taking medication	7	6.7%
Other	11	10.6%
<b>Self-medication for chronic disease</b>		
Yes	72	34.0%
No	140	66.0%

#### 4.1.3 INDIVIDUAL FACTORS AND SELF-MEDICATION

According to the findings, the majority of respondents were female 184/360(51.1%), the highest proportion of respondents were in the age group of 40 years and above in the 40 years and above age group 143/250(57%). Most 145/360 (40.28%) of the respondents were of the catholic religion and the highest proportion 176/360 (48.9%) of respondents were single as indicated in table 1 below

*Table 2: Individual factors and self-medication*

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
<b>Sex</b>		
Male	176	48.89%
female	184	51.1%
<b>Age group</b>		
15 to 19	16	6.4%
20 to 39	91	36.4%
40 and above	143	57.2%
<b>Religion</b>		
Catholic	145	40.28%
Protestant	78	21.7%
SDA	25	6.9%
Muslim	77	21.39%
Pentecostal	33	9.2%
Other	2	0.56%
<b>Marital status</b>		
Single	176	48.9%
Married	131	36.4%
Divorced	22	6.1%
Widowed	30	8.3%
Other	1	0.28%

#### 4.1.4 SOCIO-ECONOMIC FACTORS AND SELF-MEDICATION

According to the results, majority of the respondents that reported buying medicine without a prescription from a doctor were at tertiary level of education (51.4%); employed (54.3%) and in the UGX 500,001 – 1,000,000 average monthly income category (24.1%).



*Table 3: Socio-economic factors and self-medication*

<b>Variables</b>	<b>Frequency</b>	<b>Percentage %</b>
<b>Occupation</b>		
Unemployed	<b>135</b>	<b>37.5</b>
Employed	<b>180</b>	<b>50</b>
Retired	<b>45</b>	<b>12.5</b>
<b>Educational level</b>		
No education	13	8.2
Primary	24	6.7
Secondary	150	41.8
Tertiary	172	47.9
<b>Average monthly income</b>		
Below 150,000	76	21.1
150,000 – 300,000	66	18.3
300,001 – 500,000	66	18.3
500,001– 1,000,000	77	21.8
Above 1,000,000	75	20.8

Source: primary data

Half of the respondents were employed 50%(180/360), the highest proportion 47.9% (172/360) of the respondents had received tertiary level of education, the highest proportion 21.8% (77/360) of the respondents were earning between 500,001 to 1,000,000.

## 4.2 BIVARIATE ANALYSIS

### 4.2.1 INDIVIDUAL FACTORS ASSOCIATED WITH SELF-MEDICATION

At bivariate analysis, age, religion, and marital status were all found to be significantly associated with self-medication. Age (Chi square: 49.1863, p-value: 0.000); religion (Chi square: 33.7810, p-value: 0.000) and marital status (Chi square: 44.7199, p-value: 0.000)

Characteristic	Self-medication		Bivariate Analysis	
	Yes, n (%)	No, n (%)	Chi square	P-value
<b>Sex</b>				
Male	67 (45.3%)	109 (51.4%)	1.3170	0.251
Female	81 (54.7%)	103 (48.6%)		
<b>Age group</b>				
15 to 19 years	14 (15.6%)	2 (1.3%)	49.1863	0.000*
20 to 29 years	49 (54.4%)	42 (26.3%)		
40 years and above	27 (30.0%)	116 (72.5%)		
<b>Religion</b>				
Catholic	41 (27.7%)	104 (49.1%)	33.7810	0.000*
Protestant	32 (21.6%)	46 (21.7%)		
SDA	6 (4.1%)	19 (9.0%)		
Muslim	48 (32.4%)	29 (13.7%)		
Pentecostal	19 (12.8%)	14 (6.6%)		
Other	2 (1.4%)	0		
<b>Marital Status</b>				
Single	101 (68.2%)	75 (35.4%)	44.7199	0.000*
Married	41 (27.7%)	90 (42.5%)		
Divorced	1 (0.7%)	21 (9.9%)		
Widowed	5 (3.4%)	25 (11.8%)		
Other	0	1 (0.5%)		

**TABLE 4 BIVARIATE ANALYSIS OF THE INDIVIDUAL FACTORS ASSOCIATED WITH SELF-MEDICATION**

**\*denotes significant at 95%CI**

### 4.2.2 SOCIO-ECONOMIC FACTORS ASSOCIATED WITH SELF-MEDICATION

At bivariate analysis, occupation (Chi square: 34.0770, p-value: 0.000) was found to be significantly associated with self-medication.

*Table 4: Bivariate analysis for socio-economic factors of self-medication*

Characteristic	Self-medication		Bivariate Analysis	
	Yes, n (%)	No, n (%)	Chi square	P-value
<b>Occupation</b>				
Unemployed	78 (52.7%)	57 (26.9%)	34.0770	0.000*

Employed	65 (43.9%)	115 (54.3%)		
Retired	5 (3.4%)	40 (18.9%)		
<b>Education Level</b>				
No education	2 (2.0%)	11 (5.2%)	6.3638	0.095
Primary	12 (8.1%)	12 (5.7%)		
Secondary	70 (47.3%)	80 (37.7%)		
Tertiary	63 (42.6%)	109 (51.4%)		
<b>Average Monthly Income</b>				
Below 150,000	36 (24.3%)	40 (18.9%)	8.5420	0.074
150,000 – 300,000	33 (22.3%)	33 (15.6%)		
300,001 – 500,000	20 (13.5%)	46 (21.7%)		
500,001 – 1,000,000	26 (17.6%)	51 (24.1%)		
Above 1,000,000	33 (22.3%)	42 (19.8%)		

\*denotes significant at 95%CI

### 4.3 MULTIVARIATE ANALYSIS

#### 4.3.1 MULTIVARIABLE ANALYSIS FOR THE FACTORS ASSOCIATED WITH SELF-MEDICATION

Multivariate logistic regression analysis was done and found that age, occupation and marital status were significantly associated with self-mediation among adults. Specifically, respondents who the age groups of 20 to 29 years (AOR 1.24 (1.05-1.46)) and 40 years (AOR 1.37 (1.37-1.65)); retired (AOR 1.13 (1.03-1.24)); and were married (AOR 1.12 (1.01-1.24)), divorced (AOR 1.21 (1.10-1.33)), widowed (AOR 1.16 (1.03-1.29), were more likely to self-medicated. The analysis of the variables is shown in table 7 below.

Table 5: Multivariate analysis of factors affecting self-medication

Characteristic	Bivariate Analysis		Multivariate Analysis	
	COR (95% CI)	P-value	AOR (95% CI)	P-value
<b>Age group</b>	1.0 (Reference)		1.0(Reference)	
15 to 19 years	1.30 (1.11-1.53)	0.001*	1.24 (1.05-1.46)	0.009*
20 to 29 years	1.61 (1.39-1.87)	0.000*	1.37 (1.14-1.65)	0.001*
40 years and above				
<b>Occupation</b>	1.0		1.0	
Unemployed	1.15 (1.07-1.24)	0.000*	1.06 (1.14-1.65)	0.194
Employed	1.33 (1.23-1.43)	0.000*	1.13 (1.03-1.24)	0.009*
Retired				
<b>Religion</b>	1.0			
Catholic	0.93 (0.85-1.00)			
Protestant	1.02 (0.92-1.14)	0.062		
SDA	0.80 (0.73-0.88)	0.644		
Muslim	0.83 (0.73-0.94)	0.000*		
Pentecostal	0.58 (0.56-0.61)	0.004*		
Other		0.000*		
<b>Marital Status</b>	1.0		1.0	
Single	1.18 (1.10-1.27)		1.12 (1.01-1.24)	0.026*
Married	1.37 (1.28-1.47)	0.000*	1.21 (1.10-1.33)	0.000*
Divorced	1.29 (1.18-1.41)	0.000*	1.16 (1.03-1.29)	0.011*
Widowed	1.40 (1.18-1.48)	0.000*	1.36 (1.24-1.48)	0.000*
Other				

Note: \* P value < 0.05 || OR – Odds Ratio || AOR - Adjusted Odds Ratio || CI – Confidence

Interval

## **CHAPTER FIVE: DISCUSSION OF RESULTS**

### **5.0 INTRODUCTION**

This chapter discusses the main findings of the current study. This was a facility-based study conducted to determine the prevalence and factors associated with self-medication amongst adults attending pharmacies in Namugongo Division. The findings will be discussed in relation to the objectives of the study and in relation to similar studies.

### **5.1 PREVALENCE OF SELF-MEDICATION**

The prevalence of self-medication among adults attending pharmacies in Namugongo Division was 58.9%. This was comparable to the prevalence in many African countries as established by a systematic review and meta-analysis to evaluate and compare the prevalence, reasons, sources and factors associated with self-medication with antibiotics within Africa. This study reported self-medication prevalence ranging from 12.1% to 93.9% (Yeika E V et al., 2021). It is however lower than similar studies in Uganda. For instance, a study by Ocan M et al. (2014) reported a household prevalence of 75.7% among adults in Northern Uganda; and another study in Entebbe Municipality reported a prevalence of 91.7% (Manyala John, 2015).

### **5.2 INDIVIDUAL FACTORS AND SELF-MEDICATION**

The study's main findings about the factors which are associated with self-mediation were social economic and individual factors. Specifically, this study found that people in the age groups of 20 to 29 years and 40 years and above were more likely to self-medicate. Similarly, in Sri Lanka, a study found that the age group of 24 to 26 years dominated in self-medication practice at 54.9% of the study population (Subashini N and Udayanga L., 2020). This means that there is a characteristic about people of this age group that makes

them avoid medical consultation in preference of self-medication. However, in Nigeria age was not statistically significant since the highest (72.1%) prevalence of self-medication was among the 34 to 44year group and fairly low in the extreme ages by 59.5% among 15 to 24year group and 62.5% in the 54years and above group (Afolabi A O., 2008). This relationship has not been extensively studied therefore more research needs to be done in this area. However, the reason for this finding could possibly be that since majority of people in these age groups were employed, and had experienced the ailments or diseases they were treating for a while and thus had both the means and experience to consider self-medication. This is consistent with findings from studies by Gracia Niclós et al. (2018) and Vacas Rodilla E et al. (2009) that showed that people with a mean age 44.9 or at least 75 years, self-medicate.

The level of prevalence got can also be partly explained by the fact that majority of the respondents were male (51.4%). Men have a generally poor health seeking behavior and are thus less likely to seek medical help and would prefer a short cut. The respondents were also mostly employed and thus likely to have less time to seek medical help. It is suspected that health seeking behavior played a big role in the decision to self-medicate. Although there was a high rate of self-medication among males comparing to females, gender was found with no significant effect on self-medication practices, which was in agreement many previous studies in Nigeria with Subashini N and Udayanga L., (2020), in China with Bing Lv et al., (2014), in Lithuania with Pavydė E et al., (2015) and in Brazil with Corrêa da Silva et al, (2012).

Despite the study linking the Muslim faith with increased likelihood of self-medication (Kifle Z. D. et al, 2021), this study found the Muslim faith to be rather protective of the

respondents as they were less likely to self-medicate. The reason for the variation is not well understood.

### **5.3 SOCIO-ECONOMIC FACTORS AND SELF-MEDICATION**

The protectiveness of achieving a secondary level education could be as a result of increased appreciation of medical consultation achieved from many years of education. It is thus likely that people who reported achieving secondary education and beyond have been taken to easily accessing medical services and are thus used to the practice. This was equally concluded by Alghadeer S et al., (2018) in Saudi Arabia that people who achieved university were highly likely to self-medicate than those with no education, primary and secondary level of education, and in Portugal with Martins A P et al., (2002). However, many studies in Africa and middle east reported that low level of education was significantly associated with self-medication (Ocan M et al., 2015). The average income level and self-medication seems to be associated, where those with low average income level and middle income tend to self-medicate more than other groups, which may mean that having a low or middle income doesn't financially allow you to consult a doctor. This may also mean that access to a doctor or healthcare professional is not affordable in Namugongo division. These results link with those found in Khartoum, Sudan with Awad A et al., (2005), and with Alhomoud F et al., (2017) in the Middle-East.

The relatively high prevalence reported by this study could be explained by the fact that many respondents were buying common over the counter drugs for common ailments like headaches, coughs, ulcers and aches (tooth and head), which were reported among the common diseases self-medicated for by the study. Fever among this study's common self-medicated for illnesses in addition to illnesses being classified as minor to need a consultation from doctor, were described to be the most common factor of self-medication

in Pakistan (Aziz M M et al.,2018). Which is in line with Niwandinda F et al., (2020) at MUST; and in Jordan with Yousef AM et al., (2008). This probably means that most of the self-medicated medicines were classified as OTC drugs which can only be confirmed with additional studies to be done on self-medication of specifically OTC drugs and POM. The regular reoccurrence or chronic nature of some of these ailments makes people think they know how to treat them since they have a history of treating them, hence the limited consultation of health workers. This was similar in Mbarara University of Science and Technology whereby, preexistence of a condition or chronic condition was linked to SM. In this study, price is a major factor in the decision to buy specific drugs. As majority of the respondents reported having an average monthly income less than UGX 300,000, meaning that money was a challenge for many of them, hence the influence of price in their decisions for buying. Further, the expense involved in getting a prescription from a medical professional is most likely influencing the preference of self-medication as many may not be able to afford these services. The reliance of opinion from friends and the pharmacists is expected and an indication of a probable lack of information on the right medicines to buy, hence the consultation. The respondents generally had a good understanding of prescriptions. This is probably since they were mostly educated, with majority achieving secondary level and beyond.



## **CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS**

### **6.1 INTRODUCTION**

This chapter gives the conclusion and recommendations of the study.

### **6.2 CONCLUSION**

The study's focus was to determine the prevalence and associated factors of self-medication among adults attending pharmacies in Namugongo Division. This information provides some of the evidence that will inform interventions aim at addressing self-medication by public health workers in Kira Division and Wakiso District Local government. The study came up with the following conclusions; The prevalence of self-medication among adults attending pharmacies in Namugongo Division was 58.9%. This means that self-medication is a common health problem among adults in Namugongo Division. The study also found that self-medication in adults is associated with age, occupation and marital status.

#### **6.2.1 PREVALENCE**

The prevalence of self-medication among adults in Namugongo division, Wakiso district is 58.9%.

#### **6.2.2 INDIVIDUAL FACTORS**

Individual factors associated with self-medication were age (the likelihood of self-medication increased with increase in age); marital status (the likelihood of self-medication was higher for those in union or ever been in union).

### **6.2.3 SOCIO-ECONOMIC FACTORS**

Occupation is statistically associated with self-medication (the likelihood of self-medication was higher among the retired compared to the employed).

### **6.3 RECOMMENDATIONS**

Based on the findings of the study, the following recommendations are made;

#### **To the adults in Namugongo**

The adults in Namugongo especially the old and retired are advised to seek health professional advice to avoid negative effects of self-medication.

#### **To pharmacists**

Pharmacists should ensure that all persons accessing medicines from pharmacies have signed prescriptions from health care professionals.

#### **To Namugongo Division Health Department**

The Namugongo Division Health Department should recognize that self-medication is common health problem. Emphasis should be drawn to strengthening and promoting rational use of medicines, and encouraging medical consultation before purchase of any drugs for effective treatment of any ailment or disease.

#### **To researchers**

The study found several interesting findings but still there is need for its replication. This was a cross-sectional study that even if common method variance was taken care of a longitudinal study is worth undertaking to better uncover all striking issues that could have remained untouched. Therefore, more studies are needed, especially in the areas of socio-economic factors associated with self-medication in order to study the impact of interventions targeting individuals on self-medication in a community setting.

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## APPENDIX I : PARTICIPANT INFORMED CONSENT

The general nature of this study entitled Self-medication and associated factors among adults attending pharmacies in Namugongo division, Wakiso district conducted by Izere Chelsey Lena has been explained to me.

I understand that I will be asked to take part in answering questions about self-medication.

My participation in this study should take a total of 15 to 20 minutes.

I understand that my responses will be confidential and that my name will not be associated with any results of this study.

I know that I may refuse to answer any question asked and that I may discontinue participating at any time.

I also understand that any payment for participation will not be affected by my responses or by my exercising of my rights. Potential risks resulting from my participation have been explained to me.

I am aware that I should be 18 years of age to participate.

My signature below signifies my voluntary participation in this study and that I have received a copy of this consent form.

Questions about the results of this research study may be obtained by contacting the principal researcher Izere Chelsey Lena.

Date: .....

Signature: .....

Name:

.....

## APPENDIX II: QUESTIONNAIRE

### A Study to Determine the Prevalence of Self-Medication and Associated Factors Among Adults in Namugongo Division, Wakiso District

**Name of Facility:** ..... **Respondent Code:** .....

**Interview Date:** ..... **Interviewers Name:** .....

This questionnaire will only be administered to respondents who have consented to participating in the study.

#### Screening Questions

1. Do you currently live within Namugongo Division?
  - a. Yes
  - b. No (if no, thank him/her for their time and stop the interview)

#### General Information

A01	Sex of respondent	1. Male 2. Female
A02	How old are you?	
A03	What is your main occupation?	1. Student 2. Employee 3. Trader 4. Housewife 5. Retired 6. Other (specify) .....
A04	Marital status	1. Single 2. Married 3. Divorced 4. Widowed 5. Other (specify) .....
A05	What is your religion	1. Catholic

		2. Protestant 3. SDA 4. Muslim 5. Pentecostal 6. Other (specify) .....
A06	What is the highest level of education you have completed?	1. None 2. Primary 3. Secondary 4. Tertiary 5. Other (specify) .....
A07	How much is your approximate average monthly income?	1. Below 150,000 2. 150,000-300,000 3. 300,001-500,000 4. 500,001-1,000,000 5. Above 1,000,000

### Self-Medication Habits

Now I am going to ask you questions regarding your health and self-medication habits.

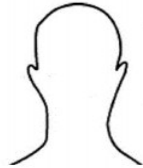
Before that, let me define what self-medication is.

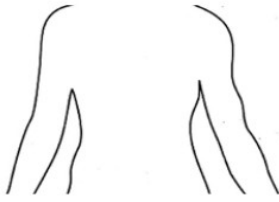
- Self-medication is the use of medicinal products by the consumer which is not prescribed by the physician (doctor or health worker).
- From now on to the next questions, your answers should be based on your experience today unless I specify the different time period.

B01	Is the medicine you have bought today at this pharmacy / drug shop prescribed by a physician (doctor or health worker) or not?	1. Yes, it is <b>(if yes, skip to the last question (Qn. B016))</b> 2. No, it isn't <b>(if no, continue with the rest of the questions)</b>
B02	What was your reason for self-	1. Doctor / clinic far from home


	medication?	2. High fees of doctor 3. Doctor is busy with many patients 4. No trust in doctor 5. Saves time 6. I have old prescription 7. I have medicines of family members 8. Pharmacist advice 9. Other (specify) .....
--	-------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

B03 Which disease have you come to self-medicate for? **(multiple choices, tick where appropriate)**

	<input type="checkbox"/> Headache	<input type="checkbox"/> Eye infection
	<input type="checkbox"/> Dandruff	<input type="checkbox"/> Running nose
	<input type="checkbox"/> Hair fall	<input type="checkbox"/> Ear pain
	<input type="checkbox"/> Faints	<input type="checkbox"/> Mouth ulcer
	<input type="checkbox"/> Epilepsy	<input type="checkbox"/> Dental pain
	<input type="checkbox"/> Migraine	<input type="checkbox"/> Cough
	<input type="checkbox"/> Other. Specify	

	<input type="checkbox"/> Difficulty in swallowing	<input type="checkbox"/> Dysentery
	<input type="checkbox"/> Acidity	<input type="checkbox"/> Rash
	<input type="checkbox"/> Vomiting	<input type="checkbox"/> Fever
	<input type="checkbox"/> Nausea	<input type="checkbox"/> Skin disease on open areas
	<input type="checkbox"/> Asthma	<input type="checkbox"/> Diabetes
	<input type="checkbox"/> Diarrhea	<input type="checkbox"/> Hypertension
	<input type="checkbox"/> Body pain. Specify	
	<input type="checkbox"/> Other. Specify	



	<input type="checkbox"/> Pain in joints	<input type="checkbox"/> Sexually transmitted disease STD
	<input type="checkbox"/> Arthritis	<input type="checkbox"/> Skin disease in covered areas
	<input type="checkbox"/> Muscle pain	<input type="checkbox"/> Impotency
	<input type="checkbox"/> Varicose veins	<input type="checkbox"/> Urination problems
	<input type="checkbox"/> Wounds	<input type="checkbox"/> Menstrual problems
	<input type="checkbox"/> Genital infection	<input type="checkbox"/> Birth control
	<input type="checkbox"/> Other. Specify	

B04	If none of the above, please specify the disease.	
B05	What do you consider while selecting the drug for self-medication?	<ol style="list-style-type: none"> <li>1. Price</li> <li>2. Pharmaceutical company</li> <li>3. Type of medicine</li> <li>4. Brand (if brand, go to Qn. B06, or else skip to Qn. B07)</li> <li>5. Other (specify) .....</li> </ol>
B06	Your selection of particular brand depends on which of the following choices? <b>(Multiple choice)</b>	<ol style="list-style-type: none"> <li>1. Recommended by pharmacist</li> <li>2. Used by peers – friends / family</li> <li>3. My previous experience</li> <li>4. Old prescription of doctor</li> <li>5. Advertisement</li> <li>6. Other (specify) .....</li> </ol>
B07	Where else do you obtain your drugs for self-medication	<ol style="list-style-type: none"> <li>1. Government health facility / hospital</li> <li>2. Drug shop</li> <li>3. Clinic</li> <li>4. Private hospital</li> <li>5. Friends / family</li> <li>6. Online shopping</li> <li>7. Other (specify) .....</li> </ol>

B08	Do you check the prescribing information before self□ medicating? (If answer is “Yes, always” or “Yes, sometimes” then answer B09. If not, go to Qn. B010)	<ol style="list-style-type: none"> <li>1. Yes, always</li> <li>2. No, never</li> <li>3. Yes, sometimes</li> </ol>
B09	How much did you understand from the instructions of prescribing information the last time you self-medicated?	<ol style="list-style-type: none"> <li>1. Fully understood</li> <li>2. Partially understood</li> <li>3. Not at all</li> </ol>
B010	Have you taken self□ medication in last 3 months? (If no, go to Qn. B012. If yes, continue with Qn. B011)	<ol style="list-style-type: none"> <li>1. No</li> <li>2. Yes</li> </ol>
B011	Did you understand the instructions of prescribing information this time (today)?	<ol style="list-style-type: none"> <li>1. Fully understood</li> <li>2. Partially understood</li> <li>3. Not at all</li> </ol>
B012	Have you ever experienced adverse events with self□ medication in the last 3 months? (If yes, go to Qn. B011. If no, skip to Qn. B012)	<ol style="list-style-type: none"> <li>1. No</li> <li>2. Yes, Explain .....</li> </ol>
B013	What did you do for the adverse event you experienced? (the adverse event/s referred in Qn. B010) – Multiple choice	<ol style="list-style-type: none"> <li>1. Went to private doctor</li> <li>2. Went to government health facility / hospital</li> <li>3. Went to pharmacist</li> <li>4. Stopped taking medication</li> <li>5. Other (specify)</li> </ol>

		.....
B014	Are you taking self-medication for any chronic disease?	1. No 2. Yes
B015	How long you have been taking self-medication for any chronic disease? ( <b>a chronic disease in this study is defined as a disease lasting three months or longer</b> )	
	Name of disease	Time period in months
B016	What kind of health insurance do you have this year?	1. No insurance 2. Rural insurance 3. Government sponsored insurance 4. Private medical insurance 5. Other (specify) .....

**The End**

## APPENDIX III: INTRODUCTORY AND ACCEPTANCE LETTERS



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Dear Sir/Madam,

**RE: ASSISTANCE FOR RESEARCH**

Greetings from Clarke International University (CIU) - Formerly International Health Sciences University (IHSU).

This is to introduce to you **Mr. Izere Chelsey Lena** Reg. No. 2018BPHPT-A08 a student of our university.

As part of the requirements for the award of a Bachelor of Science in Public Health, the student is required to carry out field-based research for the submission of a Research Dissertation.

Lena would like to carry out research on issues related to. **Self-medication and associated factors among adults attending pharmacies in Namugongo Division, Wakiso District**

I therefore request you to render the student such assistance as may be necessary for the success of his research project.

I, and indeed the entire University Administration would like to thank you in advance for the assistance you will render to the student.

Sincerely yours,

**Alege John Bosco**  
Senior Lecturer / Dean

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Permission granted  
to collect data  
for CHEMICAL ASPECTS OF  
11/02/2022  
9th Feb 2022

