Self-Medication Practice among Health Care Professionals and Its Effect on Patients or Clients at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia

Addis Ababa University

College of Social Science

School of Social Work

By: Tigist Belete (BSc)

Advisor: Zena Berhanu (PhD)

A Thesis Submitted to School of Social Work, Addis Ababa University Presented in Partial Fulfillment of the Requirements for the Degree of Master of Art (Social Work)

July, 2017

Addis Ababa, Ethiopia

Self-Medication Practice among Health Care Professionals and Its Effect on Patients or Clients at Tikur Anbessa Specialized Hospital

Tigist Belete Hailemichale

A Thesis Submitted to School of Social Work, Addis Ababa University

Presented in Partial Fulfillment of the Requirements for the Degree of Master of Art (Social Work)

Addis Ababa University

Addis Ababa, Ethiopia

July, 2017

Addis Ababa University

School of Graduate Studies

This is to certify that the thesis prepared by Tigist Belete Hailemichale, entitled Self-Medication Practice among Health Care Professionals and Its Effect on patients or clients at Tikur Anbessa Specialized Hospital and submitted in partial fulfillment of the requirements for the Degree of Master of Arts (Social Work) complied with the regulation of the University and meets the accepted standards with respect to originality and quality.

APPROVED BY THE EXAMINING BOARD

Internal Examiner---------- Signature ---------- Date ----------

External Examiner---------- Signature---------- Date----------

Advisor ---------- Signature ---------- Date----------

Declaration

I declare that Self-Medication Practice among Health Care Professionals and Its Effect on Patients or Clients at Tikur Anbessa Specialized Hospital is my own work and that all the sources that I have used have been indicated and acknowledged by means of reference and that the work has not been submitted before at any other institutions.

Tigist Belete Hailemichale

Signature: _____

Date: _____

Place: Addis Ababa University, Ethiopia

ACKNOWLEDGEMENT

First of all praise to the Almighty God, who makes everything done in his appropriate time. I would like to express my deepest gratitude and appreciation to my advisor Dr Zena Birhanu for his unreserved and all rounded support and enriching comments starting from the proposal development throughout the research period and to the reviewer Dr Ashenafi Hagos for his constructive comments on the research proposal.

My special thanks go to all study participants for their genuine participation and cooperation.

I would also like to extend my thanks to the administrative bodies of Tikur Anbessa Specialized Hospital, my friends, family and colleagues who helped me through a lot. This would be impossible without them.

Table of Content

LIST OF TABLES

Title **Pages**

LIST OF FIGURES

ACRONYMS

HCPs	Health Care Professionals
NSAIDs	Non-Steroidal Anti Inflammatory Drugs
OTC	Over the Counter
WHO	World Health Organization
WSMI	World Self Medication Industry

ABSTRACT

Self-medication, as one element of self-care, is the selection and use of medicines by individuals to treat self recognized illnesses or symptoms. It is use of non-prescription medicines by people on the basis of their own initiatives. Although, over the counter drugs are meant for self-medication and are of proven efficacy and safety, their improper use could have serious implications both on health care professionals and their patients or clients. Social work is one of the caring professions which involve promoting and protecting the welfare of individuals and the wider community. Since, health care professionals are also segments of the community they can also be potential candidates for social work intervention. This study aimed to assess self-medication practice among health care professionals and its effect on patients/clients at Tikur Anbessa Specialized Hospital. Facility based cross-sectional study was conducted among eight categories of health professionals selected using stratified random sampling technique. Sample size was calculated to be 294. Data was collected and entered in to Epi-info version 3.6 and analyzed using SPSS version 20. Descriptive statistics was employed. The strength of association was computed using odds ratio. Furthermore, bivariate and multivariate binary logistic regression analyses were used to identify significant associations. Statistical significance was declared at p-value<0.05. The findings indicated that 90% of the respondents utilize self-medication and 59.8% of them practice self-medication for headache/ fever. And painkillers were the most widely used type of medicine. The major reason the respondents practice self-medication was found to be mild illness. In the multivariate analysis, age, sex and work experience were associated with self-medication practice. The findings of the study have implication on policy that there is a need to reevaluate drug and health policies of the country and formulate rules and regulations regarding drug use.

CHAPTER ONE

INTRODUCTION

1.1 Background

Throughout human history the dominant paradigm of healthcare was individual self-care in the family and local community. People themselves were responsible for their own health, and that of their families. Self-care is probably not only as old as mankind but also most widely used (WSMI, 2010).

Self-care may be defined as the care taken by individuals towards their own health and well being, including the care extended to their family members and others. It is what people do for their own selves to establish and maintain health, prevent and deal with illness. It is a broad concept encompassing hygiene, nutrition, lifestyle, environmental factors, socio-economic factors and self-medication (WHO, 1998).

Self-medication, as one element of self-care, is the selection and use of medicines by individuals to treat self recognized illnesses or symptoms. It is use of non-prescription medicines by people on the basis of their own initiatives (WHO, 1998). Husain and Khanum (2008) also defined self-medication as obtaining and consuming medication without professional supervision regarding indication, dosage, and duration of treatment. However, self medication is not necessarily means the consumption of modern medicines but also of herbs (Partha, Shankar & Sheno, 2002).

Throughout the ages, people have sought solutions and answers to medical problems through self-medication that is, through treating themselves. Today, as well, many are often quick to treat their ailments without professional help. In an American study it is stipulated that in about 60 percent of the time this self-treatment involves over the counter (OTC) medications

(Dabney, 2001).Medicines for self-medication are often called ‘non-prescription’ or ‘over the counter’ (OTC) and are available without a doctor’s prescription through pharmacies, drug outlets and supermarkets in the case of some countries. Such medicines are normally used for the prevention or treatment of minor ailments or symptoms, which do not justify medical consultation (Partha et al., 2002).

In most illness episodes, self-medication is the first option which makes it a common practice worldwide. In the treatment of minor illness, when problems are self-limited, self-medication can be used (Alano, Galafassi & Galato D, 2009).

The type and extent of self-medication and the reasons for its practices may vary from country to country but it is widely practiced in both developed and developing countries. In economically deprived countries most episodes of illness are treated by self-medication. In a number of developing countries including Ethiopia, many drugs are dispensed over the counter without medical supervision. In this case, self-medication provides a lower cost-alternative for people who cannot afford the cost of clinical services and for government institutions, this can reduce costs while allowing health professionals to focus on more serious health problems (Worku and G/Mariam, 2003). However, the easy availability of a wide range of drugs and in the case of developing countries, the inadequate health services result in increased proportions of drugs used for self-medication compared to prescribed drugs (Partha et al, 2002).

Although, OTCs are meant for self-medication and are of proven efficacy and safety, their improper use due to lack of knowledge of their side effects and interactions could have serious implications, especially in extremes of ages (children and old age) and special physiological conditions like pregnancy and lactation (Choonara, Gill, & Nunn, 1996).

The researcher developed the interest to do research on the issue of self-medication practice among health care professionals (HCPs) based on the experience in the health care setting. Currently I work in the emergency operation unit of Tikur Anbessa Specialized Hospital. Working with a wide range of HCPs I think there are hands full of problems that need social work intervention. However, I choose to work on self-medication practice among HCPs because it's an area which is given less attention but a major problem. Health care professionals having a good knowledge on the effects of improper use of OTCs, they tend to ignore and practice self-medication widely. In my unit I observe a large number of HCPs overusing OTCs. In addition, their easy access to the medications worsens the problem. This will result drug dependency and the development of antibiotics resistant bacteria strains in the long run. Even if not widely researched, the effect of self-medication among HCPs can extend up to the patients or clients they give care for. Therefore, the researcher thinks that now is the time to determine the magnitude and the contributing reasons and look for better social work interventions.

1.2 Statement of the problem

Internationally, a number of studies have been conducted on various aspects of self-medication. With the existing literature it is possible to say that self-medication is well researched problem in western countries. Ali, Kai, Keat and Dhanaraj (2013); Shoaib, Yousuf, Anjum, Saeed, Ghayas, Ali, Siddiqui et al, (2013); Sharif, Bugaighis and Sharif, (2015); Swopna and Binita, (2016) studied the use of self-medication among HCPs and stated there is high prevalence. When we look the existing literature in Africa there are limited studies based on the experience of few countries. A study to investigate self-medication practices among health care professionals was conducted by Boateng,2009; Babatunde, Fadare, Ojo, Durowade, Atoyebi, Ajayi and Olaniyan,2016 and it was found that high number of health professionals practice self-

medication. Effects of improper use of self-medication among HCPs on themselves and the patients they give care for was also studied by different researchers and it was found out that it has negative consequences both on the HCPs themselves and the health care delivery (Barros, Griep and Rotenberg, 2009; Babatunde et al,2016; Osemene and Lamikanra,2012;Patil,2015)

In Ethiopia, there are a few studies conducted to assess the use of self-medication among the general population and students including medical students. Abay and Amelo, (2010); Gutema, Gadisa, Kidanemariam, Berhe, Hadera, Hailu, Abrha et al, (2011); Bekele, Argaw and Yalew, **(**2016) studied self-medication practices among medical, pharmacy, and health science students and found out that a remarkable amount of students had practiced self-medication. However, there is no study conducted on self-medication practice of HCPs.

Even though self-medication is a useful tool to treat minor ailments, improper self-medication practice may lead to serious adverse drug reactions and possibly fatal consequences. Moreover, currently, there is a worldwide concern about the emergence of antibiotic resistant strains of micro-organisms which might have been highly augmented by self-medication (Tena, 2014; Widayati, Suryawati and Charlotte de Crespigny, 2011).

If used appropriately, self-medication could lighten the demand on doctors and make people more health conscious. However, if abused, it could delay accurate diagnosis and appropriate treatment, and could cause toxicity, side-effects, drug interaction and unnecessary expenditure (Arzi, Ashtarinezhad and Sarahroodi.2010). In order to handle unnecessary health risk and bacterial resistance due to improperly obtained drugs, it is important to consider the manners of drug availability to consumers. Unlike in the developed countries, illegal purveyors of drugs are common in developing countries along with some practitioners (Worku et al, 2003).

The literature suggests that no sector of the medical community is immune to the problem of self-medication of which the worst offenders include physicians and pharmacists (Dabney, 2001). The problem of self-medication among health professionals particularly pharmacists and physicians is an issue of great concern (Boateng, 2009). Undoubtedly, pharmacists are among the health care practitioners with the greatest access to medications. Like doctors, they possess an impressive knowledge of prescription drugs and their use in the treatment of various ailments. Both general drug knowledge and access to prescription medications are potential factors for self-prescribing. (Balbisi and Ambizas, 2005). Empirical inquiries have thus uncovered substantial levels of illegal drug use among practicing pharmacists (McAuliffe, Santangelo, Magnuson, 1987).

Studies have particularly pointed to the fact that when doctors experience ill health, they disregard the advice they give their patients. It is therefore observed that the medical community generally has developed a culture in which working through illness and self treating is the norm (Boateng, 2009; Chamber, 1993; Dabney and Hollinger, 1999). Other reasons that are often quoted to be responsible for self-medication or self prescription among physicians include the complaint of extensive demands on their time and relatively unpredictable schedules; special issues of privacy and confidentiality also do arise such that their own medical knowledge may alter their needs or perceived needs for care delivered by others (Rosen, Ilene, Christie, Jason, Bellini, Lisa and Asch, 2000).

Studies have also shown that doctors treat themselves rather than seek professional help when they are sick (Christie, Rosen, Bellini, 1998; Kenna and Wood, 2004; Sexton, 2003). In the UK, Chambers (1993) found that 9 out of 10 doctors who took antibiotics had prescribed these for themselves, and half of those who were taking antidepressant drugs had self-medicated. A

study done in Australia similarly found that, 90% and 25% of doctors believed that it was acceptable to self-treat for acute and chronic illnesses, respectively (Davidson and Schattner, 2003).

Apart from the adverse consequences that self-medication may have on these pharmacists and physicians that may include lack of objectivity in diagnosis and treatment, this state of affairs obviously have negative impact on the quality of practice and of the quality of health delivery services (Cicala, 2003).

Even though the effect of non-proper use of OTC drugs among medical personnel is wide in range and can extend up to the patients they give care for, (Boateng, 2009), there are only a few studies conducted to assess self-medication practices concerning health care professionals and these studies were done mostly among health science students in Ethiopia (Abay et al, 2010; Gutema et al, 2011; Worku et al, 2003). In addition, those studies were done by different departments other than social work (pharmacy, public health). However, no data is available on the current status of self-medication practices among health care professionals and the effect of their practice on their patients or clients.

Social work is one of the caring or helping profession which involves promoting and protecting the welfare of individuals and the wider community. Since, health care professionals are also segments of the community they can also be potential candidates for social work intervention. In this case when we say self-medication it is done by taking different medications. So, it mostly addresses the biological aspects and gives physical relief. But, one of the principles of social work is that for an individual to be said healthy all the biopsycosociospritual needs must be addressed. Therefore, this study aimed to assess self-medication practice among health care

professionals, its effect on patients or clients and how health social workers can intervene in the process at Tikur Anbessa Specialized Hospital.

1.3 Research Question

What is the condition of self-medication practice among health care professionals and its effect on patients/clients at Tikur Anbessa Specialized Hospital looks like?

1.4 Objectives

1. 4.1General objective:

-To assess self-medication practice among health care professionals and its effect on patients/clients at Tikur Anbessa specialized hospital

1.4.2 Specific objectives

-To describe the magnitude of self-medication practice among health care professionals at Tikur Anbessa specialized hospital

- To assess potential reasons contributing to self-medication practices among health care professionals at Tikur Anbessa specialized hospital

-To determine the effects of self-medication practice among health care professionals on patients/clients

1.5 Significance of the Study

Even if self-medication using over the counter drugs is universally accepted as an important strategy to alleviate minor ailments like common cold and headache both in developed and developing countries like Ethiopia, it has negative impacts if misused. The rate of utilization

is very high among the general population. And health care professionals are also affected by the problem. But, since there are limited literatures on the raised issue this study will provide a hint on the existing self-medication practices among health care professionals in the study setting.

Knowing the magnitude of utilization and possible reasons responsible for high practice of self-medication among HCPs at Tikur Anbessa Specialized hospital will help policy makers, program designers and implementers to design a tailored intervention that focuses on elimination and or reduction of obstacles to minimize non-prescribed drug use among HCPs. Furthermore, since the aim of social work is to give service for those in need and in this case health care professionals could be potential clients, the results of this study will further assist the clinical facilities managers, governmental and non-governmental organizations in collaboration with Ministry of Health to be aware of the extent of self-medication among HCPs and develop strategies for promoting awareness creation and improving the involvement of social workers in the health care system. Also, since health social workers at this specific hospital serves as compliant receivers, it is also important to raise their awareness as to provide service for clients. Moreover, this study can serve as a motivation and a base line data for future studies that are going to be conducted on this specific area.

1.6 Scope of the Study

This study was delimited to assess self-medication practice among health care professionals and its effects on patients/clients. It covered the self-medication practice of HCPs, potential reasons contributing to self-medication practices, the effects of self-medication practice among health care professionals on themselves and the patients/clients they give care for. This study incorporated health care professionals (doctors, nurses, anesthetists, radiology technicians,

laboratory technicians, midwives and social workers) who work as a fulltime staffs of Tikur Anbessa Specialized hospital.

1.7 Definition of Terms

Self-Medication- obtaining and consuming modern drugs without the advice of a health professional either for diagnosis, treatment or prevention of disease

Over The Counter/ Non-Prescribed Drugs- are those drugs that can be legally purchased from a drug retail outlet without having a prescription from a licensed health care provider. Examples include Paracetamol, Ibuprofen, Advil, Cough syrup, Anti-acid, etc

Health Care Professionals- licensed health care workers who give the necessary health care services for patients/clients in a health institution

1.8 Operational Definition

Self-medication practice-A person is said to practice self-medication if he he/she self-medicated at least once

CHAPTER TWO

LITERATURE REVIEW

2.1 Prevalence of self-Medication in the general population

As far as its prevalence is concerned, self-medication has high rate all over the world. It has high prevalence rate that is ranging from 32.5- 81.5%. Self-medication prevalence rate in developing countries is alarming that is 92%, prevalence rate in European countries is 68 % and in countries like India and Nepal are 31 % & 59 % respectively (Bollu, Vasanthi, Chowdary, Chaitanya, Nirojini and Nadendla, 2014).

In a study done to assess self-medication awareness and attitude among Malaysian urban population overall 83.9% of participants consumed OTC medications. The commonly consumed OTC drugs were supplements and vitamins followed by painkillers, flu/ cough remedies and sore throat products. Easy access, convenience and time saving were the most frequent reasons for self-medication Azhar, Gunasekaran, Kadirvelu, Gurtu,Sadasivan and Kshatriya, 2013).

A study of the prevalence of self-medication practice among University Students in Southwestern Nigeria indicated that majority of the respondents (91.4 %) were involved in self-medication practices. Fifty three point eight percent of the students used antibiotics while 46.3 % used anti-malarial drugs for self-medication (Osemene et al, 2012)

In Ethiopia, the magnitude of general self-medication practice among the general population was studied and results showed that the majority of illnesses were treated without consultation of professionals. Previous studies in Addis Ababa and central Ethiopia showed that, the magnitude of self-medication was as high as 50% (Kitaw, 1987).

A study done in the three Gondar towns (i.e., Gondar, Dabark, and Kola-Diba), North West Ethiopia found that, the prevalence of self-medication was 27.5% in two week recall period.(Abula and Worku, 2001).Similarly, another community based survey done in Jimma town showed that the prevalence of self-medication was 27.6%. (Worku et al, 2003).

Another study done to assess medication knowledge, attitude and practice among Gondar university fresh man students showed that 74% of the respondents intended to self-medicate on minor ailments like cold. Regarding where they get the medicines from, more than 75% of the students seek for non-prescription medicines in the community pharmacy (Berhanemeskel and Seada, 2008).

A community based cross-sectional survey conducted to assess self-medication practices with antibiotics among urban dwellers of Bahir dar town, North West Ethiopia, showed that prevalence of self-medication was 23.3% and out of these 17 (12.8%) of them use antibiotics for self medication. Among them, 14 (82.4%) obtained drugs from private pharmacy or drug shop without prescription and 3 (17.6%) from their friends or relatives. Respiratory tract disease10 (58.8%), diarrhea 7 (41.2%), fever 3 (17.6), headache 2 (11.8), gastro intestinal tract disease 1 (5.9%) were reported symptoms of illness for the practice of self-medication. The reasons given for self-medication are previous experience with similar illness (82.2%), minor problem (17%), less expensive (11.8%) & urgency of problem (5.9%) (Tena, 2014).

2.2 Prevalence of Self-Medication among Health science students and reasons for practice

There are a handful of studies conducted concerning self-medication practice among medical and health science students. Looking at this practice among medical and health science

students is vital as they are future medical practioners and has a potential role in counseling patients and clients about the advantages and disadvantages of self-medication.

A comparative study on university students including health and non-health from the city of Rio Grande, Brazil was done and 86.4% of them were self-medicated. Self-medication was statistically higher among healthcare students in most cases. The overall reasons for self-medication were headache (89.7%), cold (82.9%), sore throat (58.1%), fever (56.2%), menstrual cramps (47.6%), muscle pain (41.0%), cough (36.4%) and heartburn (29.4%); and also stomachache(27.1%), nausea (26.4%), vomit (22.3%), allergy (21.2%) and intestinal colic (14%).The most frequently used active ingredients were acetaminophen (paracetamol), dipyrone, aspirin, phytotherapic compounds, and herbal tea (Corrêa da Silva, Soares and Muccillo-Baisch, 2012).

Another comparative study to assess self-medication practice among Allied and Non-Allied Health Students of the University of Santo Tomas, Philippines was done and from the 66 respondents, a total of 55 (83.3%) reported that they practice self-medication. It was found that the most common therapeutics used in self-medication is antibiotics 36 (65.5%), followed by anti-allergic and antihistamine medication 33 (60.0%), decongestants 20 (36.4%), herbal remedies10 (18.2%), back/chest pain relievers (Paracetamol) 8 (14.5%), topical treatments and laxatives/anti-diarrheal/ anti-constipation agents 7 (12.7%), back/ chest pain relievers (NSAIDS) 4 (7.3%) and ulcer medications 1 (1.8%).

Self-treated health conditions in which they practice self-medication for include headache 43 (78.2%), cough and cold 42 (76.4%), fever 38 (69.1%), toothache 35 (63.6%), muscle pain 34 (61.8%), Pimples 18 (32.7%), back/chest pain 15 (27.3%), dizziness 15 (27.3%), diarrhea/ constipation 14 (25.5%), fatigue/ Stress 11 (20.0%), dysmenorrhea 10 (18.2%), vomiting 9

(16.4%), eye disease 8 (14.5%), ulcer/ hyperacidity 5 (9.1%), Asthma attack 3 (5.5%), Stomach ache other than ulcer 3 (5.5%), Skin itchiness 2 (3.6%), Skin rashes 2 (3.6%) and weight loss 2 (3.6%).

The most common reason mentioned why the respondents practice self-medication is to save time 31 (56.4%), followed by low severity of illness16 (29.1%), having previous episodes of same illness 12 (21.8 %,) and to save money 5 (9.1%). The least is due to remoteness of health-care facility 3 (5.5%). There were 6 (54.5%) out of the 11 respondents who reported that they do not practice self-medication due to fear of complications, and 1 (9.1%) due to readily available and accessible health service (Jazul & Nieto, 2014).

Knowledge, attitude and practice of self-medication among first year medical students in Chitwan Medical College, Nepal were studied and it was found that prevalence rate of self-medication of one year period was 84%. The principal morbidities for seeking self-medication include cold and cough as reported by (85.7%) followed by pain (76.2%), fever (73%), diarrhea (47.6%) and dysmenorrhea (46%). Drugs / drugs group commonly used for self-medication included analgesics (75.8%), anti-acids (53.2%) and antipyretic (46.3%). Among reasons for seeking self-medication, 79.2% felt that their illness was minor while 61.9% preferred as it is due to previous experience. Concerning reasons against self-medication among 12 respondents who did not practice self-medication in one year period was also asked and 6 (50%) respondents were afraid of adverse drug reaction.6 (50%), 5(33.3%) and 4(25%) are afraid of risk of using wrong diagnosis, missing actual diagnosis and drug dependence respectively. In this study, student's immediate response when they get sick was also studied and 27 (36%) responded consult a doctor, 22 (29.3%) mentioned self-medication, 22 (29.3%) said they ask for suggestion and 9 (12%) said they will wait till symptoms subside. (Mehta & Sharma,2015).

Self-medication patterns among nursing students in North India were studied and practice of self-medication was reported by 88.24% nursing students. The most common ailment for seeking self-medication was headache (42.86%), followed by fever (29.57%), common cold/cough (22.86%) and abdominal pain (15.24%). Paracetamol (59.05%), analgesics (39.05%), antibiotics (26.67%), antihistamines and cough suppressants were most commonly used drugs/drug groups for self-medication. Among reasons for seeking self- medication, ease (33.33%) was given as the major reason by the respondents, while 22.86% felt it give them learning opportunity, 20.95%) time-saving and 19.05% said cost-effectiveness (Goel & Gupta, 2013).

A study on knowledge and practices of OTC medications among second year medical students at Burdwan Medical College and Hospital, West Bengal, India was done and it was found out that they took self-medication approximately four to five times on average in last one year. The reasons mentioned to use OTC drugs include thinking disease is not serious (62%), familiar with the disease and its remedy (47%), ease and convenience (7%), Time saving (6%) and cost of physician's service (1%). Most common conditions/symptoms for self-medication were fever (89%), cough and cold (75%), headache (67%), diarrhea (33%), any type of pain (53%) followed by minor cut, vomiting. Antipyretics (82%), cough and cold preparation (51%) and pain-killers (49%) were the most common medicines taken (Ghosh, Biswas, Mondal, Haldar and Biswas, 2015).

A research conducted to assess the prevalence of self-medication among pharmacy students in Guntur, India found out that approximately 95% of the students reported the use of non-prescription drugs/ complementary medicine. Most commonly used drugs for self-medication are antipyretics (90.6%), cough and cold (78.4%), analgesics& anti-inflammatory

(85%) and antibiotics (62%). And the ailments that do not need an intervention by a physician and for which self-medication was practiced include fever (89%),body pains (83%), cold(65.3%), cough (74%), headache(67.8%), diarrhea (42.7%), vomiting (38%), gastric problems(49.5%) and nutritional deficiencies(76%), allergic conditions(10.1%),minor cuts/wounds (8.3%) and constipation (15.3%). On asking for the reasons of self-medication about 46% of members prefer OTC drugs due to economic problems, 73.5% being lack of time to visit the physician and (60.3%) ignorance (Bollu et al, 2014).

Self-medication practices among medical students of a private institute in Nagpur, India was studied and student's reported self-medication in the preceding one year was 71.7 %.The reasons quoted for self-medication were minor ailments194 (55.4%) followed by quick relief 87 (24.9%) and urgency 71 (20.3%). Fever and headache 296 (84.5%) were the most frequently reported illnesses followed by acidity 188 (53.7%) and cough and cold 168 (48%) for which self-medication was practiced. Commonly used drugs were antipyretics and analgesics (80.6%), followed by antacids (55.1%), antibiotics (34.9%), antihistaminic (44.6%), gastrointestinal ailments (13.2%), skin problems (14.3%), ear/eye drops (19.7%) and topical ointment (20.6%). The main source for drug procurement was pharmacy without prescription 261 (74.6%) followed by free physician samples 46 (13.2%) and friends/relatives 39 (11.2%) (Kasulkar & Gupta, 2015).

Practices of self-medication with antibiotics among nursing students of Institute of Nursing, Karachi, Pakistan was done. More than half of nursing students 79 (52.7%) experienced self-medication with antibiotics. The common symptoms which pre-disposed respondents to self-medication practices were fever 37 (46.8%), sore throat 27(34.2%) and runny nose 19 (24.1%). The key reasons for self-medication was knowledge about the drug 59 (74.7%) followed by

convenience 13 (16.5%) and cost saving 9 (11.4%) Ali, Ahmed, Sonekhi, Fayyaz, Zainulabdin & Jindani, 2016.

Patil, (2015) studied self-medication awareness and attitude among undergraduate medical students in a tertiary medical college, Dhule, India. It was found that overall, 389 (84%) participants consumed OTC medications. Supplements/vitamins (53%) were the most frequently used OTC medications followed by painkillers (34%), flu/ cough remedies (31%), sore throat products (32%) and medication for skin care (25%). Minor illness was the most common (91.2%) reason for the use of OTC medications. However 18 participants (3.9%) used OTC drugs for severe illness as well. Almost half the participants stated that self- prescription was more convenient (53%), easier to access (51%) and time-saving (42%), when compared to consulting a doctor. About 43% of the participants also thought that consulting a doctor were unnecessary as the condition that required self-medication, was a minor problem. Most of the participants purchased the OTC medications from the pharmacy (69%) with the rest obtaining them from the retail shops.

Assessment of self-medication practices among medical, pharmacy, and health science students in Gondar University, Ethiopia was done and 38.5% had practiced self-medication during the two months period preceding the study. The most common drug used in self-medication was Paracetamol, that is, 38 (46.3%). Others were analgesics constituting 20 (24.4%), followed by antacids 10 (12.2%), anti-helminthes 9 (10.9%), antibiotics 4 (4.8%), and anti-malarial 3 (3.7%). Fever and headache were the most frequently reported causes of morbidity 55 (24.8%) followed by respiratory 51 (23.9%) and gastrointestinal tract diseases 28 (13.2%). Other episodes of illness included diarrhea 19 (8.9%), malaria 13 (6.1%), pneumonia 13 (6.1%), constipation 12 (5.6%), and eye disease 8 (3.8%). Among the reasons given for self-

medication, 29 (35.4%) respondents felt that they had previous experience of treating a similar illness. Twenty-five (30.5%) respondents felt that the illness was mild and did not require the service of a physician. Eight respondents (9.8%) reported that cost-effectiveness was their major reason to practice self-medication, and 13 (15.8%) stated emergency use. Concerning where they get the medications from, 59 (72%) obtained drugs from the pharmacy or drug shop without prescription, 13 (5.9%); from their friends, 3 (3.6%); from drugs left over from prior use, and the remaining 7 (8.5%) from plant (traditional medicines) (Abay et al, 2010).

Another study done among heath science students in Mekelle University showed, the prevalence of self-medication was 43.24% with most frequently reported symptom being headache 33(51.56%) followed by cough and common cold 28(44.80%), dysmenorrhea 13(20.30%), and dyspepsia 11(17.20%). Others like loss of appetite, fatigue, insomnia, stress \were also reported though few. The most common classes of drugs used in self-medication in the current study were analgesics, in particular, Paracetamol, which was reported by 31(48.44%) of the respondents followed by NSAIDSs as reported by 27(42.20%) of the respondents. Other common types of medications reported were antibiotics 11(17.20%), cough syrup 8(12.50%) and antacids 5(7.80%) as Paracetamol 31(48.44%) and NSAIDs 27(42.20%) were the two most frequently consumed medications. The reasons mentioned for self-medication were prior experience 25(39.10%), mildness of the illness 24(37.5%), long waiting time 10 (15.63%), less costly 3 (4.69%), lack of interest in medical services 1(1.56%) and others 3 (4.69%). About the question regarding where they get the drugs from, 26(40.63%), 10(15.63%) and 9(14.10%) of the respondents said that they obtained the drugs for self-medication from drug retail outlet, friends/relatives, and open markets, respectively. Measures taken by those who reported illness during the three months period were also studied and 64 (43.24%) had practiced self-medication;

while 57(38.52%) and 27(18.24%) of them sought medical services and took no action respectively (Gutema et al, 2011).

In another recent study done to assess the magnitude and factors associated with self-medication practices among health science students in Arsi University, Ethiopia it was found out that 54.5% of them practiced self-medication. The most common types of ailments for which the respondents reported to have accessed drugs for self-medication were headache 169 (56.50%), followed by gastrointestinal disease 102 (34.10%), respiratory tract infection 95 (31.80%), menstrual 28 (29.20%), eye 67 (22.40%) , skin 52 (17.40%) and sexually transmitted diseases 31 (10.40%). The most common drug used in self-medication was antibiotics 179 (59.90%). Others were analgesics constituting 143 (47.80%), followed by gastrointestinal drugs 86 (28.80%), respiratory drugs 74 (24.70%), vitamins 66 (22.10%), and ORS 50 (16.70%). The major reasons indicated for self-medication by respondents were: they perceived their illness as mild or disease not serious 132 (44.1%), followed by poor quality of routine health care services at university clinic 81(27.1%) and it saves their time 60 (20.3%). Most of the drugs for self-medication were obtained from drug outlets 184 (61.50%), shop/supermarkets 89 (29.80%), relatives/friends 72 (24.10%) and left over from previous drugs 57 (19.1%) (Shimelis, Mesele & Alemayehu, 2016).

2.3 Prevalence of Self-Medication among Health Care Professionals and reasons for practice

There are some studies conducted concerning self-medication practice of healthcare professionals. Self-medication is not only prevalent in the general population but it is also common among the health care providers. Because they exposed to the knowledge of drugs, the pattern and incidence may however be different as compared to the general population**.**

A study was done to assess self-medication practices among health care professionals in a Private University, Malaysia. Among the total respondents, 77.6% admitted that they practice self-medication. The most common illness for self-medication was headache (15.7%); followed by cough and common cold (15.0%); fever and chill and common flu (10.6%); gastric pain and diarrhea (10.1%); Allergy (8.0%); pains (6.8%); constipation (6.1%); fungal or microbial infections (4.9%) and other diseases (2.1%). The types of medications (drugs) used in self-medication practice among the respondents were also recorded. The most common class of drugs used was found to be analgesics (13.1%); anti-pyretic (12.7%); anti-inflammatory (9.9%); anti-histamines (9.7%); antacids (9.6%); energy supplements such as vitamins and minerals (8.6%); topical applications which include anti-fungal, anti-microbial and analgesics (7.9%); antibiotics (6.7%); nasal or ear/eye drops(5.2%); laxatives (4.1%); traditional medicines (2.1%); corticosteroids such as anti-asthmatics (7.0%); and oral contraceptives (1.9%) (Ali et al, 2013).

Predisposing factors for self-medication practices were also assessed in this study. Twenty three point five percent responses registered for ‘familiarity with treatment options’. Next in order was 20.0% due to ‘mild illnesses. The other reasons mentioned were economical cost (10%), time saving (14.5%), privacy (4.5%), quick relief (11%), no primary physician nearby (3%) condition do not merit seeing physician (11%), others (2.5%). A few respondents stated that they do not practice self-medication and their reasons were also assessed. The results show 31.6% of the respondents stated that the ‘risk of adverse drug reactions’ as the main reason, 23.7% stated ‘risk of wrong diagnosis’,21.1% stated risk of using wrong drugs and 2.6% cited other reasons. In line with further investigation, the first line of action they take when fallen ill was also assessed. Among them, 68.4% responded as consulting a graduate physician nearby, 21.1% responded as consult a specialist and 10.5% responded as no action taken (Ali et al,2013).

A comparative survey based study on the use of non-prescription drugs among pharmacists and non-pharmacists were conducted in Karachi, Pakistan. Overall prevalence of self-medication was found to be 81.28%.The major clinical conditions in which self medication was observed in the pharmacists were flu (36.9%), pain (27.59%), fever (25.86%), diarrhea (24.14%) and headache (22.07%), whereas in the non pharmacists, the main conditions were headache (55.71%), diarrhea (53.33%), fever (35.71%) and flu (35.24%). Factors like busy life schedule (27.58%), doctors' fees (25.86%) previous experience of medicine (20.68%), better drug information (20.86%), easy access to medical store (15.17%), doctors attitude (10.34%) and travel distance (6.89%) contributed differently in promoting self-medication to pharmacists, whereas busy life schedule (45%), was one of the major factor of self medication among non pharmacists. Antibiotics, cough preparations, analgesics, antacids and anti-diarrheal are among the common drugs used for self-medication mentioned by the respondents in this study (Shoaib et al, 2013).

Another study conducted in United Arab Emirates to assess self-medication practices among pharmacists indicated large number of pharmacists practiced self-medication (96.6%). The most common OTC drugs used for self-medication include analgesics (58%) followed by vitamins and minerals (57%), antihistamines (45%), antacids (41%) and nasal decongestants (36%). Headache (63%), cough (54%), fever (51%), cold and flu (48) and back pain (44%) were among the most frequent symptoms for which self-medication were practiced. Whereas, the reasons mentioned for self-medication were "health problem is not serious" (42.4%), "knowledge on drugs and diseases helps" (31.3%), "having no health insurance" (16, 11.1%), "avoidance of waiting long time at clinics (9%)",%), physicians advice of self-management (6.3%), suggestion of a relative/friend 3 (2.1%), self-need to play an active role (5.6%), learning opportunity (4.9%) I do

not trust my physician 6 (4.2%), physician prescription was not effective 3 (2.1%) and embarrassed of discussing own symptom 1 (0.7%).

In the study, reasons for not practicing self-medication were also studied and the reasons mentioned include risk of adverse effects (51.7%),risk of using wrong medication 41.6%),risk of misdiagnosis of illness (53%),risk of drug interaction (30.9%), risk of drug abuse and dependence (29.5%) and risk of progression of case (30.9%). The main source of obtaining medication was the pharmacy (92.6%) and only very few respondents obtained their medications from other sources including street market, herbal stores and relatives or friends (Sharif et al, 2015).

Prevalence of self-medication and associate factors among nursing workers from public hospitals in Rio de Janeiro, Brazil was studied. The prevalence self-reported use of medication without medical prescription was 24.2%. The most consumed medications were those for the nervous system (46.7%), digestive tract (15.4%) and natural products (10%). And, the most used subgroup was analgesics (43.4%), followed by anti-inflammatory and anti-rheumatic (7.3%) and vitamins (6.2%) (Barros et al, 2009).

A study to assess knowledge, attitude and practice of self-medication among nurses and midwives of a Tertiary Care Hospital in India was done. The prevalence of self-medication in this study was found to be 100%. Headache (72%) was the most common symptom for which self-medication was practiced followed by cold (57.3%), fever (56%), diarrhea (22.67%), sinusitis (10%) and insomnia (6.67%). Antipyretics & analgesics were the most common class of drugs self-medicated by majority of the participants of the study. Paracetamol and other types of NSAIDs were the most common type of analgesics used for self-medication. The common reasons for self medication was saving time (55.6%), doing away with the need to go to a doctor

for a minor illness (33.4%), being economical (7.7%) and providing quick relief (3.3%). Most drugs for self-medication were obtained from the pharmacy or drug shops **(**Swopna et al, 2016).

A master's thesis aimed to investigate self-medication practices among pharmacists and doctors of the Korle-bu Teaching Hospital, Ghana indicated that 86% of them admitted they self-medicate. In response to what usually will be the first line of action of respondents when they fall ill, the responses provided were self-medicate (86%), consult a doctor(10%) and no response (4%).Drugs self-medicated include analgesics (100%), anti-malarial (100%),antibiotics (84%), antacids (59%),anti-ulcer drugs (19%),oral contraceptives (6%), anti-asthmatics (6%) and anti-diabetic (2%).The reasons mentioned for self-medication were familiarity of treatment options (43%), condition does not merit seeing a physician (32%), lack of time (16%),do not have a primary physician (7%) and privacy (2%) (Boateng, 2009).

Self-medication among health workers in a tertiary institution in South-West Nigeria was carried out. More than half (52.1%) of the respondents had practiced self-medication after self-diagnosis and about one third of them (31.8%) had practiced self -medication during three months prior to the study. Drug types normally bought and used without prescription were: analgesics (38.2%), antibiotics (19.0%), anti-malarial (13.3%) and others (29.4%). The reasons for self-medication included: financial problems (10.8%), mild sickness (10.8%), lack of time (13.4%), knowledge of diagnosis (5.6%), convenience (2.3%), and non-availability of doctor (3.0%). Antimicrobial self-medication had been practiced in the preceding twelve months by 124(40.7%). Conditions for which antimicrobials were being used included; body pains (14.9%), catarrh (14.9%), headache (14.3%), sore throat (11.5%), diarrhea (11.2%), fever (9.0%), and toothache (5.6%) (Babatunde et al, 2016).

2.4 Effects of improper use of self-medication among health care professionals on themselves and their patients/clients

According to Barros et al (2009); Babatunde et al (2016), inappropriate self-medication can cause undesirable consequences and effects, iatrogenic diseases and mask progressive diseases. It can also results in wastage of resources, resistance to pathogen and generally entails serious health hazard. It therefore represents an important problem that has to be acknowledged and prevented.

A review on prevalence and measure of self-medication stated that the cost of negative outcomes as a consequence of self-medication may include wastage of resources, increased resistance of Pathogens, and generally entails serious health hazards such as adverse reactions, drug interactions and prolonged suffering (Sherazi, Mahmood, Amin, Zaka, Riaz and Javed, 2012)

According to Bollu et al. (2014) complications which may arise due to self-medications are allergy, antibiotic resistance, kidney impairment, dependency etc. As excessive use of vitamins could lead to vitamin poisoning and a lot of risks are associated with use of analgesics in Self-medication practice.

Reeves et al as cited by Widayati et al (2011) stated that as a consequence, self- medication with antibiotics may be associated with undesirable effects, such as decreased effectiveness and worsening clinical conditions and has become an important factor driving anti-microbial resistance. Such consequences potentially jeopardize the health of the individual who self-medicates as well as society as a whole. Problems related to self-medication with antibiotics particularly in the developing world, are complex as they are linked to other issues, such as

poverty, lack of access to medicines and information regarding medicines, poor quality of health care facilities, and weak implementation of regulation related to medicines.

As also stated by Ghosh et al. (2015), self-medication increases the chances of illicit use of drug and drug dependency. Due to uncontrolled use of OTC drugs, signs and symptoms of underlying diseases are suppressed hence incidence of delayed diagnosis, complications, treatment failure and drug resistance are increasing. In several studies it has been shown that resistance of pathogens, adverse drug reactions and drug dependence increase to a very high level due to this inappropriate use of drugs without expert opinion. These are major causes of concern worldwide particularly in developing countries where antibiotics are often available without a prescription.

Similarly, Osemene et al (2012) mentioned that some of the problems associated with self-medication such as masked diagnoses, use of excessive drug dosage, prolonged duration of use, drug interactions, poly-pharmacy and super-infection can occur in self-medicating individuals.

Mehta et al, (2015); Swopna et al, (2016) also pointed out that the dangers of self-medication are many such as habituation, allergic reactions that may be severe or even fatal. Under-dosage may not cure the symptom. Over-dosage can produce collateral damage to many organs. By masking the symptom temporarily, it will be difficult for a doctor to arrive at a correct diagnosis and NSAIDs like ibuprofen increase the risk of stroke.

As pointed out by Patil (2015), self-medication may initially result in reduction of distress but in the long-run however it can cause many serious problems. Symptoms may rebound, resulting in stronger desires to take more drugs. Poisoning, allergy, habituation, addiction, dependence and resistance could occur. In extreme of cases negative consequences

such as depression, suicide attempt, interpersonal problems, legal problems, medical problems and in-patient psychiatric hospitalization could also occur.

Balbisi et al (2005) have particularly noted that self-medication among pharmacists can lead to addiction and impaired functioning but further still it is unprofessional and may be associated with unlawful behaviors which may ultimately undermine the profession and pose a threat to the overall health and well-being of those involved. In extreme cases, self prescription and medication may lead to substance abuse that has the potential of leading to adverse drug reactions. Further still, this can also lead to medical malpractice and negligence (Cicala, 2003). There is also empirical evidence that physicians' personal health habits influence the counseling they provide to their patients as much as their perceived skill level and comfort with counseling (Rosen et al, 2000)

According to Boateng (2009); and Ali et al (2012), the consequences of inappropriate self-medication among health care professionals have been found to have severe implications including legal, ethical, health defects on the health personnel, negative effects on the patient and on the quality of health delivery as a whole. Like any other person therefore, health personnel must accept to and be encouraged through the provision of the necessary health facilities to enter the patient role. This is the only way to reverse the increasing rate of self medication among health professionals.

2.5 Theoretical Framework

Bio-Psychosocial and Spiritual model

In 1977, American Psychiatrist George Engel introduced the major theory in medicine, the Bio-psychosocial Model. The model described the interrelated bond between biological,

psychological, and sociological factors each equally contributing to the wellbeing of a person. The model showed a striking shift from disease to health identifying that psychosocial factor such as beliefs, relationships and stress have a serious effect on the effort to help patients get recover from their illness and disease (Lakhan, 2006).

Nowadays the biological approach is considered to be obsolete and archaic. Even though the biological aspect of medical evaluation is necessary, it seems very obvious that social and psychological factors cannot be neglected. For a better examination of a person's health conditions, the bio-psychosocial model helps to make the concepts of health and illness subjective to the individual. This model investigates the general aspects of illness along with the biological aspects (Deep, 1999).

The aim of self-medication is relief from minor ailments using medications and it focuses on biological or physical wellbeing which is also the motto of biological model. Since the study participants are health care professionals who practice self-medication, the bio-psychosocial model is incorporated into this research for the reason that it is one of the models social workers apply in health care settings. During intervention, social workers incorporate the biological, psychological, social as well as spiritual aspects to understand the factors contributing to the person's illness and design better treatment plans along with other professionals in the medical team.

2.6 Conceptual Framework

The conceptual framework is adapted from different literatures. It showed that factors such as, socio-demographic, behavioral and health service factor are considered to affect self-medication practice among health care professionals. In this frame work, socio-demographic factors influence social and health service factors and social factors also influence health service factors.

These all factors in turn influence the self-medication practice. Socio-demographic factors like age, sex, educational status, religion, current marital status, monthly income, job category and work experience affects the individual's behavior towards self-medication. Behavioral and social factors like prior experience, emergency use and stressful conditions affects self-medication practice. And health service factors like ease of access, less expensive and time saving influences self-medication practice.

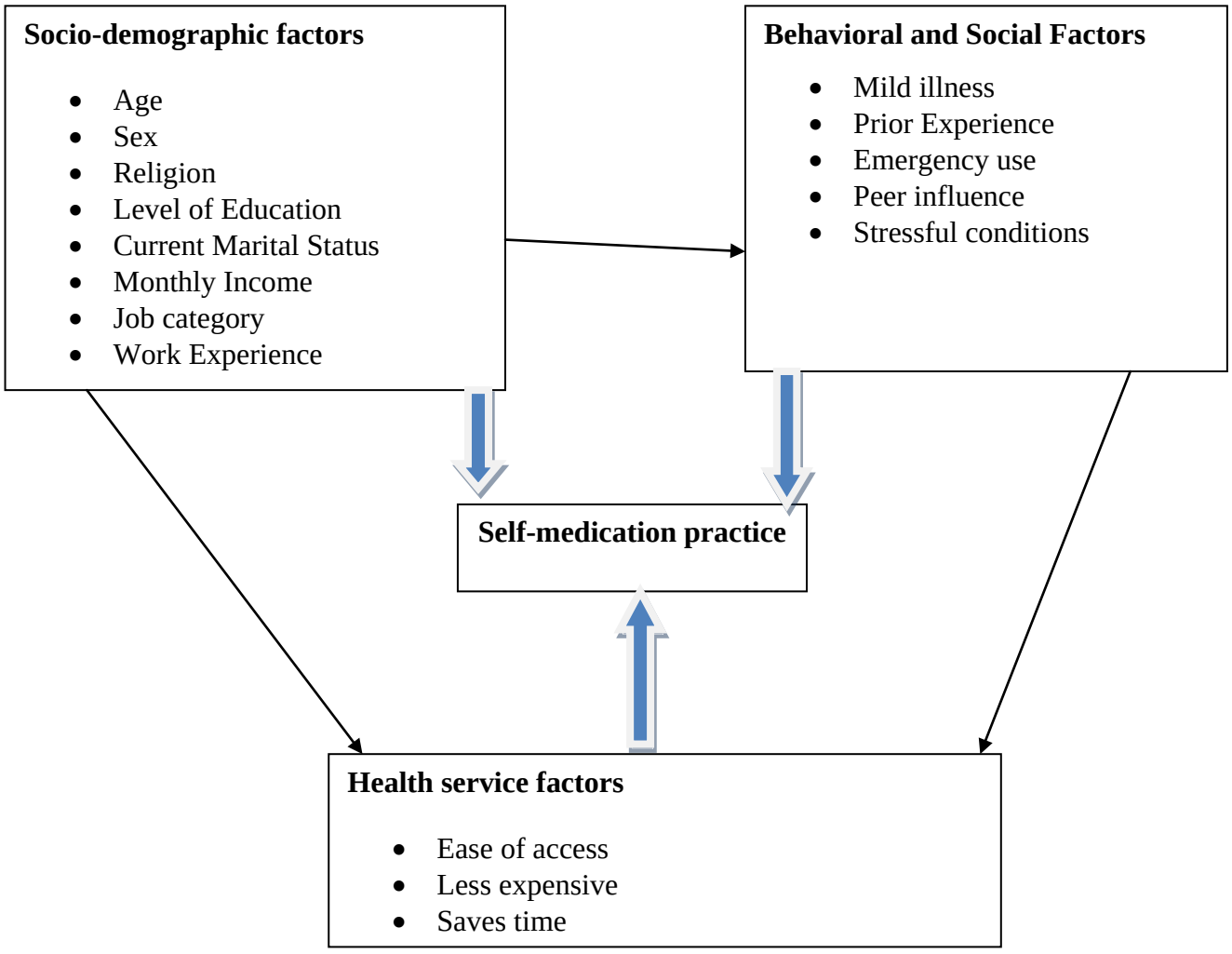

Figure 1: Schematic presentation of conceptual frame work on factors affecting Self-medication practuice

Summary

This chapter reviewed relevant literatures regarding prevalence of self-medication in the community, self-medication practices and reasons mentioned for the practice among Health science students and health care professionals, effects of improper use of self-medication on the health care professionals themselves and the patients or clients they give care for, a relevant theoretical frame work and conceptual framework. In the course of assessing literatures concerning self-medication practices and the reasons for practicing self-medication, the researcher understood that most of the studies done concerning self-medication was on the community and students including health science students. However, there have not been enough researches conducted about self-medication practices among health care professionals and the effect of their practice in the health service delivery in Africa and more specifically in Ethiopia.

CHAPTER THREE

RESEARCH METHODS

3.1 Study Design

A facility-based cross-sectional quantitative study design was used to assess self-medication practice among health care professionals at Tikur Anbessa specialized hospital. It is described as quantitative study because it attempts to measure self-medication practices among health care professionals through the use of a questionnaire. On the other hand, it is also described as a cross-sectional survey since the study involves the administration of the research instrument (questionnaires) once only to the sample and the data generated on the measured characteristics are limited only to the specific period of the study. Cross-sectional surveys provide the opportunity for one-time health assessment problems and projects (Graziano, 1993). Furthermore, a quantitative survey is also preferred because as Busha and Harter (1980) put it, most health system researches are quantifiable and for that reason, quantitative surveys are often better preferred in assessing one-time health problem enquiries such as this. This is because of their statistical importance and relevance and also for their uniqueness in enhancing health systems policy and practice as they are easily expressed in mathematical language and consequently, evaluated and interpreted by means of statistical procedure.

3.2 Study Area and Period

The study was conducted in Tikur Anbessa Specialized Hospital; Addis Ababa and the data collection were conducted in April, 2017 among health care giving staffs working in the hospital. The hospital is selected for convenience because it is the only largest tertiary hospital and is a place of practice for significant number of health care professionals. The hospital has

200 staff doctors, 825 nurses, 75 pharmacists, 17 radiology technicians, 40 anesthetists, 62 laboratory technicians, 43 midwives and 5 social workers.

3.3 Population

The population was all staff doctors, nurses, pharmacists, radiology technicians, anesthetists, laboratory technicians, midwives and social workers who are working at different units of Tikur Anbessa Specialized Hospital.

3.4 Sample size determination

The sample size was determined using single population proportion formula for cross sectional survey as follows:

$$n = \frac{(z_{\alpha/2})^2 \cdot pq}{d^2}$$ +Non-response rate (Charan & Biswas, 2013)

Assuming that:

- Proportion of self-medication practice among health care professionals P=77.6% (Ali et al, 2013)
- q= (1-p) =22.4%
- Confidence level = 95% = 1.96
- Desired precision (d) = 0.05
- Non-response rate= 10%

The total required sample size was 294.

The sample size for the specific category of HCWs was determined proportionally:

$$\frac{\text{Total number of specific HCWs}}{\text{Total number of HCWs}}$$ X Total sample size

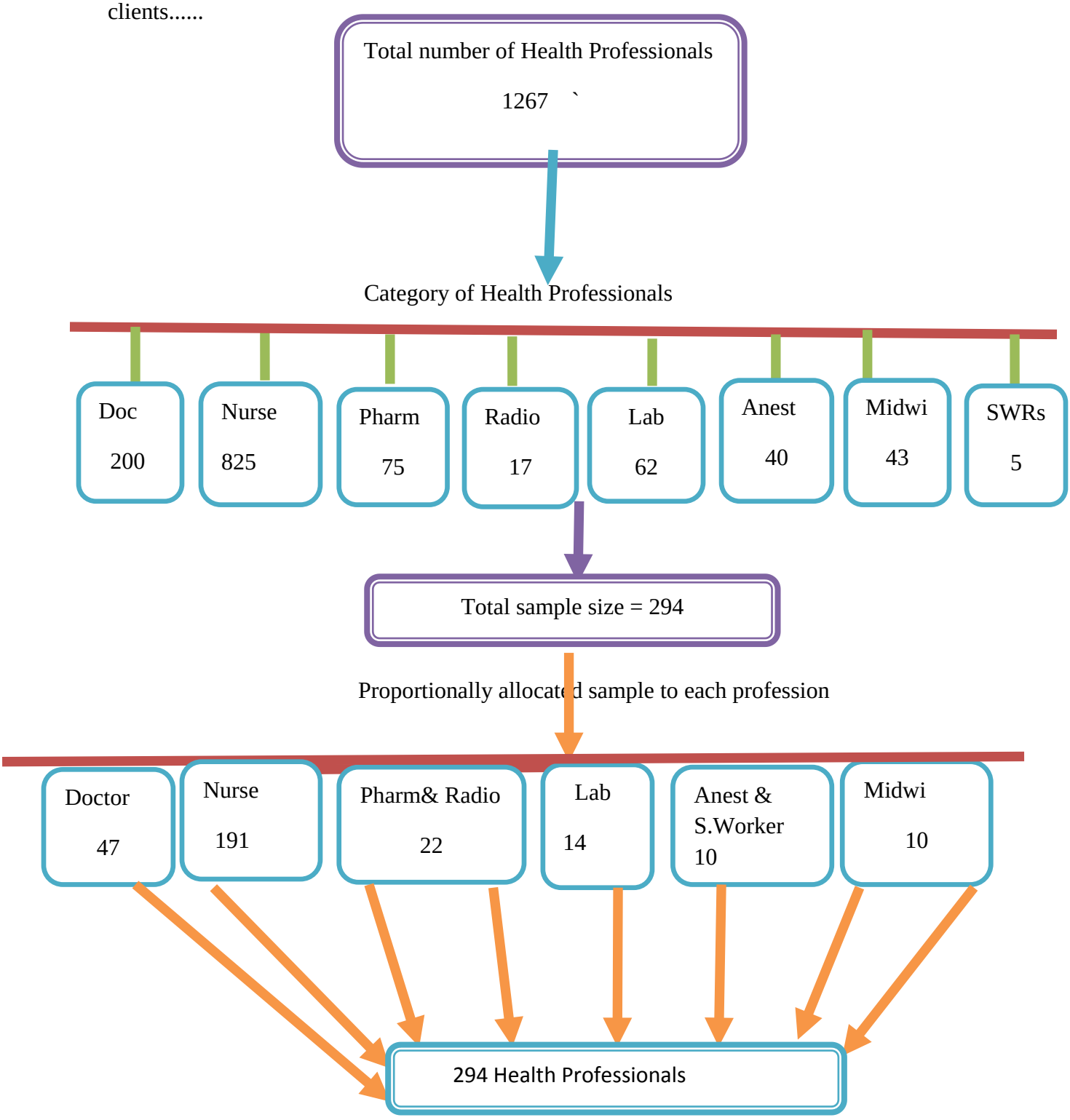

Figure 2: Schematic presentation of sampling procedure for each Category of Health care Professionals

3.5 Sampling technique

Stratified sampling technique was employed to allocate samples and to select eligible study participants from the list of health care professionals. We divide the total number of health professionals by total sample size to get the interval (k) =1267/294=4.3≈4. So, the questionnaires were given for every 4th health care professional during the data collection period based on the list from each unit. And the first sample will be selected using lottery method.

3.6 Study Variables

3.6.1 Dependent variable

-Self-medication practice

3.6.2 Independent variables

- Socio-demographic variables
  - ✓ Age
  - ✓ Sex
  - ✓ Religion
  - ✓ Level of education
  - ✓ Income
  - ✓ Job category
  - ✓ Work Experience
- Behavioral and Social factors
  - ✓ Illness was mild/ not serious
  - ✓ Prior experience
  - ✓ Emergency use

- ✓ Peer influence
- ✓ Stressful conditions

- Health service factors
  - ✓ Ease of access
  - ✓ Less expensive
  - ✓ Saves Time

3.7 Data collection tools

The data was collected from study participants by using pre-tested, structured, self-administered questionnaire adapted and modified from previous researches on similar topic (Ali et al, 2012; Boateng, 2009; Tena, 2014). It was designed in such a way that it includes all the relevant variables to meet the study objectives which consist of 20 questions divided into two sections that cover questions to assess socio-demographic characteristics and self-medication practice of respondents including questions which are helpful to identify their reasons for practice and effect of improper practice of self-medication among HCPs on themselves and patients/clients they give care for. The questionnaires were adapted, modified and developed in English language.

3.8 Data collection procedure

Data collection tools were distributed and later on collected by the principal investigator. Respondents were approached at their respective work unit. Verbal consent was taken and questionnaires were given to study participants. After they responded to the questions, questionnaires were gathered by the principal investigator.

3.9 Data quality management

There are points at which the quality of data may be affected unless measures are taken at these points. These points are questionnaire designing, data collection and data entry. As this is one of the points to control the quality of data, due emphasis was given to questionnaire designing. Objective based, logically sequenced, free of scientific terms and non-leading structured questionnaire was prepared. Pre-test was undertaken on the questionnaire before the actual data collection starts and amendment was made on the necessary points. Data collection is another area of focus to keep the quality of the data. Data was collected by the principal investigator and the collected data was checked on daily basis for any incompleteness and/or consistency.

3.10 Data processing and analysis

3.10.1 Data entry and Data Cleaning

The Data entry and cleaning was undertaken using Epidata version 3.1. Data was checked for completeness, was cleaned manually for inconsistencies and missing values before entry and any incomplete questionnaire were excluded from entry. Then during data entry, data was coded carefully and cleaning was undertaken by checking the categories of all variables for impossible codes, cross-tabulating two variables and looking for logically impossible combinations .After the entry of the whole questionnaire was completed, the soft copy of every questionnaire was once again cross-checked with its hardcopy to avoid missing values, outliers and other inconsistencies before analysis.

3.10.2 Data Analysis

SPSS version 20 for windows was used for analysis. The first step before analysis was data exploration to visualize the general feature of the data to be analyzed. At univariate level,

analysis of descriptive statistics was first carried out to have percentage values, frequency, mean and median to describe the study participants by socio-demographic, behavioral and health service factors. And then, bivariate analysis to test the strength of association between variables computed using odds ratio. After this bivariate logistic regression analysis was done to identify the relationship each independent variable has with the dependent variable. Then, variables which have association with the dependent variable were taken into multivariate logistic analysis to find out which of them have factorial association with the dependent variable. Statistical significance was declared at p-value< 0.05. Finally variables having p values less than or equal to 0.05 in multivariate analysis were considered as having a statistically significant association with self-medication practice.

3.11 Ethical considerations

Ethical clearance was obtained from institutional review board (IRB) of Addis Ababa University, College of Social Science, School of Social Work. After ethical clearance received, permission to conduct the research was asked from administrative body of Tikur Anbessa Specialized Hospital. Information sheet was prepared and given to all eligible participants of the study to obtain informed verbal consent. All participants were informed the aim and purpose of the study and their participation was voluntarily. Name of the participant was omitted from the questionnaire; instead code number was used to ensure confidentiality throughout the study period. The researcher made sure that there is no harm or risk on the respondents for being participants of the research.

CHAPTER FOUR

FINDINGS

This chapter describes the findings from the relevant variables which were obtained from the collected and analyzed data from the participants of the study.

4.1 Socio-demographic characteristics of the study population

A total of 281 respondents with response rate of 95.6% participated in the study. One hundred sixty three (65.1%) were nurses. The median age of respondents was 27 years with the minimum and maximum age of 23 and 39 years respectively. From the respondents, 159 (56.6%) were females. Regarding educational status, 231 (82.2%) was found to be first degree holders. One hundred ninety three (68.7%) of the respondents were Orthodox Christians and 193 (68.7%) of the study subjects were single. Among the respondents, 160 (56.9%) had 1 to5 years of experience and the median year of service was 5 years with a minimum and a maximum of 1 and 32 years. One hundred one (35.9%) of respondents work in different wards (Table 1).

Table 1: Socio-demographic characteristics of respondents, Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2017

Characteristics	Frequency	Percentage
Age		
20-29	150	53.4
30-39	131	46.6
Sex		
Male	122	43.4
Female	159	56.6
Educational Status		
Diploma	3	1.1
First Degree	231	82.2

Masters	17	6
Specialization	30	10.7
Religion		
Orthodox	193	68.7
Muslim	26	9.3
Protestant	57	20.3
Other* (Apostolic, Wakefata)	5	1.8
Marital status		
Single	193	68.7
Married	88	31.3
Income		
2500-5000	103	36.7
5001-10000	156	55.5
>10000	22	7.8
Job category		
Doctor	42	14.9
Pharmacist and Radiology	22	7.8
Nurse	183	65.1
Laboratory technician	14	5
Anesthetist and S.Worker	10	3.6
Midwives	10	3.6
Unit of work		
Outpatient department	24	8.5
Ward	101	35.9
Intensive care unit	33	11.7
Operation room	86	30.6
Laboratory, Radiology and Social work office	19	6.8
Pharmacy	18	6.4

4.2 Self-Medication practice of study participants

When asked about the time when they got sick recently, 150 (53.4%) of the study participants said a week ago. Concerning the immediate action they took when they got sick, 253 (90%) responded they self-medicated of which 120 (42.7%) said they self-medicated once for their last illness (Table 2).

Among those who practice self-medication, 168(59.8%) did so for headache/fever whereas, 11 (4.3%) mentioned other reason which is back pain. Regarding the question which asks what type of medication they use for self-medication, 216 (76.9%) said painkillers and 1 (0.4%) said other type of medication which is folic acid (Table 2).

Table 2: Self-Medication practice among health care professionals at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2017

Variables	Frequency	Percent
Last time of sickness recently (n=281)		
Week ago	150	53.4
Month ago	70	24.9
Three months ago	30	10.7
Six months ago	3.0	1.1
≥Year ago	28	10
Immediate Action (n=281)		
Consulted a doctor	11	4
Self-medicated	253	90
Ignored	17	6
Frequency of self-medication (n=253)		
Once	120	42.7
Twice	57	20.3
Three times	51	18.1

Four times	3.0	1.1
≥ Five times	22	7.8
Type of disease (n=253) *		
Respiratory tract infection	133	47.3
Eye disease	22	7.8
Gastro intestinal symptoms	95	33.8
Headache/Fever	168	59.8
Skin disease/Injury	27	9.6
Maternal/Menstrual pain	70	24.9
Others (back pain)	11	4.3
Type of Medication * (n=253)		
Painkillers	216	76.9
Antibiotics	92	32.7
Cough Syrup	51	18.1
Antacid	51	18.1
Oral Contraceptive Pills	12	4.3
Vitamins	27	9.6
Other (folic acid)	1	0.4

*Note: due to multiple responses for type of disease and type of medication is possible, sum of percentages >100

4.3 Reasons for self-medication practice and place of access for drugs

The major reason mentioned by the study participants who practice self-medication was mild illness 189 (67.3%) and 3 (1.2%) of the respondents mentioned other reasons like I do not trust the medical person's skill, I know the disease and because the pain was severe. One hundred eighty (65.5%) of the respondents said that they got the medicines for self-medication from pharmacy followed by work place 110 (39.1%), friends 33 (11.3%) and drug retail shops 23 (8.2%) respectively (Table 3).

Table 3: Reasons for practice of self-medication and place of access of drugs among HCPs, Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2017

Variables	Frequency	Percent
Reasons for self-medication*		
Emergency use	131	46.6
Mild illness	189	67.3
Less expensive	56	19.9
Saves time	133	47.3
Prior experience	93	33.1
Ease of access	89	31.7
Peer influence	21	7.5
Stressful conditions	47	16.7
Privacy	15	5.3
Other	3	1.2
Place*		
Work place	110	39.1
Pharmacy	184	65.5
Drug retail shops	23	8.2
friends	33	11.7

*Note: Due to multiple reasons for practice of self-medication and place where to find the drugs is possible, sum of percentages >100

4.4 Negative consequences of self-medication

Of all study participants 242 (86.1%) responded self-medication has negative consequence on both the health professional and the patients/clients. Of which 172(61.2%) said drug resistance as a consequence on health care professionals. One hundred ninety three (68.7%) said negligence on the patients/clients whereas 1(0.4%) mentioned improper patient management as the other consequence (Table 4).

Table 4: Consequence of self-medication on health care professionals and patients/ clients at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2017(N=281)

Effect of self-medication	**Frequency**	**Percent**
Negative consequence		
Yes	242	86.1
No	38	13.5
Consequence on HCPs		
Drug dependence	160	56.9
Drug resistance	172	61.2
Drug reaction	96	34.2
Worsening of disease	54	19.2
Consequence on patients		
Communication problem	142	50.5
Negligence	193	68.7
Other	1	0.4

Note: Due to multiple responses for consequence of self-medication on HCPs and patients/clients is possible, sum of percentages >100

4.5 Reasons mentioned for not practicing self medication

Concerning the reasons for study participants who had no practice of self-medication 11 (39.3%) said it's because the illness was self-limited meaning it gets resolved by itself without any intervention (Table 5).

Table 5: Reasons for not self-medicated, Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2017

Reasons for not self-medicated * (n=28)	**Frequency**	**Percent**
Self-limited	11	39.3
Severe pain	4	14.3
Hate medicines	4	14.3
Prefer hospital	8	28.6
Side-effects	8	28.6

Note: Due to multiple responses for reasons for not self-medicated is possible, sum of percentages >100

4.6 Association between socio-demographic characteristics and self-medication practice

In the bivariate analysis, educational status, religion, marital status, total monthly income, job category and current work unit of the respondents were not found to be associated with self-medication practice. Whereas, age, sex and service year were significantly associated with self-medication status of the respondents.

Study participants whose age group between 20-29 [COR: 9.1, 95% CI, (1.23-67.2)] were about 9.1 times more likely to practice self-medication as compared to those aged 30-39 years. Those who are female [COR: 2.58, 95%CI, (1.144-5.812 were found to be 2.5 times more

likely to practice self-medication as compared to males. Those respondents who have 6-10 years of work experience [COR: 10.3, 95%CI, (2.23-47.6)] were 10.3 times more likely to practice self-medication as compared to respondents who have more than 10years experience.

In the multivariate analysis, both sex and year of service showed significant association except for age. The odds of practicing self-medication was 3.6 times [AOR: 3.6, 95%CI, (1.4-9.2)] higher among females than males. Those respondents who have 1-5 years experience and 6-10 years experience are 24.9 times [24.9,95% CI, (2.1-302.2)] and 59.8 times [AOR: 59.8, 95%CI, (5.3-674.3)] more likely to practice self-medication than those who have more than 10 years of service respectively (Table 6).

Table 6: Association between socio-demographic characteristics and self-medication practice of Health Care Professionals, Tikur Anbessa Specialized Hospital, Addis Ababa, 2017

Socio-demographic Characteristics	**Self-medication**		**COR 95 CI**	**AOR 95%CI**
	Yes (%)	No (%)		
Age				
20-29	137(91.3)	13 (8.7)	9.1 (1.23-67.2)*****	0.2 (0.2-1.7)
30-39	111 (84.7)	20 (15.3)	1.00	1.00
Sex				
Male	104 (85.2)	18 (14.8)	1.00	1.00
Female	149 (93.7)	10 (6.3)	2.58 (1.14-5.8)*****	3.6 (1.4-9.2)*****
Year of Service				
1-5 year	140 (87.5)	20 (12.5)	2.8 (0.8-9.77)	24.9 (2.1-302.2)*****
6-10 year	103 (96.3)	4 (3.7)	10.3 (2.23-47.6)*****	59.8 (5.3-674.3)*****
>10year	10 (71.4)	4 (28.6)	1.00	1.00

*****Significant association COR-crude odds ratio AOR-Adjusted Odds ratio

4.7 Association between Type of disease and self-medication practice

From the data gathered concerning type of disease that respondents practice self-medication for, all mentioned type of disease showed association with self-medication practice in the binary logistic regression. However there is no significant association between type of disease and self-medication practice in the multivariate analysis (Table 7).

Table 7: Association between type of disease and self-medication practice among health care professionals, Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia, 2017

Type of disease	**Self-medication**	**COR** **95% CI**	**AOR** **95% CI**
RTI (n=253)			
Yes	133 (52.6%)	4.3 (2.8-6.5)*	---
No	120 (47.4)	1.00	
Eye disease			
Yes	22 (8.7%)	8.3 (5.6-12.2)*	
No	231 (91.3%)	1.00	
GI symptoms			
Yes	95 (37.5%)	5.64 (3.77-8.43)*	----
No	158 (62.5%)	1.00	
Headache/Fever			
Yes	168 (66.4%)	3.03 (1.9-4.6)*	----
No	85 (33.6%)	1.00	
Skin disease/Injury			
Yes	27 (10.7%)	8.1 (5.5-11.95)*	----
No	226 (89.3%)	1.00	
Maternal/menstrual pain			
Yes	70 (27.7)	6.7 (4.52-10.2)*	----
No	183 (72.33	1.00	

Other			
Yes	11 (4.3)	8.6 (5.8-12.78)*	----
No	242 (95.7)	1.00	

*Significant association

4.8 Association between type of medication and self-medication practice

In the binary logistic association, all type of medication mentioned in the study which were used by the study participants has association with self-medication practice of respondents except for painkillers. But, those variables did not show significant association in the multivariate analysis (Table 8).

Table 8: Association between type of medication and self-medication practice among health care professionals at Tikur Anbessa Specialized Hospital, Addis Ababa, 2017

Type of Medication	Self-medication	COR	AOR
Pain-killers			
Yes	216 (85.4%)	1.32 (0.81-2.2)	---
No	37 (14.6%)	1.00	
Antibiotics			
Yes	92 (36.4%)	5.8 (3.85-8.6)*	---
No	161(63.6%)	1.00	
Cough Syrup			
Yes	51 (20.2%)	7.214 (4.9-10.71)*	---
No	202 (79.8%)	1.00	
Antacid			
Yes	51 (20.2%)	7.481 (5.01-11.2)*	---
No	202 (79.8%)	1.00	
Oral Contraceptive			
pills	12 (4.7%)	8.607 (5.8-12.7)*	
Yes	241(95.3%)	1.00	---
No			
Vitamins			
Yes	27 (10.7%)	8.071 (5.5-11.95)*	---
No	223 (89.3%)	1.00	
Others			---
Yes	1 (0.4%)	9 (6.1-13.3)*	
No	252 (99.6%)	1.00	

*Significant Association

4.9 Association between reason for self-medication and self-medication practice

All reasons listed for the practice of self-medication practice showed association in binary logistic regression with self-medication practice of respondents. However there is no significant association found in the multivariate analysis (Table 9).

Table 9: Association between reason for self-medication and self-medication practice among health care professionals at Tikur Anbessa Specialized Hospital, Addis Ababa, 2017 (N=253)

Reasons	Self-medication	COR	AOR
Emergency use			
Yes	131 (51.8%)	4.4 (2.9-6.6)*	---
No	122 (48.2%)	1.00	
Mild illness			
Yes	189 (74.7%)	2.3 (1.5-3.6)*	---
No	64 (25.3%)	1.00	
Less expense			
Yes	56 (22.1%)	7.04(4.7-10.5)*	---
No	197 (77.9%)	1.00	
Saves time			
Yes	133 (52.6%)	4.3 (2.8-6.5)*	---
No	120 (47.4%)	1.00	
Prior experience			

Yes	93 (36.8%)	5.7 (3.8-8.5)*	---
No	160 (63.2%)	1.00	
Ease of access			
Yes	89 (35.2%)	5.9 (3.9-8.7)*	---
No	164 (64.8)	1.00	
Peer Influence			
Yes	21(8.3%)	8.3 (5.6-12.3)*	---
No	232 (91.7%)	1.00	
Stressful conditions			
Yes	47 (18.6%)	7.4 (4.9-10.9)*	---
No	206 (81.4%)	1.00	
Privacy			
Yes	15 (5.9%)	8.5 (5.7-12.6)*	---
No	238 (94.1%)	1.00	

4.10 Association between Self-medication practice and place of access for drugs

In the binary logistic analysis, place of access for drugs also has association with self-medication practice of the study participants. However, no significant association was found in the multivariate analysis (Table 10).

Table 10: Association between self-medication practice and place of access for drugs among health care professionals at Tikur Anbessa Specialized Hospital, Addis Ababa, 2017

Place of access of drugs	**Self-Medication**	**COR 95% CI**	**AOR 95% CI**
Work place			
Yes	110 (43.5%)	5.12 (3.41-7.7)*****	---
No	143 (56.5%)	1.00	
Pharmacy			
Yes	184 (72.7%)	2.5 (1.6-3.8)*****	---
No	69 (27.3%)	1.00	
Drug retail shops			
Yes	23 (9.1%)	8.2(5.5-12.2)*****	---
No	230 (90.1%)	1.00	
Friends			
Yes	33 (13%)	7.9 (5.3-11.6)*	---
No	220 (87%)	1.00	

CHAPTER FIVE

DISCUSSION, CONCLUSION AND IMPLICATION

This chapter will cover discussion, limitation of the study, conclusion and the implication for social work.

5.1 DISCUSSION

This section of the paper discusses findings of the study by relating them to relevant literatures. The discussion will be based on the identified themes in the data presentation section answering the research questions presented in the first chapter of this paper. The themes were prevalence of self-medication, negative consequences of self-medication, reasons mentioned for not practicing self-medication, association between socio-demographic characteristics and self-medication practice, association between type of disease and self-medication practice, association between type of medication and self-medication practice and finally association between place of access for drugs and self-medication practice. Furthermore the strength and limitations of the study are discussed here.

The strength of this study is that it can be used as baseline information for other researchers who are interested to work on self-medication. The other strength is selection of the study subjects was done using stratified random sampling technique to avoid selection bias.

The major limitation of the study is related to the fact that some issues could not be explored further since it is a survey design with quantitative approach where depth exploration could not be achieved. If a mixed method was used it would have brought a better result.

The other limitation of this study is that it is cross sectional, where causal relationship between the independent and dependent variables cannot be established. The study was limited

to Tikur Anbessa Specialized Hospital in Addis Ababa, where the research results are limited to that particular hospital and may not be generalized to all HCPs particularly those in other health settings within the country. And also the findings in this study may be prone to recall bias as they are based on participants' reported experiences.

5.1.1 Self-medication practice of respondents

Self-medication behavior has become a global trend that has been internationally reported as being on rise and can have positive as well as negative impacts. It has been noted that the increased trend of self-medication practice is not only detected in countries with advanced economy but also in developing countries (Sharif et al, 2015). I n this study, the prevalence of self-medication practice of health care workers was examined. According to the result, high percentage (90%) of the respondents practiced self-medication as an immediate action for their recent illness. This finding is in agreement with a study done in Malaysia among health care professionals (Ali et al, 2013), in Karachi Pakistan among pharmacists and non-pharmacists (Shoaib et al, 2013), in India among nurses and midwives (Swopna et al, 2016), in United Arab Emirates among pharmacists (Sharif et al, 2015) and in Ghana among doctors and pharmacists (Boateng, 2009). However, this current study included all health professionals and not specific to the professionals these reviewed studies included.

5.1.2 Association between socio-demographic characteristics and self-medication practice

In the multivariate analysis it was found that respondents who are females were found to be more likely to practice self-medication than their male counterpart. This is in accordance with another study done among medical students of a private institute in Nagpur, India (Kaskular et al, 2015) and a study done on university students in Arsi University, Ethiopia (Bekele et al,

2016). This might be related to the physiological difference they have and how they react to pain. Females have more disease burden than males including pains related to maternal and menstrual effects. However, this issue has to be explored further to reach for possible explanatory reasons.

After the multivariate analysis, it was found that respondents who have 1-5 years and 6-10 years work experience are more likely to practice self-medication as compared to those who has more than 10 years experience. This might be due to the fact that people with better work experience have a better drug knowledge on the side-effects and they also have the tendency to know the consequence of improper self-medication practice and they would rather consult a doctor than self-medicated (Sharif et al, 2015).

5.1.3 Association between type of disease and self-medication practice

Based on the results of the study, the most common illness the study participants said they practice self-medication for is headache/fever. This is in line with a study conducted in United Arab Emirates in which headache and fever were the most common symptoms for practicing self-medication (Sharif et al, 2015). Again in another study done in North India (Goel et al, 2013) headache was the most common symptom for self-medication practice.

5.1.4 Association between type of medication and self-medication practice

Concerning the type of medicine they use for self-medication, the majority (85.4%) of the respondents said painkillers (analgesics) followed by antibiotics. This result has similarity with other studies conducted at different places. A study done in Brazil among nursing workers from public hospitals in Rio de Janeiro stated that the most used subgroup of drugs was analgesics (Barros et al, 2009). In a study conducted in West Bengal India (Gosh et al, 2015) antipyretics & analgesics was the most common class of drugs self-medicated by majority of the participants of

the study. Also in another study done in Ghana among doctors and pharmacists, analgesics and antibiotics were the first and the next most used drugs for self-medication (Boateng, 2009). Similarly, a study done among health care professionals in South West Nigeria indicated analgesics as the main type of medicine used for self-medication followed by antibiotics (Babtunde et al, 2016). In a comparative study done among pharmacists and non-pharmacists in Pakistan drug commonly used for self-medication practice includes antibiotics and analgesics (Shoaib et al, 2013). According to WHO (2009), the rampant irrational uses of antibiotics not only lead to wastage of medical resources, but also contribute to the emergence of multi-drug resistant pathogens which is potentially dangerous for both individuals and societies. Anti-microbial resistance is one pitfall of self-medication (WHO, 2001).

5.1.5 Association between reason for self-medication and self-medication practice

In the present study, the major reason mentioned by the study participants who practice self-medication was mild illness which is similar with a study done in United Arab Emirates where majority of the participants responded 'health problem is not serious' as a reason for practicing self-medication (Sharif et al, 2015). It is also in line with another study done among health care professionals in South-west Nigeria, in which mild sickness is among the main reason for self-medication practice (Babatunde et al, 2016).

5.1.6 Association between self-medication practice and place of access for drugs

Regarding source of medication, majority (65.5%) of the respondents said they got the medications for self-medication from pharmacy. Similarly, in the study done among pharmacists in United Arab Emirates, the main source of obtaining medication was the pharmacy (Sharif et al, 2015).

5.1.7 Negative consequences of self-medication

According to Barros et al (2009); Babatunde et al (2016), inappropriate self-medication can cause undesirable consequences and effects, iatrogenic diseases and mask progressive diseases. It can also result in wastage of resources, resistance to pathogen and generally entails serious health hazard. Similarly, majority of the participants in this study responded improper self-medication has negative consequences on the health professional and the patients/ clients.

As a negative consequence of improper self-medication on health care professionals, 61.2% mentioned drug resistance. And 193 (68.7%) said negligence on the patients/clients. This finding has a similarity with a study on health care professionals in a Private University, Malaysia which stated that the consequences of inappropriate self-medication among HCPs have been found to have severe implications including legal, ethical, health defects, negative impacts on patient and quality of health care delivery (Ali et al, 2013). Also a review on prevalence and measure of self-medication done in Pakistan stated that the cost of negative outcomes as a consequence of self-medication may include wastage of resources, increased resistance of pathogens, and generally entails serious health hazards such as adverse reactions, drug interactions and prolonged suffering (Sherazi et al, 2012). Similarly a study done in Ghana stated that the consequences of self-medication among pharmacists and physicians have been found to have disastrous implications including legal, ethical, health defects on the health personnel, negative effects on the patient and on the quality of health delivery as a whole (Boateng, 2009).

5.1.8 Reasons mentioned for not practicing self-medication

Majority of the respondents who said they do not practice self-medication mentioned the illness was self-limited meaning the disease condition was diminished/ resolved by itself without

any intervention as the main reason for not practicing self-medication followed by fear of the side-effects. This is similar with a study done among medical students in Nepal and health care professionals in Malaysia in which they responded risk of adverse reaction as a reason against self medication (Mehta et al, 2015; Ali et al, 2013).

5.2 CONCLUSION AND SOCIAL WORK IMPLICATION

5.2.1 Conclusion

In this study self-medication practice among health care professionals was found to be high (90%). From the total respondents, 59.8% of them responded they practice self-medication for headache or fever. And painkillers were the most widely used type of medicine for self-medication followed by antibiotics. This is a serious problem which needs a better focus and intervention keeping in mind the alarming rate of antibiotic resistant pathogens.

The finding of this study showed that 'mild illness' is the major reason for self-medication practice mentioned by the study participants. And concerning the place of access of drugs for self-medication the majority said from pharmacy followed by their work place. Access of drugs from work place is mentioned in the second place. This might mean that they are taking from what is supposed to be accessed by the clients/patients at the health institution. This calls for a need of better drug control system in the hospital.

From the study participants, 86.1% agreed that improper self-medication practice has negative consequences both on the health care professional and the patients they care for. From the consequences on health care professionals, 61.2% of them responded drug resistance. Among the reasons mentioned as a consequence on the patients/clients, 68.7% accounts for negligence.

This needs to be investigated further by incorporating the views of the patients/clients to reach for a better intervention.

In the multivariate analysis age, sex and service year were found to be associated with self-medication practice. However, it is difficult to put exact reason for why this is so since these issues are not well explored in this study and it implies further research on the issues.

Based on the points mentioned above, it can be concluded that, self-medication practice among health care workers is more prevalent which must be explored in detail so as to reach for an effective intervention.

5.2.2 Social Work Implications

The findings of the study, self-medication practice among health care professionals and its effect on patients at Tikur Anbessa Specialized Hospital has the following social work implications with regards to practice, education, research and policy.

Implication for social policy

The health policy and the drug policy of the country are the major policy areas related to this study. The health policy of Ethiopia under its general strategies mentioned that health education shall be strengthened for creating awareness in the population about the rational use of drugs. The drug policy of the country also mentioned under its general strategies concerning drug use, that appropriate education, promotion, counseling etc. shall be offered in every possible way to raise the public awareness about drug use. However, both policy documents did not mention specific points regarding self-medication and the drugs that are safe to be utilized without the doctor's prescription. In this regard, there is a need to reevaluate the policies and formulate rules and regulations regarding drug use.

Implication for social work practice

As we can see from the findings of the study majority of the respondents tend to self-medicate and get an immediate relief from their symptoms rather than seeking a holistic care like by having discussion with other health care professionals and medical social workers about what causes their problem. The symptom may arise from uncomfortable work environment, stressful conditions, from their social environment etc which means it might be beyond physical need rather psychosocial and spiritual. Hence, the role of social workers in the health care setting is very vital for addressing the psychosocial and spiritual needs of the patients (health care professionals in this case), by participating in multidisciplinary teams so that, they can get service in a holistic approach.

The other thing the medical social workers can do is that encouraging the healthcare professionals to enter the patient role meaning like any other person seeking health care services, health care professionals should also be encouraged through appropriate provision of health care services rather than getting self-medicated. This could be the potential solution to decrease the high prevalence of self-medication among health care professionals.

Implication to social work education

As noted from the findings of the study the involvement of social workers in the health care setting by incorporating them as team members is very important. Since one of the field placement areas for social work students is health institutions, students and their field liaisons should recommend on observed gaps in health care delivery. It might be miscommunication between HCPs and their patients/ clients or negligence as a result of improper self-medication practice.

Research Implication

To the best of my knowledge, very few studies have been conducted regarding self-medication practice among health care professionals and its effect on patients/clients in Ethiopia. It is very clear that there is a research gap regarding this issue. Since this research explored prevalence of self-medication among HCPs, it can serve as a beginning point for researchers who are interested to do further researches on the issue.

From the findings of the study it was found that respondents with age group 20-29, those females and those who have 1-5 years and 6-10 years experience tend to self-medicate more than those with age group 30-39, those males and those who have greater than 10 years of experience. However, this issue has to be explored further to get the possible explanatory reasons. It might need the use of qualitative research to reach for the best explanations of the cases.

References

Abay SM. and Amelo W. (2010). Assessment of self-medication practices among medical, pharmacy, and health science students in Gondar University, *Ethiopia. J Young Pharm, 2,* 306-310.

Abula T. & Worku A. (2001). Self medication in three towns of North West Ethiopia. *Ethiop J Health Dev, 15, 25-30.*

Ali A.N, Kai T.K, Keat C.C & Dhanagaj SA. (2012). Self-medication practices among health care professionals in a Private University, Malaysia. *International Current Pharmaceutical Journal, 1,302*-310

Ali A.S, Ahmed J, Sonekhi G.B., Fayyaz N.,Zainulabdin Z. & Jindani R. (*2016).* Practices of self-medication with antibiotics among nursing students of Institute of Nursing, Dow University of Health Sciences, Karachi, Pakistan. *J Pak Med Assoc*, 66, 2, 3235-237.

Alano GM, Galafassi LM & Galato D. (2009). Responsible self-medication: review of the process of pharmaceutical attendance. *BJPS, 45,626-633.*

Arzi A, Ashtarinezhad A & Sarahroodi S. (2010). Antibiotic self-medication among Southern Iranian University students. *International Journal of Pharmacology, 6, 1*, 48-52.

Azhar M.I, Gunasekaran K, Kadirvelu A, GurtuS,Sadasivan S, Kshatriya BM**.** *(2013). Self-*medication: Awareness and attitude among Malaysian urban population. *International Journal of Collaborative Research on Internal Medicine & Public Health, 5 (*6), 436.

Babatunde O.A, Fadare J.O, Ojo O.J, Durowade K.A, Atoyebi O.A, Ajayi P.O& Olaniyan T. (2016). Self-medication among health workers in a tertiary institution in South-West Nigeria.*Pan African Medical Journal, 24,312* doi:10.11604/pamj.2016.24.312.8146.

Balbisi, E.A. & Ambizas, E.M. (2005). Self prescribing of non controlled substances among pharmacists. *Am J Health-Syst Pharm, 62,* 2508-2511

Barros A.R.R,Griep R.H and Rotenberg L.(2009). Self-Medication among nursing workers from public hospitals. *Rev Latino-am Enfermagem, 17(6):1015-22.*

Bekele S.A, Argaw M.D & Yalew A.W. (2016).Magnitude and Factors Associated with Self-Medication Practices among University Students: The Case of Arsi University, College of Health Science, Asella, Ethiopia: Cross-Sectional Survey Based Study. *Open Access Library Journal. DOI: 10.4236/oalib.1102738.*

Berhanemeskel W. & Seada A. (2008). Medication knowledge, attitude and practice among university of Gondar freshman students, North Western Ethiopia. *Pharmacology online ,1,*4-12.

Boateng DP. (2009). Self-medication among doctors and pharmacists at the Korle Bu Teaching Hospital, Ghana. (unpublished).

Bollu M., Vasanthi B., Chowdary P.S.,Chaitanya D.S,Nirojini P.S, Nadendla R.R. (2014). Prevalence of self-medication among the pharmacy students in Guntur: A questionnaire based study. *World Journal of Pharmacy and Pharmaceutical Sciences, 3*(12).

Busha, C. & Harter, S.P. (1980). Research Methods: Techniques and Interpretations. *Sandiego: American Press*

Chamber, R. M. (1993). What should doctors do when they become sick? *Family Practice,10,* 416-423.

Choonara, I., Gill, A. & Nunn, A. (1996). Drug toxicity and surveillance in children. *British Journal of Clinical Pharmacology, 42,* 407-410.

Christie J.D., Rosen, I.M., Bellini, L.M. (1998). Prescription drug use and self-prescription among resident physicians. *Journal of the American Medical Association, 280,* 1253-1255.

Cicala. R.S. (2003). Substance abuse among physicians: What you need to know. *Hospital Physician, 39,* 39-46.

Corrêa da Silva MG, Soares MC, Muccillo-Baisch AL. (2012).Self-medication in university students from the city of Rio Grande, Brazil. *BMC Public Health.* http://www.biomedcentral.com/1471-2458/12/339

Dabney, DA., Hollinger, RC (1999). Illicit prescription drug use among pharmacists: evidence of a paradox of familiarity. *Work and Occupations, 26,*77-106.

Dabney, A.D. (2001). Onset of illegal use of mind-altering or potentially addictive prescription drugs among pharmacist. *Journal of the American Pharmaceutical Association, 41,*392-400.

Davidson, S.K. & Schattner, P.L. (2003) Doctors health seeking behavior: a questionnaire survey. *Medical Journal of Australia, 179,*302-305.

Deep P. (1999). Biological and biopsychosocial models of health and disease in dentistry. *Journal of the Canadian Dental Association,5,*(9).http://www.cda. adc.ca/jcda/vol 496.

Ghosh A., Biswas S., Mondal K, Haldar M and Biswas S. (2015). A study on knowledge and practices of over the counter medications among 2nd year medical students. *World journal of pharmacy and pharmaceutical sciences, 4,* 1074-1081.

Goel D & Gupta S. (2013). Self-medication patterns among nursing students in North India. *Journal of Dental and Medical Sciences, 11(4), 14.*

Graziano, A.M. (1993) Research Methods: A Process of Inquiry.*USA*: *Addison Wesley Publishing Company*

Gutema GB. Gadisa DA., Kidanemariam ZA., Berhe D.F, Berhe A.H., Hadera M.H., Hailu G.S. et al. (2011). Self-medication practices among health science students: The case of Mekelle University. *Journal of Applied Pharmaceutical Science, 01,183-189.*

Health Poilcy of the Transitional Government of Ethiopia. (1993)

Husain A. & Khanum A. (2008). Self medication among university students of Islamabad, Pakistan- a preliminary study. *Southern Med Review, 1,* 14-16.

Jazul J.P, Nieto X.A. (2014). Self-Medication Practice among Allied and Non-Allied Health Students of the University of Santo Tomas. *Asia Pacific Journal of Multidisciplinary Research*, 2, 4,112-118.

Kasulkar A. & Gupta M. (2015). Self-medication practices among medical students of a private institute. *Indian Journal of Pharmaceutical Sciences, P178.*

Kenna, G. A. & Wood, M. D. (2004). Prescription subscription use by pharmacists and other health professionals. *Journal of the American Pharmacy Association, 44*, 684- 693.

Kitaw Y. (1987). Self-care: A study of three communities in Ethiopia. *Ethiop J Health Dev,2*, 2.

Lakhan, E. S. (2006). The Biopsychosocial Model of Health and Illness. http://cnx.org/content/m13589/1.2/

McAuliffe WE, Santangelo S & Magnuson E. (1987). Risk factors in drug impairment in random samples of physicians and medical students. *Int. J Addict, 322,*825-41.

Mehta R.K & Sharma S. (2015). Knowledge, attitude and practice of self-medication among medical Students. *Journal of Nursing and Health Science*, 89-90.

National Drug Policy of the Transitonal Government of Ethiopia. (1993)

Osemene KP & Lamikanra A.(2012). A study of the prevalence of self-medication practice among University students in Southwestern Nigeria. Tropical *Journal of Pharmaceutical Research, 11*, 683-685.

Partha P, Shankar PR, Sheno N. (2002). Self-medication and non-doctor prescription practices in Pokhara valley, Western Nepal: a questionnaire-based study. *BMC Family Practice, 3,*17.

Patil SB. (2015). Self-medication: Awareness and attitude among undergraduate medical students in a tertiary care medical college, Dhule, India. *National Journal of Community Medicine, 6,198-202.*

Rosen, Ilene M, Christie, Jason D, Bellini, Lisa M & Asch D.A. (2000). Self-medication.

Sexton R. (2003). Maintaining the wellbeing of GPS. *British Medical Journal,326*.

Sharif, S.I., Bugaighis, L.M.T. & Sharif, R.S. (2015) Self-medication practice among pharmacists in UAE. *Journal of Pharmacology & Pharmacy, 6*, 428-435.

Sherazi BA, Mahmood KT, Amin F, Zaka M, Riaz M, Javed A. (2012). Prevalence and Measure of Self Medication: A Review, Lahore, Pakistan. *J. Pharm. Sci. & Res.,4(3), 1774-1778*

Shimelis AB., Mesele DA & Alemayehu WY. (2016). *M*agnitude and factors associated with self-medication practices among University Students: The Case of Arsi University, College of Health Science, Asella, Ethiopia: Cross-Sectional survey based study. *Open Access Library Journal*. DOI: 10.4236/oalib.1102738.

Shoaib M.H, Yousuf R.I, Anjum F.,Saeed L, Ghayas S,Ali T, Siddiqui S.A et al. (2013). Survey based study on the use of non-prescription drugs among pharmacists and non-pharmacists. *African Journal of Pharmacy and Pharmacology, 7*, 2652-2653.

Swopna P. & Binita S. (2016). Knowledge, Attitude and Practice of Self Medication among Nurses and Midwives of a Tertiary Care Hospital. IJHRMLP, 2, 2.

Tena Mekonnen. (2014).Self-medication practices with antibiotics among urban dwellers of Bahir dar town, North West Ethiopia. (Unpublished).

Widayati A.,Suryawati S. & Charlotte de Crespigny. (2011). Self medication with antibiotics in Yogyakarta City Indonesia: a cross sectional population-based survey. *BMC Research Notes.* http://www.biomedcentral.com/1756-0500/4/491.

Worku S.& G/Mariam A. (2003). Practice of self-medication in Jimma Town. *Ethiop.J.Health Dev, 17,* 111-116.

WHO. (1998). *The Role of pharmacist in Heath Care System*. Available at:

http://www.apps.who.int/medicinedocs

WHO. (2001) Guidelines for Regulatory Assessment of Medicinal Product for the use in self-medication. *Available at: who.dedm/dsm/001. Google Scholar*

WHO (2009). Community-Based Surveillance of Antimicrobial Use and Resistance in Resource-Constrained Settings. Report on five pilot projects.

WSMI (2010). *The story of self-care and self-medication*. The World Self-Medication Industry. Available at: http://www.wsmi.org.

Annexes

Annex I

Information sheet

Dear Respondent; my name is Tigist Belete. Currently I am a graduate student at Addis Ababa University, College of Social Sciences, School of Social Work. I am conducting a research to assess self-medication practice among health care professionals and its effect on patients/ clients at Tikur Anbessa Specialized Hospital.

Purpose

The main purpose of the study is to collect information necessary to describe the level of self-medication practice among health care professionals and in order to identify the gap to recommend possible solutions. To attain this purpose your honest and genuine participation is very important and highly appreciable. I, therefore, kindly request you to fill this questionnaire as accurately and carefully as possible.

Risk

By participating in this research, you may feel that it has some discomfort especially on wasting time about 10-15 minutes to fill out the questionnaires. We hope that you will choose to participate in this study for the sake of the benefit. There is no risk of any sort that will be incurred by participating in this study.

Benefit

Participants in this study will receive no direct benefit from the study since participation is voluntary and there are no incentives. However the outcomes of the study will be indirectly beneficial in improving the practice.

Confidentiality

Please be assured that all the information gathered will be kept strictly confidential and your name does not need to be written in any page of the questionnaire. Only the researcher has access of the information and uses it for the study purpose only. You have a full right not to participate in this study. You can choose not to respond to some or all questions if you do not want to give your response. You have also the full right to withdraw from this study at any time you wish if you find it uncomfortable.

Whom to contact

If you need more information and if you have question here is the contact address of the investigator.

Tigist Belete, Tel: 0913199473,

e-mail:tg_belete@yahoo.com

Annex II

Consent form

I am informed on the study to be conducted by a Masters Student in Addis Ababa University, College of Social sciences, School of Social Work on self-medication practices among health care professionals and its effect on patients/ clients at Tikur Anbessa specialized hospital. My participation in this study is voluntary, no obligation to answer any questionnaire. I am informed that there is no harm by not answering the questions and no special benefit by answering the questions and also filling out the questionnaires will take only 10-15 minutes .I heard all the information mentioned above and willing to participate in the study.

Yes □

No □

If yes, put a tick mark in the box and continue to the next page

Self-medication practice among health care professionals and its effect among patients/ clients.....

Annex lll
Questionnaires

Addis Ababa University

College of Social Sciences

School of Social Work

A Self-administered structured questionnaire for self-medication practice among health care professionals and its effect on patients/ clients at Tikur Anbessa Specialized Hospital, Addis Ababa.

English Questionnaires
Questionnaire code _____
Instruction: Circle the responses for questions with alternatives and write in short for open- ended questions on the space provided
Part I: Respondents Socio-demographic characteristics

01. Age in completed years -------- years

02 Sex
1. M
2. F

03. Educational status

1. Diploma
2. Degree
3. Masters
4. PhD
5. Specialization
6. Other (specify)----------

04. Religion

1. Orthodox
2. Muslim
3. Catholic
4. Protestant
5. Other (specify)----------

05. Current marital status
    1. Single
    2. Married
    3. Widowed
    4. Divorced
    5. Separated

06. How much is your total monthly income? ----------birr

07. Job Category
    1. Doctor
    2. Nurse
    3. Pharmacist
    4. Radiology Technician
    5. Laboratory Technician
    6. Anaesthetist
    7. Midwife
    8. Social Worker

08. How many years of service do you have since your first graduation----------?

09. In which unit are you currently working----------?

Part II: Questions regarding self-medication practice of health care professionals

10. When was the last time you got sick recently----------?

11. What was the immediate action you took when you got sick? (**If you not self-medicated, go to the last question)**
    1. I consulted a doctor
    2. I self-medicated myself
    3. I ignored it
    4. Other, (specify)----------

12. If you self-medicated, how many times did you do for your last illness? ----------

13. For which of the following complaint(s) did you self-medicate yourself? (**Answer each of the following choices by putting a tick mark**)
    1. Respiratory Tract Infection (E.g. cough, cold, etc.) Yes □ No □
    2. Eye disease Yes □ No □
    3. Gastrointestinal symptoms(e.g Diarreha, constipation, etc) Yes □ No □

4. Headache/Fever Yes □ No □
5. Skin disease/Injury Yes □ No □
6. Maternal/Menstrual pain Yes □ No □
7. Others, Specify----------

14. What type of medications you used for self-medication? **(Multiple responses are possible)**
    1. Pain-killers
    2. Antibiotics
    3. Cough syrup
    4. Antacid
    5. Oral Contraceptive pills
    6. Vitamins
    7. Other, (specify)----------

15. What was (were) your reason(s) of self-medication with drugs? (**Answer each of the following choices by putting a tick mark**)
    1. Emergency use Yes □ No □
    2. illness was mild/ not serious Yes □ No □
    3. Less expensive Yes □ No □
    4. Saves time Yes □ No □
    5. Prior experience Yes □ No □
    6. Ease of access Yes □ No □
    7. Peer influence Yes □ No □
    8. Stressful conditions Yes □ No □
    9. Privacy Yes □ No □
    10. Others, (specify) ----------

16. From where do you get the drugs for self-medication? (**Multiple responses are possible)**
    1. my work place
    2. pharmacy
    3. Drug retail shops
    4. Friends
    5. Others, (specify)----------

17. Do you think improper practice of self-medication among health professionals has negative consequences? (**If No, stop here**)
    1. Yes
    2. No

18. If yes, what are the negative consequences on the health care professionals themselves? **(Multiple responses are possible)**

1. Drug Dependency
2. Drug resistance
3. Adverse drug reactions
4. Worsening of the disease condition
5. Others, (specify)----------

19. What are the effects of improper self-medication practice of health professionals on their patients? **Multiple responses are possible)**

1. Communication problem with their patients/clients
2. Negligence on their work
3. Others, (specify)----------

20. If not self-medicated, what was your reason? **(Multiple responses are possible)**

1. The illness was self-limited
2. The illness was severe
3. I hate taking medicines
4. I prefer to go to hospital
5. Fear of the side effects
6. Others, (specify) ----------