

**NURSES' KNOWLEDGE AND ATTITUDE TOWARDS PATIENTS  
WITH ALCOHOL USE DISORDERS AT BARINGO TEACHING  
AND REFERRAL HOSPITAL**

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**ADM NO: H58/81870/2015**

***A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT FOR  
THE AWARD OF DEGREE OF MASTER OF MEDICINE  
(PSYCHIATRY) UNIVERSITY OF NAIROBI***

**2019**

## **DECLARATION**

I declare that this dissertation entitled **“NURSES’ KNOWLEDGE AND ATTITUDE TOWARDS PATIENTS WITH ALCOHOL USE DISORDERS AT BARINGO TEACHING AND REFERRAL HOSPITAL** is my own work and that it has not been submitted either wholly or in part to this or any other university for the award of any degree.

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## **ACKNOWLEDGMENT**

I wish to to appreciate Dr .Mwayo and prof kuria and all lecturers in the department of Psychiatry who guided me during the development of the concept of my research.

## **DEDICATION**

I dedicate this dissertation to my husband Sila, my daughters Abigael, Jemosop and Amani, my parents and siblings for the patience and support during this enduring moment.

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## **LIST OF ABBREVIATIONS**

AAAPQ	Alcohol and Alcohol Problems Perception Questionnaire
AUD	Alcohol Use Disorder
AUDIT	Alcohol Use Disorder Identification Test
AUDIT-C	Alcohol Use Disorder Identification Test-Consumption
CAGE	Cut down, Annoyed, Guilty and Eye Opener
EAFAAA	Scale of Attitude towards Alcohol, Alcoholics and Alcoholism
KPAAQ	Knowledge of Psychiatric Aspects of Alcohol Use Disorder Questionnaire
MAST	Michigan Alcohol Screening Tool
MHP	Mental Health Professionals
NACADA	National Agency for the Campaign against Drug Abuse
SAAS	Substance Abuse Attitude Survey
TWEAK	Tolerance, Worried, Eye-opener, Amnesia and Cut down
WHO	World Health Organization

## **OPERATIONAL DEFINITIONS**

- Knowledge:** Knowledge is defined by one's understanding of a given topic.
- Attitude:** The set of emotions, beliefs and behaviors toward a person
- Alcohol Use Disorders:** This is a disorder caused by continuous excessive use of alcohol use in spite of clinical, social and economic impairment to an individual.

## ABSTRACT

**Introduction:** The harmful alcohol use can result into alcohol use disorder and alcohol dependence. Alcohol-related morbidity and mortality remain to be high at the hospitals. Nurses are a key resource in management and screening of patients with alcohol use disorder. Studies have found mixed finding on nurses' knowledge and attitude on alcohol use disorders. However, there is scarcity of research on this topic in Baringo County, Kenya.

**Aim:** The aim of this study was to determine the nurses' knowledge and attitude on patients with Alcohol Use Disorders at Baringo Teaching and Referral Hospital.

**Methodology:** This was a descriptive cross-sectional study which was done among nurses who were station of work was at inpatient and outpatient departments of the Baringo County Referral Hospital. Convenience sampling was used to enroll the study participants. The researcher developed a sociodemographic questionnaire. The attitude of the nurses was assessed using the Shortened Alcohol and Alcohol Problems Questionnaire while the nurses' knowledge was assessed using the Knowledge of Psychiatric Aspects of Alcohol Use Disorder Questionnaire. The sample size was 77 nurses. The inferential and descriptive statistics was analysed Using SPSS version 22.0. The results were presented in form of charts, tables narratives and graphs.

**Results** The sample size was 77. The nurses' knowledge was poor since the overall mean score was at 45.7 on the KPAAQ. The nurses only had a positive attitude towards motivation, role legitimacy and role security since their mean score were 11.3, 11.3 and 22.6 respectively on the SPPAQ. Females had significantly higher knowledge in comparison to males ( $p < 0.001$ ). Those with 6-10 years of experience had significantly higher knowledge in comparison to those with 11-20 and 0-5 years of experience ( $p = 0.008$ ). No statistical difference was found while comparing attitude to sociodemographic characteristics.

# CHAPTER ONE

## INTRODUCTION

### 1.1. Background to the study

Alcohol is one of the psychoactive substance with the ability to produce dependence property to a person. When alcohol is used in a harmful way it can result into alcohol use disorders and dependence (Osaki et al., 2016). Despite the harmful effects of alcohol, the Global Report on Alcohol and Health noted that the current drinkers were 2.348 billion people (43% of the population) in 2016. (World Health Organization, 2018). Globally, the use of alcohol was found to be the seventh leading predisposing factor for disability-adjusted years and death (Griswold et al., 2018).

In Kenya, the National Agency for the Campaign against Drug Abuse (NACADA) did a rapid situation assessment survey in 2017. The survey revealed that there was a general decline of alcohol use prevalence in 2017 (12.2%) as compared to the previous survey done in 2012 (13.6%) and 2007 (14.2%) (NACADA, 2017). In addition, the NACADA survey revealed that the lifetime prevalence of changaa (a locally made brew) use in Rift Valley Province, where Baringo County sits, is the second-highest at 12.6% in 2017. Rift valley was ranked third among eight provinces among 15-65 years respondents while assessing in prevalence of alcohol use disorders at 10.7% (NACADA, 2017). In Kenya, the management of patients with mental issues is a challenge since the ratio of psychiatrists to the patients remains low hence the need to use other healthcare workers to offer mental health care (Ndetei et al , 2007). Nurses are involved with patients and they spend a lot of time. Nurses have raised concern about their poor management of patients who are diagnosed with alcohol and other drug related issues (Mendenhall et al., 2018).

McNicholl, Goggin, and O'Donovan (2018) found out that patients presented with alcohol-related issues at hospitals in 29 emergency departments. These presentations include alcohol-related injuries, intoxication, mental health problems, comorbid physiological ailments and social problems. Out of 3,144 people who presented at the emergency care departments, 189 (5.9%) had alcohol related comorbidities (McNicholl et al., 2018). The attitude and knowledge of the health care practitioners in this study were not reported. However, other studies have detected a higher percentage of alcohol users among hospitalized patients with 12.9% in Spain (Rosón et al., 2010). This is still low as the same study showed that people with harmful alcohol use were 123 compared to the 40 (24 with hazardous and harmful use and 16 with dependence) the healthcare workers had detected (Rosón et al., 2010). The prevalence of alcohol use disorders was still found to be high at the emergency department in hospital (Adam et al., 2016). In his study in Switzerland, Adam et al., (2016) identified 631 patients who had been hospitalized due to intoxication with alcohol 7 years ago (2006-2007) in a tertiary hospital at the emergency department at in a previous study. These patients were assessed to establish the prevalence of alcohol use disorders, substance use mental health and social status use. The harmful use of alcohol among the patients had risen from thirty-eight patients (6%) to forty-two patients (13.2%). These findings were also similar in regards to patients who had been diagnosed with alcohol use disorders since the prevalence of alcohol use disorders rose from 8.8% to 35.7%. (Adam et al., 2016).

These low detection rates of patients with alcohol-related presentations was associated with lack of knowledge among nurse (Broyles et al., 2012; Griffiths, Stone, Tran, Fernandez, et Ford, 2007; Payne et al., 2014a; Soares, Vargas, et Formigoni, 2013).



In a study done among 33 nurses in 3 medical-surgical units in a hospital in Brazil through an audio-recorded focus group, lack of alcohol-related knowledge and skills was identified as one of the obstacles to screening of patients among the nurses (Broyles et al., 2012). Soares et al., (2013) compared the attitude of 84 (45%) nurses who had undergone training on basic knowledge on the care of psychoactive substance users (experimental group) to 101 (51%) nurses who had not undergone training (control group). Both groups had a negative attitude since the mean scores were 14.2 and 14.4 respectively after a post-test. Moreover, the study did not only reveal that nurses have poor knowledge but the education intervention had no impact on the experimental group since both groups had the same (<50%) mean scores (Soares et al., 2013).

One would expect that if one was a specialized nurse, he or she would have good knowledge. However, in a study done in Australia among midwives, Payne et al., (2014) found that only a third (n=57) of the midwives, knew the consequences of alcohol consumption on fetus, child and adult. (Payne et al., 2014a). In addition, Warpenius, Holmila, and Heikkilä, (2018) did a study in 7 primary health care clinics and 2 specialized clinics. Thirty-eight (58%) specialized nurses had ever used the Alcohol Use Disorder Identification Test-Consumption tool (AUDIT-C) as compared with 41 (29%) primary health care nurses. This is alarming considering all of the nurses 37 (100%) at specialized clinics would attend to patients who are alcohol intoxicated while 42 primary care nurses would attend to such patients less often (38%) (Warpenius et al., 2018). Contrary to these findings, there are studies which have shown that nurses have good knowledge of alcohol use. Manafò, Giesbrecht, and Gupta (2014) defined knowledge as having information on consumption, outcomes and health risks. Sixty-eight percent (68%) of nurses were found

to have the correct consumption knowledge. However, the health risks knowledge in this study was mixed. Half of the respondents reported that chronic conditions have a moderate risks while three quarters correctly identified the acute risks of excessive alcohol use on psychosocial and physiological outcomes.

E1 et al., (2016) did a study among 1,116 primary care health care professionals (86% medical graduates and 14% nursing graduates). They found that out that 56% of the health professionals knew the units of alcohol, 36% could differentiate binge drinking and 52.1% could recognize risky drinking. While attending to patients, 65% of the health professionals asked about alcohol consumption and 77% quantified the amount of alcohol consumed. Among the respondents, 40% found a referral to an addiction specialist or drug treatment center a necessity.

Different studies have found mixed results in regards to nurses attitude while attending to patients who drink alcohol. Pilge and Arabaci, (2016) found a negative attitude among nurses based on a mean score of 49.3 on the Attitude scale. However, some studies demonstrated a positive attitude among nurses to alcoholics (Caixeta, Pedrosa et Haas 2016, Vargas, 2013). Caixeta, Pedrosa, and Haas (2016) found that the 489 respondents had a high mean score of 3.31 while assessing the professionals' attitude towards behavioral, physical and psychological characteristics of an individual alcohol use disorder. In addition, 85.9% of respondents regarded an alcoholic as a sick individual (Caixeta et al., 2016). In another study done in Brazil among 26 nurses and 49 nurse assistants, the mean score was high at 3.32 on the attitude subdomain. This meant that the nurses had a positive attitude (Vargas, 2013)

In Kenya, Othieno, Kathuku, and Ndetei, (2000) found that alcohol and tobacco use was common among patients at two urban health centers in Jericho and Kenyatta University and one rural health center in Muranga district. The lifetime prevalence of alcohol use at the two urban health centers and one rural health center was 54%, 62 % and 54% respectively. Despite the fact that the patients were found to have a high prevalence of alcohol use , nurses have reported poor management. Mendenhall et al., (2018) did a qualitative study among 60 nurses from a privately owned hospital (n=20), an urban (n=20) and rural public hospital (n=20). Six nurses reported that the care and management of patients who had been diagnosed with alcohol and other drug related issues should be improved at the hospitals (Mendenhall et al., 2018).

There is poverty of literature related nurses' knowledge and attitude on alcohol use disorder regionally and in Kenya. However, Muthoni (2016) did a study among nurses in Embu level five hospital. Most of the nurses (48, 65.8%) didn't know about standardized tools for screening patients. In addition, previous training among nurses did not improve their attitude (Muthoni, 2016).

It is therefore important to focus on the knowledge and attitude of nurses towards patients with alcohol use disorder so that intervention programs and strategies are developed and implemented. This would subsequently improve the management of patients with alcohol use.

## **1.2 Problem Statement**

Despite the fact that WHO has recommended screening and brief intervention while managing patients, several studies have reported that not all nurses follow the laid down protocols (Payne et al., 2014a; Warpenius et al., 2018). There are mixed results in studies in relation to nurse's knowledge as some studies report that nurses have good knowledge (Vargas, 2013) yet others report lack of knowledge (Broyles et al., 2012; Griffiths et al., 2007; Soares et al., 2013). The same is exemplified in attitude among nurses as some studies report positive attitude towards patients who have been diagnosed with alcoholic use disorder (Caixeta et al., 2016; Vargas, 2013) while others report negative attitudes (Raistrick, Tober, et Unsworth, 2015). In Kenya, there is paucity of literature in relation to the nurse's knowledge and attitude on patients who are diagnosed with alcohol use disorder. The lack of this knowledge means that we are not sure of effective implementation of the Kenyan national protocol for the management of substance use disorders which was to be utilised among health care workers (Ministry of Health Kenya, 2017). It was for this concern and mixed research findings in other countries that it was necessary to study the nurses' knowledge and attitude towards alcohol use disorder in Baringo County, Kenya.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

This chapter represents related literature, a conceptual framework, rationale, study questions and objectives. The literature includes attitude towards alcohol use disorder and knowledge on alcohol use disorder.

#### **2.1 Attitude towards Alcohol Use Disorder**

Attitude is referred to as a person's position towards a certain situation or person (Al, 2011). The nurses' attitude may be determined by the presence of previous training, level of education, work experiences or one personal experience with alcohol use. The attitude of nurses has been shown to have an effect on the care of patients. A systemic review was done by Van Boekel, Brouwers, Van Weeghel, and Garretsen, (2013) found a negative attitude among nurses resulted to poorer services to substance users compared to other types of patients.

Pilge (2016) defined attitude as the willingness of nurses to maintain a social distance from a substance user. An Attitude Scale was used to determine the nurses' attitude towards patients who were dependent on a substance. In her study, she found the nurses' attitude to be negative. This was indicated by a low mean score of 49.43. A comparison of the effect of training on nurses' attitude was also made. Seventeen nurses who had been trained in substance addiction had a higher mean (46.29) than sixty-eight nurses who had not been training (42.18).

Some authors used Scale of Attitude towards Alcohol, Alcoholics and Alcoholism (EAFAAA) to study the attitude of nurses towards alcoholic patients (Caixeta et al., 2016;

Vargas, 2013). The EAFAAA covers various factors which are addressed in the attitude subscales : s1) attitudes towards alcoholic patients, work and interpersonal relations; s2) attitudes towards etiology of alcoholism; s3) attitudes toward alcoholism as a disease; s4) attitude towards consequences of alcohol abuse/uses; s5) attitudes towards alcoholic beverages. Using this scale, Vargas (2013) found out that the attitude among 75 nurses in 8 specialized clinics in Brazil was positive. This was because demonstrated by a high mean at 3.32 on the attitude subscale . A comparison between the factors in EAFAAA scale showed that factor 1 had the highest mean. However, Caixeta et al., (2016) put more emphasis on factor 2 in EAFAAA, which had a mean score of 3.31. Therefore the attitude among the 489 health professionals in 59 primary health care units in Brazil was positive. In regard to training, Vargas (2013) found that the nurses who had previous training on alcohol and other drugs scored better on the attitude scale. The general mean score on the EAFAAA was of 3.7 for the trained nurses and 3.3 among untrained nurses.

Raistrick et al., (2015) did a study among 258 health professionals in general hospital to determine their attitude towards substance users using the modified version of the Alcohol and Alcohol Problems Perception Questionnaire (AAPPQ). This tool contains 4 subdomains:, self efficacy,role legitimacy, positive expectancy and role adequacy . The score on each subscale ranges from 1 to 25. All the subscale scores added up to give rise to an overall therapeutic attitude which ranges from 0-100. The attitude was found to be negative because the overall therapeutic attitude was below average among the health professionals.Health assistants had the highest score (36.8) on the overall therapeutic attitude followed by nurses (32.1) then lastly by doctors (28.6). However, 97 trained health

professionals had a more positive attitude than the 175 untrained health professionals since the overall therapeutic attitude 35.6 and 25.5 respectively.

In a study done by Akinola (2015), among Mental Health Professionals (MHP) in different hospitals in Nigeria, the attitude of the MHP towards their responsibility in handling substance abuse and disorders related to drug use was based on the Substance Abuse Attitude Survey (SAAS). This instrument contains various attitudinal subscales: non-moralism, non-stereotypes, treatment interventions, treatment optimism and permissiveness. The MHP were found to be non-pessimistic, moralistic and stereotypic. Despite the fact that respondents were quite moralistic, 209 (73.1%) respondents were against angry confrontation while managing drug-using clients. In addition, 112 respondents agreed that drug addiction is a treatable illness. However, 199 respondents were not comfortable working with drug users.

A study by Muthoni, (2016) found that attitude of nurses who had previous training on alcohol and drug abuse was similar to the nurses who had not been trained. The nurses attitude towards screening was not related to the presence of previous training. This was demonstrated by the chi-square value of  $X^2 = 0.542$ . However, this study was on the attitude of nurses towards screening and brief intervention. The study was not for health workers in Baringo County, and therefore a knowledge gap on health workers' attitude towards patients with alcohol use disorder still exists.

## **2.2 Knowledge of Alcohol Use**

Knowledge is one's understanding on a given topic. In most of the studies, knowledge was assessed by a questionnaire. The questionnaires were developed from literature reviews and surveys which had been carried out among health professionals (Kishore et al., 2011; Manafò et al., 2014; Payne et al., 2014c; Vargas, 2013).

A study was done by Jaworowski et al., (2018) among 23 interns, 38 residents, 23 nurses and 48 consultants to assess their knowledge about alcohol-related harm in several departments in a general hospital in Israel. The health care workers' knowledge on alcohol-related harm was assessed using a questionnaire on Knowledge of Psychiatric Aspects on Alcohol Use Disorder Questionnaire (KPAAQ). This questionnaire assessed the healthcare workers' knowledge on metabolism of alcohol, effects of alcohol, alcohol use disorder, alcohol withdrawal and alcohol and pregnancy. The participant response to a question was either true or false on the KPAAQ. The scores ranged between 0 to 100 points. The confidence interval on alcohol withdrawal and alcohol metabolism was below 40% and 44% respectively among all the health workers. Of note, it is that the twenty-three nurses had an overall mean score of 45 on the KPAAQ. On comparison of the nurses' mean scores on the various categories on the KPAAQ from the lowest to the highest scores were as follows: alcohol withdrawal (25), on metabolism of alcohol (35), on long term implication of alcohol use (55), short term implication of alcohol use (58), on alcohol use disorder (59) on alcohol use in pregnancy (63). (Jaworowski et al., 2018).

Broyles et al., (2012) did a qualitative study among thirty-three nurses and paucity of knowledge was an obstacle in the while delivering brief intervention, alcohol screening



and referring patients for further management. Most of the nurses said that they could treat acute withdrawal symptoms but could not categorize alcohol risk and offer appropriate intervention accordingly. The National Institute on Alcohol Abuse and Alcoholism has clearly defined a standard drink as having 14 grams of pure alcohol. However, some nurses were unfamiliar with these guidelines.

Griffiths et al., (2007) did a study among nurses in a two types of clinics in district and referral hospital. Twenty-one (38%) nurses knew the amount of alcohol in found in standard drink. In regards to the acceptable amount of alcohol that can be consumed by an individual, 20 (33%) nurses were able to give the right responses for men. In addition, 27 (45%) nurses gave the right responses for women. Fourteen (24%) respondents said that alcohol withdrawal could be treated without medication while 49 (89%) noted that thiamine administration was important in patients with alcohol dependence. Forty-one nurses (69%) had minimal or no knowledge about the clinical presentation of alcohol withdrawal while 35 (59%) could identify the symptoms and signs related to alcohol withdrawal. Moreover, most of the nurses (n=48, 82%) nurses could effectively offer alcohol detoxification.

Wheeler, Crozier, Robinson, Pawlow, and Mihala, (2014) found that 23 (41.8%) nurses and 24 (43.6%) of nurses were able to identify the daily total number drinks that make up a standard drinks for male and female respectively. In addition, they also assessed the knowledge of health workers in regard to the standard drinks equivalents in different types of alcohol. Thirty nurses (69.6%) knew the correct quantity of spirit in a standard drink while 30 (52.6%) nurses identified the number of cans of beer in a standard drink. However, 35 (61.4%) nurses correctly answered the amount of wine in a standard drink.

Soares et al., (2013) found that the presence of previous training on alcohol and drugs, specialization in mental health among nurses was shown to improve knowledge on alcohol use and related problems. Nurses who had been educated on alcohol and drugs scored a high mean score (6.7) in comparison to nurses who had not been educated (5.6). These findings were still the same among specialized nurses. Their mean score was higher (6.0) than that of the non-specialized nurses (5.0) (Soares et al., 2013).

A study was done by Muthoni, (2016) among nurses in a hospital in Kenya to evaluate the impact of training on alcohol and other substances on their attitude to offering brief intervention and alcohol screening. Most of the nurses (48, 65.8%) were not aware of the standardized tool for screening patients for alcohol use. However, 25 (34.2%) nurses knew about standardized alcohol screening tools. The screening tools included alcohol blow, blood levels of alcohol, CAGE (Cut down, Annoyed, Guilty and Eye Opener) alcohol screening index, Michigan Alcohol Screening Test (MAST) and random blood sugars. The literature still had gaps in knowledge of alcohol use disorder among the health care workers of Baringo County, the subject of this study.

Through the review of literature, some studies found out that the attitude among health care workers may either be positive or negative towards patients who had been diagnosed with alcohol use disorder. The nurses' knowledge varied depending on the level of education and the presence of training. There was paucity of literature regarding health care workers' knowledge and attitudes in Kenya and especially in Baringo County.

### **2.3 Conceptual Framework**



**Confounding Factors:**

Psychiatric nurses

**Figure 2.1: Conceptual Framework**

The conceptual framework demonstrates the relation between the independent factors, dependent factors, confounding and moderating factors. The dependent factors include knowledge and attitude towards Alcohol Use Disorders which are directly affected by the independent factor. While the moderating factors include work experience, level of education, age, sex and level of training.

## **2.4 Rationale**

Nurses are the primary caregivers of patients and they spend a lot of time with them. They are suitable to screen patients for alcohol use and comorbidity, offer brief interventions and refer patients for specialized care. These aides in early diagnosis and management of alcohol use and prevent patients from developing alcohol-related complications (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001). The lack of such a study makes it difficult for the county and national government to know whether nurses have the knowledge or what are their attitudes. This will hinder the county government from making appropriate policies and recommendations.

## **2.5 Study Question**

1. What is the nurses' knowledge of alcohol use disorder in Baringo Teaching and Referral Hospital?
2. What is the nurses' attitude towards patients with alcohol use disorders in Baringo Teaching and Referral Hospital?

## **2.6 Broad Objective**

1. To determine nurses' knowledge and attitude towards patients with alcohol use disorder in Baringo Teaching and Referral Hospital.

## **2.7 Specific Objectives**

1. To find out the knowledge on alcohol use disorder among nurses at Baringo Teaching and Referral Hospital

2. To establish the nurses' attitude towards patients with alcohol use disorder at Baringo Teaching and Referral Hospital.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This was a descriptive cross-sectional study aimed at determining the knowledge and attitude of nurses on alcohol use disorder at Baringo Teaching and Referral Hospital.

1. Independent Variable-Nurses managing patients with Alcohol Use Disorders
2. Dependent Variable-Knowledge and Attitude on Alcohol Use Disorders.

#### **3.2 Study Area**

The study was carried out in Baringo Teaching and Referral Hospital which is a level five facility. The hospital serves a total number of 555,561 people and is the largest in the county(Kenya National Bureau of Statistics, 2009). The hospital is located in Baringo Central constituency in Baringo County, Kapropita ward and 500 meters south of Kabarnet town. It is next to Kenya Medical Training College, Kabarnet campus.

The hospital also acts as a referral point for complex cases from level 4 hospitals, health care centers in Baringo county. The hospital has an inpatient, outpatient, theatre and accident and emergency departments. The outpatient clinics include medical, gynaecological, obstetrics, surgical, paediatrics, dental, psychiatric and comprehensive care. The in-patient department includes maternity, gynaecology, medical, paediatric and surgical wards. Other services are minor and major theatres. The Hospital has a bed capacity of 163 beds with 93 nursing staff. The nurses have different qualification levels which include enrolled nurses, registered nurses, nursing officers and other nurses have a master's degree. The paediatric, surgical, gynaecological and medical clinic is run by one

nurse during the day on different days of the week. The dental clinic is run by one nurse while the comprehensive care clinic has two nurses. However, the nurses in the inpatient, theatres, and casualty and emergency departments work in shifts since these departments' runs for 24 hours. Ten nurses are in the pediatric ward, twelve in maternity, fifteen in the surgical ward, fifteen in the medical ward, ten in the gynecological ward 5 in the critical care unit and 5 in the renal clinic. Twelve nurses work at theatres and 15 in the accident and emergency department.

### **3.3 Study Population**

The study participants included nurses who are working at the referral hospital.

### **3.4 Inclusion Criteria**

The nurses included in this study fulfilled these criteria:

1. Should voluntarily be willing to participate in the study.

### **3.5 Exclusion Criteria**

1. Participants who are away from duty on either annual leave, maternity or study leave.
2. Nurses away from duty for any other reason at the time of study
3. Refusal to participate in the study.

### **3.6 Sample Size Determination.**

Fishers et al., 1998 was used to calculate the sample size,

$$\text{Sample size } (n) = \frac{Z^2pq}{d^2}$$

$n$  =Sample size

$p$  = Proportion in target population: since  $p$  is not known, 0.5 was used as a standardized estimate.

$$q = (1-p) \text{ standardized} = 1.0 - p = 0.5$$

$$Z = 1.96 \text{ (standard deviation)}$$

$$d = 0.05 \text{ (degree of accuracy)}$$

The confidence interval = 95% confidence level which has an error of 0.05 .

The level of significance = 0.05

$$\begin{aligned} (n) &= \frac{Z^2 pq}{d^2} \\ &= \frac{(1.96)^2 \times 0.5 \times 0.5}{0.05^2} \\ &= 384.16 \end{aligned}$$

The population that was being targeted was not more than 10,000; therefore, the researcher used the adjusted formula to calculate the final sample size.

$$nf = \frac{n}{1 + \left\{ \frac{n}{N} \right\}}$$

$n$  = calculated sample size,

$nf$  = is required sample size when the population is not more than 10,000.

$$n = 384$$

$N$  = Total population

$$nf = \frac{384}{1 + \frac{384}{93}}$$

$$= 75$$



### **3.6.1 Sampling Method**

Purposive sampling was used to determine the hospital where the study is going to be carried out. This was based on the fact that this is the largest hospital in the county of Baringo and the number of nurses and patients are many are at this health facility. Convenience sampling was used to determine the respondents. The researcher approached any nurse who was working in the outpatient department, inpatient department, theatre, and the accident and emergency department irrespective of their cadre. A nurse who has previously answered the questionnaire was thanked and exempted and another nurse was approached .The sampling was done daily on different days until the required threshold was achieved.

### **3.7 Data collection instruments.**

#### **3.7.1. Social demographic questionnaire**

The researcher designed a questionnaire which was used to obtain the nurses social-demographic characteristics .

#### **3.7.2. Knowledge questionnaire**

The researcher used the Knowledge of Psychiatric Aspects of Alcohol Use Disorders Questionnaire (KPAAQ) (Jaworowski et al., 2018, 2014). The KPAAQ contains 50 questions. The participant had to choose one response from the three alternatives for each question: true, false or don't know. Each participant answer was assessed as to whether the response was wrong or not. Two points were awarded to every correct response. The total minimum score was 0 while the total maximum score was 100. The questionnaire has 6 sections which include metabolic process of alcohol, alcohol use

disorder, alcohol withdrawal, effects of alcohol use during pregnancy, short and long term consequences of alcohol. The KPAAQ demonstrated validity  $r(209) = .674$ ,  $P < 0.001$  and it is also reliable (Cronbach  $\alpha = 0.92$ ) (Jaworowski et al., 2014).

### **3.7.3 Attitude Questionnaire**

The Shortened Alcohol and Alcohol problems questionnaire was used to assess the nurses' attitude towards alcohol use. (SAAPQ). This questionnaire has been used in several studies to determine the attitude of health care workers to alcoholics (Anderson et al., 2003; Crothers & Dorrian, 2011; Raistrick et al., 2015; Wheeler et al., 2014). The SAAPQ was derived from Alcohol and Alcohol Problems Questionnaire whose reliability had been tested based on the Cronbach  $\alpha$  ranged between 0.7 to 0.9 for the 7 scales ((Anderson & Clement, 1987; Cartwright, 1980). The domains in the questionnaire include: role adequacy, task-specific, role legitimacy, motivation, and work satisfaction. Motivation is defined as the health professionals willing to work with alcoholics while role adequacy is how one feels about their knowledge of alcohol. In task-specific esteem refers to one's esteem while doing a certain activity while work satisfaction refers to level of accomplishing after working with alcoholics. Role legitimacy refers to what extent one feels it's their right to work with alcoholics. Each domain has two subscale questions. The questionnaire has a seven point scale which was used to gauge participants' agreement with the statements on the questionnaire. This scale ranges from strongly agree, quite strongly agree, agree, neither agree nor disagree, disagree quite strongly disagree and strongly disagree. Each domain score gave a score a minimum score of 2 and a maximum

score of 14 . A participant who attained a score above 8 was regarded to have a positive attitude while a score below 8 was negative and score of 8 was neutral.

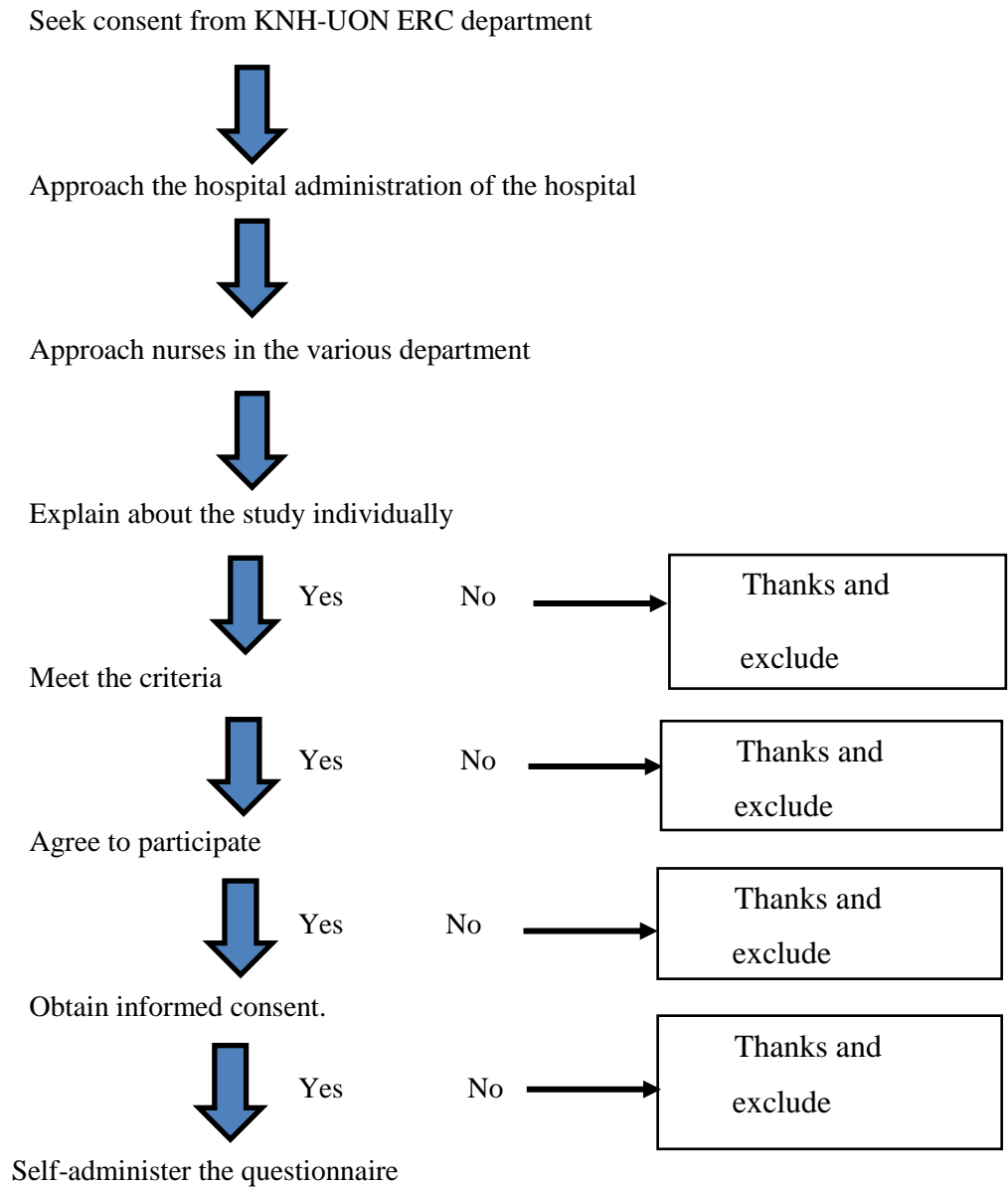
### **3.8. Pre-test**

A pretest was carried out at the Kiambu Level Five Hospital at the general outpatient department and wards. A sample size of 20 nurses was used. The pre-test that was carried out to assess accuracy, clarity and approximate time needed for each tool.

### **3.9 Data Collection Procedure**

During the days that data was being collected, nurses who were working in the outpatient department at the Baringo Teaching and Referral Hospital were approached by the researcher in their tea room at their work station during their tea break at around 10 am. The nurses who worked in the inpatient department were approached when they were changing shifts at around 6.30 pm at the nurses' tea room. The researcher explained the details of the study that she wanted to carry out after introducing herself. The researcher answered any questions raised by the participants. Written consent was individually sought from the nurses at the nurses' room by the researcher. Each nurse was assured that decline to participate will not prejudice their work or benefits she enjoys as a worker and that participation was entirely on a voluntary. In addition, confidentiality was observed as no name or employment number was written on the questionnaire. The participants who gave consent received a questionnaire which they filled by themselves to at the nurses' tea room during their free time. Once the participants completed filling the questionnaires, she/he put it in a sealed envelope and the researcher picked it at the appointed time agreed with the participant. Participants were given the contacts of the researcher to help in

communicating any issues of concern after the period of interview. The researcher always thanked the participants were for their time and for agreeing to be part of the study.



**Figure 3.1: Data Collection Procedure Flowchart**

### **3.10 Quality Assurance Procedure**

1. The research proposal was defended at the University of Nairobi, Department of Psychiatry and reviewed by Kenyatta National Hospital - University of Nairobi Ethics and Research Committee.
2. The Ethics and Research Committee ensured that the proposal had passed the quality threshold and the researcher fully understood their area of study, including potential risks and benefits.
3. The researcher is a postgraduate student who had been trained on the research methods and data collection tools required for the study at the University of Nairobi. The researcher worked under the supervision of University of Nairobi Supervisors.
4. Emphasis was put on explaining the consent form to ascertain that the participants understood the contents of the questionnaire and the purpose of the study.
5. The results of the research were presented to the Department of psychiatry in the University of Nairobi Department and Kenyatta National Hospital – the University of Nairobi Ethics and Research Committee for peer review.

### **3.11 Ethical Considerations**

The study approval was sought from the Ethics and Research Committee of Kenyatta National Hospital and the University of Nairobi management prior to carrying out the study.

The management of Baringo County Referral Hospital was informed on the intention to carry out the study at their institution and the purpose of the study was explained to them. The medical superintendent of the hospital issued a written consent.

Informed consent was sought.

Confidentiality was observed throughout the whole process of data collection and data management. There were no identifiers on the study instrument as serial numbers were used instead of names.

The researcher ensured that the data collected including any research material was stored in a lock and key cabinet at the data entry site and only accessible to the researcher as hard copies. The soft copies were stored in a Microsoft database that is password protected to preserve the confidentiality of all participants involved in the research study.

### **3.12 Data Management**

The collected data were checked daily for completeness by the researcher. The researcher transported the hard data in a sealed enveloped via private vehicle from hospital to the researcher's data entry site where the hard data was stored in a lockable cabinet.

### **3.13 Data Analysis**

The data were double entered in SPSS version 23.0. It was protected in a password-protected computer. It was cleaned and then analyzed. Quantitative data was analyzed. Descriptive statistics were used to examine the general characteristics of the participants and their knowledge and attitude by means of means and standard deviations for continuous

variables; proportions for categorical variables, this was summarized in form of tables and graphs.

Chi-square/Fischer's exact test was used to identify group differences between the knowledge and Attitude and socio-demographic characteristics depending on the distribution of the independent variables. The tests used were two-sided and statistical significances were set at  $P < 0.05$ .

### **3.14 Study Results Dissemination**

1. The result of the research was presented to the University of Nairobi Department of Psychiatry and Kenyatta National Hospital – the University of Nairobi Ethics and Research Committee.
2. The results of the research were presented to Baringo County Referral Hospital nurses and administrators.
3. The results were presented to the University of Nairobi repository.

### **3.15 Study Limitations**

The hospital was very busy hence it may be difficult for the nurses to complete the questionnaire at one sitting. To mitigate this limitation, I gave the respondents more time to administer the questionnaires and pick them after a day or two.

## **CHAPTER FOUR**

### **RESULTS**

#### **4.0 Introduction**

The chapter presents the results of the study . The broad objective of the study was to determine the Knowledge and Attitude of Nurses towards patients with Alcohol Use Disorder at Baringo Teaching and Referral Hospital.

The total number of participants recruited in the study is 77 and all gave a response giving a prevalence of 103 % who participated in the study.

#### **4.1 Socio-demographic characteristics**

Most (74.0%) participants are 30 years and below. Slightly more than half (53.2%) were males, nearly all (92.8%) were Christians (i.e. Catholics and Protestants) while the rest were Muslims (6%). About half (53.2%) were registered nurse with an education level of diploma. The majority (72.7%) of the respondents had minimal work experience at 0-5 years . These results are shown in Table 1.

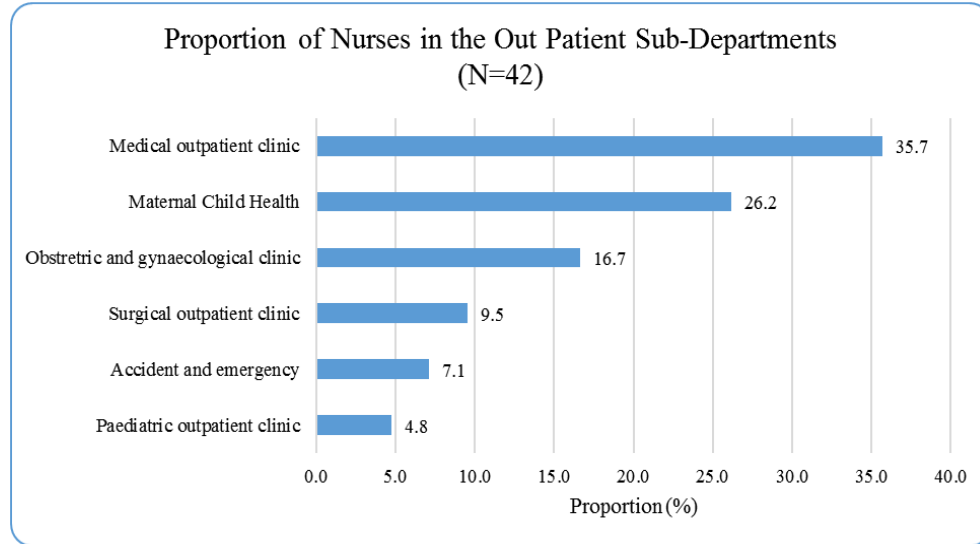


**Table 1: Socio-demographic Characteristics of the Respondents**

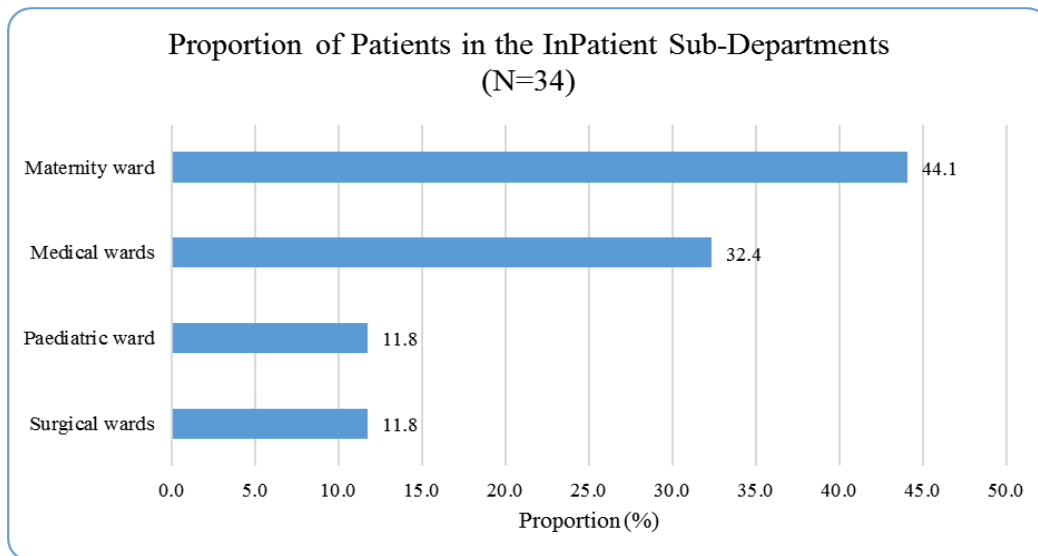
<b>Variable</b>	<b>Category</b>	<b>Frequency (N=77)</b>	<b>Percentage (%)</b>
Age	30 Years and Below	57	74.0
	31-40 Years	15	19.5
	41-50 Years	5	6.5
Gender	Male	41	53.2
	Female	36	46.8
Religion	Protestant	35	45.5
	Catholic	36	46.8
	Muslim	6	7.8
Marital Status	Married	33	42.9
	Single/Unmarried	44	57.1
Cadre	Enrolled nurse	24	31.2
	Registered nurse	41	53.2
	Student Nurse	12	15.6
Work Experience In years	0-5	56	72.7
	6-10	12	15.6
	11-20	9	11.7
Education Level	Student	12	15.6
	Certificate	24	31.2
	Diploma and Above	41	53.2
Department	Inpatient	35	45.5
	Outpatient	42	54.5

Among the nurses in the outpatient department, 35.7% were attached to the medical outpatient clinic. In the inpatient sub-departments, a majority 44.1% were attached to the maternity ward. These results are presented in Figure 4.1 and 4. 2.

**Figure 4.1: Proportion of Nurses in the Outpatient sub-departments**



**Figure 4.2: Proportion of Nurses in the Inpatient sub-departments**



## 4.2 Knowledge of Alcohol Use Disorders

Knowledge on Alcohol Use Disorders was assessed using the KPAAQ which has 6 subscales.

In the *metabolism of alcohol subscale*, the majority of nurses (67.5%) were able to answer correctly the question of eating while drinking will slow down the absorption of alcohol into the body

In the *short-term consequences of alcohol use subscale*, most of the nurses (66.5%) were able to answer the question on many people drink to escape from problems, loneliness and depression. In the long *term effects of alcohol use subscale* which contains four questions which the nurses scored above average (50%) in all the questions apart from the question on thiamine is used to prevent the development of korsakoff Amnestic syndrome (42.9%).

In the *alcohol use disorder subscale*, majority of the nurses (76.6%) correctly answered the question on the “about 30 % of people suffering from alcohol abuse suffer from a mood disorder during their lifetime”.

In the *alcohol withdrawal subscale*, about half of the nurses (58.4%) correctly answered the question on autonomic hyperactivity is a feature of delirium tremens.

On the *alcohol use in pregnancy subscale*, the majority of nurses (77.5%) were able to answer alcohol consumption during pregnancy does not affect the child's postnatal development.

Table 3 presents the proportion of correct answers to each of the 50 questions in the KPAAQ questionnaire disaggregated by each of the 6 domains. Each correct answer is given 2 points, the total score would range between 0-100 points.

**Table 2: Frequency and Percentage of the correct responses to the Knowledge of Psychiatric Aspects of Alcohol Use Disorder questionnaire among the Nurses disaggregated by the six subscales.**

<b>Metabolism of Alcohol Subscale</b>	<b>Frequency (N=77)</b>	<b>Percentage (%)</b>
1. Drinking milk before drinking an alcoholic beverage will slow the absorption of alcohol into the body (SAQ)	51	66.2
8. GGT (Gamma Glutamyl Transpeptidase) is the most sensitive enzyme available to detect alcohol abuse	48	62.3
10. Alcoholic drinks mixed with water will affect you faster than alcohol drunk straight (SAQ)	29	37.7
11. A person weighing 70kg, to keep his blood alcohol concentration below the legally intoxicated level, would have to drink fewer than 3 beers in an hour (SAQ)	28	36.4
15. Spirits drinks (whiskeys, gin vodka, etc.) usually contain about 15 % alcohol by volume (SAQ)	15	19.5
17. It takes about as many hours as the number of beers drunk to completely burn up the alcohol ingested (SAQ)	28	36.4
21. Proof on a bottle of alcoholic drink represents approximately half the percent of alcohol contained in the bottle (SAQ)	37	48.1
23. Eating while drinking will slow down the absorption of alcohol into the body (SAQ)	52	67.5
30. In an average sized person, the amount of alcohol consumed from one standard drink is metabolized in 20 minutes (SAQ)	21	27.3
32. Women have higher levels of alcohol dehydrogenase than men	35	45.5
<b>Short term Consequences of alcohol use Subscale</b>		
3. Alcoholic beverages do not provide weight –increasing calories (SAQ)	34	44.2
5. Alcohol is usually classified as a stimulant (SAQ)	15	19.5
9. Many people drink to escape to escape from problems, loneliness and depression (SAQ)	51	66.2
13. To prevent from getting a hangover, one should sip one’s drink slowly, drink and eat at the same time, space drinks over a period of time, and not drink over one’s limit (SAQ)	37	48.1
14. Drinking in moderation can result in relaxation, enhanced social interactions, and a feeling of wellbeing. (SAQ)	36	46.8
19. A blood alcohol concentration of 0.02% causes a person to be in stupor (SAQ)	18	23.4

20. A glass of beer has very few calories so it has no impact on a diet (SAQ)	33	42.9
22. Beer usually contains from 2-5 % alcohol by volume (SAQ)	42	54.5
24. Drinking coffee or taking a cold shower can be an effective way of sobering up (SAQ)	47	61.0
25. Consuming alcoholic drinks mixed with water is a way of avoiding getting drunk	29	37.7
33. Hypoglycemia may be caused by acute alcohol intoxication	50	64.9
43. Alcohol use rarely causes disturbed sleep	44	57.1

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**Long term effects of alcohol use Subscale**

6. Alcohol is not an addictive drug (SAQ)	59	76.6
26. Alcohol use is associated with about 50% of homicides and 25 % suicides	54	70.1
27. Alcohol abuse reduces life expectancy by about 10 years	49	63.6
41. Thiamine is used to prevent the development of Korsakoffs Amnestic Syndrome	33	42.9

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**Alcohol Use Disorder Subscale**

4. Binge drinking of alcoholic beverages is more common in older	26	33.8
7. The AUDIT questionnaire is a test for alcohol use disorder	29	37.7
12. A person cannot become an alcoholic by just drinking beer (SAQ)	28	36.4
16. Self-help groups (Alcoholics Anonymous) are not helpful for those suffering from AUD	28	36.4
18. About 30 % of people suffering from alcohol abuse suffer from a mood disorder during their lifetime (SAQ)	59	76.6
28. Alcohol abuse is most prevalent among 18-29 years olds	57	74.0
29. Men are more likely than women to be binge drinkers	54	70.1
31. Four standard drinks per day is a moderate alcohol consumption for women	46	59.7
44. There is no genetic basis to alcohol use disorders	32	41.6

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**Alcohol Withdrawal Subscale**

2. Naltrexone is used as medical treatment of alcohol abuse	41	53.2
34. Autonomic hyperactivity is a feature of delirium tremens (DT)	45	58.4
35. DTs are less likely when the person enjoys good physical health	38	49.4

36. DT S usually commence 12-24 hours after stopping heavy alcohol intake	25	32.5
37. Vitamin B1 is effective in preventing DTS	39	50.6
38. Benzodiazepines are effective in preventive DT	43	55.8
39. DT normally appears after at least 5 years of heavy alcohol use	30	39.0
40. Epileptic convulsions are not seen in alcohol withdrawal	41	53.2
42. The mortality rate for untreated DT approaches 15 %	10	13.0
45. Alcohol withdrawal related hallucinations cannot be differentiated from DTs	35	45.5
46. Withdrawal from alcohol is more physically dangerous than withdrawal from heroin	36	46.8
<b>Alcohol Use in Pregnancy Subscale</b>		
47. Methadone is more dangerous than alcohol for a pregnant woman	22	28.6
48. Alcohol consumption in pregnancy does not affect the fetus	56	72.7
49. Alcohol consumption during pregnancy does not affect the child's post-natal development	60	77.9
50. Microcephaly, craniofacial malformation and heart defects are commonly seen in infants affected with fetal alcohol syndrome	15	19.5

**Note:** SAQ: Questions Based on Student Alcohol Questionnaire

The overall knowledge means as assessed by KPAAQ was below average at 45.7. All the mean scores in the other subscales were less than 50% apart from the long-term consequence of alcohol which was 56.8. Table 3 represents the KPAAQ scores of nurses mean, confidence interval, median, S. D and range of the overall scores as well as the 6 domains .

**Table 3: KPAAQ scores of Nurses, Means, Confidence intervals, median and range**

<b>KPAAQ Category</b>	<b>Mean</b>	<b>95% C.I.</b>	<b>Median</b>	<b>S.D.</b>	<b>Range</b>
a) Metabolism of Alcohol	40.8	40.8-48.6	40.0	17.1	0-80
b) Short term Consequence of Alcohol	42.9	42.9-51.5	50.0	18.9	0-75
c) Long term Consequence of Alcohol	56.8	56.8-69.8	75.0	28.6	0-100
d) Alcohol Use Disorders	47.3	47.3-56.3	55.6	19.7	0-100
e) Alcohol Withdrawal syndromes	40.7	40.7-49.7	45.5	19.7	0-82
f) Alcohol Use in Pregnancy	44.7	44.7-54.7	50.0	22.0	0-100
<b>Overall Scores</b>	<b>45.7</b>	<b>45.7-51.5</b>	<b>50.0</b>	<b>12.8</b>	<b>28-80</b>

The registered nurses had the highest overall mean at 50.0 on KPAAQ as compared to the enrolled nurses and student nurses. Table 4 displays these results.

**Table 4: KPAAQ scores of Nurses by cadre Mean and Confidence intervals**

<b>KPAAQ Category</b>	<b>Cadre</b>		
	<b>Enrolled Nurse (n=24)</b>	<b>Registered Nurse (N=41)</b>	<b>Student Nurse (N=12)</b>
a) Metabolism of Alcohol	48.3[41.0-55.7]	45.1[40.3-50.0]	35.8[22.7-49.0]
b) Short term Consequence of Alcohol	47.6[39.6-55.5]	48.6[42.2-55.0]	41.7[32.9-50.4]
c) Long term Consequence of Alcohol	60.4[48.4-72.4]	64.6[54.7-74.6]	64.6[54.0-75.2]
d) Alcohol Use Disorder	48.6[41.9-55.4]	53.9[46.7-61.2]	50.9[42.2-59.7]
e) Alcohol Withdrawal syndromes	42.4[33.3-51.6]	48.1[42.0-54.2]	40.9[30.6-51.2]
f) Alcohol Use in Pregnancy	49.0[38.9-59.0]	48.8[42.0-55.6]	54.2[40.9-67.4]
<b>Overall Scores</b>	<b>47.9[42.7-53.1]</b>	<b>50.0[45.7-54.4]</b>	<b>44.8[38.4-51.3]</b>

The female nurses had a higher overall mean score (53.8) than male (44.0). These results are presented in Table 6.

**Table 5 : KPAAQ scores of Nurses by Gender Mean and Confidence intervals**

KPAAQ Category	Gender	
	Male (N=41)	Female (N=36)
a) Metabolism of Alcohol	41.0[36.3-45.7]	48.9[42.6-55.2]
b) Short term Consequence of Alcohol	41.1[34.9-47.2]	54.2[48.8-59.5]
c) Long term Consequence of Alcohol	55.5[46.4-64.6]	72.2[63.5-81.0]
d) Alcohol Use Disorders	46.3[40.1-52.6]	58.0[52.0-64.1]
e) Alcohol Withdrawal syndromes	41.9[35.5-48.4]	49.0[42.7-55.2]
f) Alcohol Use in Pregnancy	48.8[41.7-55.8]	50.7[43.3-58.1]
<b>Overall Scores</b>	<b>44.0[40.1-47.8]</b>	<b>53.8[49.9-57.8]</b>

Comparison of nurses according to years of experience, nurses with 6-10 years of experience had the highest overall mean score (58.2). Table 6 presents these results

**Table 6: KPAAQ scores of Nurses by years of experience Mean and Confidence intervals**

KPAAQ Category	Years of Experience		
	0-5 Years (N=56)	6-10 Years (N=12)	11-20 Years (N=9)
a) Metabolism of Alcohol	42.7[38.2-47.2]	55.8[43.0-68.7]	42.2[37.1-47.3]
b) Short term Consequence of Alcohol	47.3[42.7-51.9]	58.3[48.8-67.9]	31.5[12.9-50.1]
c) Long term Consequence of Alcohol	62.5[55.3-69.7]	72.9[52.1-93.7]	55.6[30.5-80.6]
d) Alcohol Use Disorders	50.4[45.6-55.2]	59.3[47.1-71.4]	50.6[28.0-73.3]
e) Alcohol Withdrawal syndromes	43.0[37.7-48.3]	57.6[47.0-68.1]	42.4[28.0-56.8]
f) Alcohol Use in Pregnancy	51.3[45.3-57.4]	47.9[37.3-58.5]	41.7[22.4-60.9]
<b>Overall Scores</b>	<b>47.5[44.3-50.7]</b>	<b>58.2[50.4-65.9]</b>	<b>42.2[32.0-52.5]</b>



#### **4.2.1 Socio-demographic characteristics associated with Nurses' Knowledge of Alcohol**

In the *metabolism of alcohol domain*, age, sex and the years of work experience were significantly associated with the knowledge of the metabolism of alcohol, with females ( $P=0.042$ ) having higher knowledge as compared to their male counterparts. Post hoc tests for pairwise comparison using LSD revealed that those with aged 31-40 years having significantly higher knowledge than those aged below 30years and 41-50years. Participants who had a work experience of 6-10 years had significantly more knowledge in comparison to those with 0-5 and 11-20 years work of experience. ( $P<0.05$ ).

In the *short –term consequences of alcohol use domain*, females had significantly higher knowledge in comparison to males ( $P=0.002$ ). Those who had a work experience of 11-20 years of experience had significantly lower knowledge as compared to those with 6-10 and 0-5 years of work experience.

In the *long term effects of alcohol use domain*, the female nurses had significantly more knowledge as compared to male counterparts. ( $P=0.002$ ).

In the *alcohol use disorder* subscale, the only gender difference was associated with the knowledge with females having significantly higher knowledge as compared to males ( $P=0.009$ ).

In the *alcohol withdrawal and alcohol use in pregnancy subscales*, the nurses had no significant differences in knowledge in relation to their socio-demographic characteristics.

These results between-groups comparisons of KPAAQ scale and subscales are presented in Table 7 and 8.

**Table 7: Comparison KPAAQ scores with Socio-demographic Characteristics of Nurses Means  $\pm$ Standard deviation .**

Variable	Category	N	Metabolism of Alcohol		Short term Consequence of Alcohol		Long term Consequence of Alcohol	
			Mean $\pm$ SD	P-Value	Mean $\pm$ SD	P-Value	Mean $\pm$ SD	P-Value
Age	30 Years and Below	57	44.6 $\pm$ 15.6	0.035	47.4 $\pm$ 17.7	0.965	62.3 $\pm$ 28.4	0.864
	31-40 Years	15	50.7 $\pm$ 20.2		47.2 $\pm$ 23.3		66.7 $\pm$ 32.3	
	41-50 Years	5	28.0 $\pm$ 16.4		45.0 $\pm$ 22.5		65.0 $\pm$ 22.4	
Gender	Male	41	41.0 $\pm$ 15.0	<b>0.042</b>	41.1 $\pm$ 19.5	<b>0.002</b>	55.5 $\pm$ 28.8	<b>0.009</b>
	Female	36	48.9 $\pm$ 18.6		54.2 $\pm$ 15.7		72.2 $\pm$ 25.9	
Religion	Protestant	35	45.1 $\pm$ 17.9	0.789	48.3 $\pm$ 19.4	0.778	66.4 $\pm$ 27.1	0.267
	Catholic	36	45.0 $\pm$ 15.0		45.6 $\pm$ 18.0		63.2 $\pm$ 28.3	
	Muslim	6	40.0 $\pm$ 26.1		50.0 $\pm$ 24.2		45.8 $\pm$ 36.8	
Marital Status	Married	33	47.6 $\pm$ 18.7	0.200	47.0 $\pm$ 20.8	0.931	65.9 $\pm$ 30.5	0.493
	Single/Unmarried	44	42.5 $\pm$ 15.7		47.3 $\pm$ 17.6		61.4 $\pm$ 27.2	
Cadre	Enrolled nurse	24	48.3 $\pm$ 17.4	0.115	47.6 $\pm$ 18.8	0.540	60.4 $\pm$ 28.5	0.840
	Registered nurse	41	45.1 $\pm$ 15.3		48.6 $\pm$ 20.3		64.6 $\pm$ 31.6	
	Student Nurse	12	35.8 $\pm$ 20.7		41.7 $\pm$ 13.8		64.6 $\pm$ 16.7	
Work Experience In years	0-5	56	42.7 $\pm$ 16.9	<b>0.047</b>	47.3 $\pm$ 17.2	<b>0.004</b>	62.5 $\pm$ 27.0	0.361
	6-10	12	55.8 $\pm$ 20.2		58.3 $\pm$ 15.1		72.9 $\pm$ 32.8	
	11-20	9	42.2 $\pm$ 6.7		31.5 $\pm$ 24.2		55.6 $\pm$ 32.5	
Education Level	Student	12	35.8 $\pm$ 20.7	0.115	41.7 $\pm$ 13.8	0.540	64.6 $\pm$ 16.7	0.840
	Certificate	24	48.3 $\pm$ 17.4		47.6 $\pm$ 18.8		60.4 $\pm$ 28.5	
	Diploma and Above	41	45.1 $\pm$ 15.3		48.6 $\pm$ 20.3		64.6 $\pm$ 31.6	
Department	Inpatient	35	44.3 $\pm$ 17.2	0.857	46.4 $\pm$ 17.9	0.751	64.3 $\pm$ 27.3	0.787
	Outpatient	42	45.0 $\pm$ 17.3		47.8 $\pm$ 19.9		62.5 $\pm$ 29.9	

**Table 8: Comparison KPAAQ scores with Socio-demographic Characteristics of Nurses Means  $\pm$ Standard deviation .**

Variable	Category	N	Alcohol Use Disorders (AUD)		Alcohol Withdrawal syndromes		Alcohol Use in Pregnancy	
			Mean $\pm$ SD	P-Value	Mean $\pm$ SD	P-Value	Mean $\pm$ SD	P-Value
Age In Years	30 Years and Below	57	52.2 $\pm$ 17.4	0.101	44.2 $\pm$ 20.1	0.737	50.0 $\pm$ 23.1	0.967
	31-40 Years	15	45.2 $\pm$ 24.3		48.5 $\pm$ 21.4		48.3 $\pm$ 20.0	
	41-50 Years	5	66.7 $\pm$ 24.8		47.3 $\pm$ 10.0		50.0 $\pm$ 17.7	
Gender	Male	41	46.3 $\pm$ 19.9	<b>0.009</b>	41.9 $\pm$ 20.4	0.117	48.8 $\pm$ 22.3	0.706
	Female	36	58.0 $\pm$ 17.8		49.0 $\pm$ 18.5		50.7 $\pm$ 21.9	
Religion	Protestant	35	51.4 $\pm$ 20.4	0.588	47.5 $\pm$ 19.7	0.647	49.3 $\pm$ 23.1	0.325
	Catholic	36	53.4 $\pm$ 20.0		43.2 $\pm$ 19.1		47.9 $\pm$ 21.9	
	Muslim	6	44.4 $\pm$ 14.1		43.9 $\pm$ 25.3		62.5 $\pm$ 13.7	
Marital Status	Married	33	50.5 $\pm$ 23.3	0.620	46.6 $\pm$ 17.9	0.610	46.2 $\pm$ 21.8	0.235
	Single/Unmarried	44	52.8 $\pm$ 16.8		44.2 $\pm$ 21.2		52.3 $\pm$ 22.1	
Cadre	Enrolled nurse	24	48.6 $\pm$ 16.0	0.574	42.4 $\pm$ 21.7	0.385	49.0 $\pm$ 23.9	0.749
	Registered nurse	41	53.9 $\pm$ 23.0		48.1 $\pm$ 19.4		48.8 $\pm$ 21.6	
	Student Nurse	12	50.9 $\pm$ 13.8		40.9 $\pm$ 16.2		54.2 $\pm$ 20.9	
Years Of Experience	0-5 Years	56	50.4 $\pm$ 18.0	0.366	43.0 $\pm$ 19.8	0.059	51.3 $\pm$ 22.6	0.458
	6-10 Years	12	59.3 $\pm$ 19.1		57.6 $\pm$ 16.6		47.9 $\pm$ 16.7	
	11-20 Years	9	50.6 $\pm$ 29.5		42.4 $\pm$ 18.7		41.7 $\pm$ 25.0	
Education Level	Student	12	50.9 $\pm$ 13.8	0.574	40.9 $\pm$ 16.2	0.385	54.2 $\pm$ 20.9	0.749
	Certificate	24	48.6 $\pm$ 16.0		42.4 $\pm$ 21.7		49.0 $\pm$ 23.9	
	Diploma and Above	41	53.9 $\pm$ 23.0		48.1 $\pm$ 19.4		48.8 $\pm$ 21.6	
Department	Inpatient	35	56.2 $\pm$ 18.1	0.074	47.3 $\pm$ 19.4	0.408	49.3 $\pm$ 23.1	0.888
	Outpatient	42	48.1 $\pm$ 20.5		43.5 $\pm$ 20.0		50.0 $\pm$ 21.4	

In the *overall scores*, females had significantly more knowledge in comparison to males ( $P < 0.001$ ). Those with 6-10 years of work experience had significantly more knowledge as compared to those with 11-20 and 0-5 years of experience. No significant differences were found between those with 0-5 and 11-20 years of experience in terms of their knowledge ( $P > 0.05$ ).

**Table 9: Comparison KPAAQ scores with Socio-demographic Characteristics of Nurses Means  $\pm$ Standard deviation (Overall Knowledge )**

Variable	Category	N	Overall Scores	
			Mean $\pm$ SD	P-Value
Age	30 Years and Below	57	48.4 $\pm$ 11.9	0.955
	31-40 Years	15	49.5 $\pm$ 16.7	
	41-50 Years	5	48.0 $\pm$ 12.4	
Gender	Male	41	44.0 $\pm$ 12.1	<b>&lt;0.001</b>
	Female	36	53.8 $\pm$ 11.7	
Religion	Protestant	35	49.6 $\pm$ 13.6	0.785
	Catholic	36	47.9 $\pm$ 11.9	
	Muslim	6	46.3 $\pm$ 15.1	
Marital Status	Married	33	49.1 $\pm$ 13.8	0.760
	Single/Unmarried	44	48.2 $\pm$ 12.1	
Cadre	Enrolled nurse	24	47.9 $\pm$ 12.3	0.447
	Registered nurse	41	50.0 $\pm$ 13.7	
	Student Nurse	12	44.8 $\pm$ 10.1	
Work Experience In years	0-5	56	47.5 $\pm$ 12.0	<b>0.008</b>
	6-10	12	58.2 $\pm$ 12.2	
	11-20	9	42.2 $\pm$ 13.3	
Education Level	Student	12	44.8 $\pm$ 10.1	0.447
	Certificate	24	47.9 $\pm$ 12.3	
	Diploma and Above	41	50.0 $\pm$ 13.7	
Department	Inpatient	35	49.6 $\pm$ 11.9	0.523
	Outpatient	42	47.7 $\pm$ 13.6	

### 4.3 Nurses Attitude

In general, the nurses have a negative attitude since they scored below mean of 4 in the different domains/subscales on the SPAAQ apart from motivation and role legitimacy. Table 10 presents the responses to the 10 questions in the SAAPPQ questionnaire disaggregated by each of the 5 subscales. Each question is rated on a 7 point Likert scale from 1 to 7 with high scores translating to a positive attitude. Question 3, 4, and 6 were reverse coded before analysis since they are phrased in the semantically opposite direction.

**Table 10: Short Alcohol and Alcohol Problems Perception Questionnaire (SAAPPQ) Items scores of Nurses, Means, S.D. and range**

<b>Short Alcohol and Alcohol Problems Perception Questionnaire (SAAPPQ) Items</b>	<b>N</b>	<b>Mean</b>	<b>S.D.</b>	<b>Min.</b>	<b>Max.</b>
<b>Motivation (Adequacy)</b>					
1. I feel I know enough about the causes of drinking problems to carry out my role when working with drinkers.	77	5.5	1.6	1	7
2. I feel I can appropriately advise my patients about drinking and its effects	76	5.8	1.5	1	7
<b>Work Satisfaction (Self-esteem)</b>					
3. I feel I do not have much to be proud of when working with drinkers (R)	76	3.3	1.7	1	7
4. All in all I am inclined to feel a failure with drinkers (R)	74	3.7	1.8	1	7
<b>Role Adequacy (Motivation)</b>					
5. I want to work with drinkers	69	3.5	1.9	1	7
6. Pessimism is the most realistic attitude to take towards drinkers (R)	73	3.7	1.8	1	7
<b>Role Legitimacy (Legitimacy)</b>					
7. I feel I have the right to ask a patient questions about their drinking when necessary	77	6.0	1.4	2	7
8. I feel that my patients believe I have the right to ask them questions about drinking when necessary	77	5.3	1.5	1	7
<b>Task Specific Self-esteem (Satisfaction)</b>					
9. In general, it is rewarding to work with drinkers	77	3.7	1.9	1	7
10. In general, I like problem drinkers	77	3.4	2.0	1	7

Note: R-The items were reverse scored since they are phrased in the semantically opposite direction

### 4.3.1 Nurses attitudes towards patients with AUD

Except for motivation, role legitimacy and role security domains, nurses' attitude were on average below the midpoint of SAAPPQ's scales. These results are presented with Table 11.

**Table 11: Short Alcohol and Alcohol Problems Perception Questionnaire (SAAPPQ) scales characteristics of Nurses, respondents above mid-point Means, 95% C.I, S.D. and range**

SAAPQ <sup>a</sup> Sub-Scales	Above Mid-Point <sup>b</sup> n(%)	Mean	95%C.I	Media n	S. D	Rang e
a) Motivation	66(85.7%)	11.3	10.8-11.8	12	2.3	6-14
b) Work Satisfaction	22(28.9%)	6.8	6.1-7.5	7	2.9	2-14
c) Role Adequacy	20(26.3%)	6.7	6.1-7.3	7	2.6	2-12
d) Role Legitimacy	66(85.7%)	11.3	10.8-11.8	12	2.1	7-14
e) Task Specific Self- esteem	27(35.1%)	7.1	6.3-7.9	7	3.4	2-14
*Role Security	75(97.4%)	22.6	21.8-23.3	22	3.2	15-28
†Therapeutic Commitment	23(29.9%)	20.5	19.1-21.8	21	6.0	4-34

*Note:* <sup>a</sup> Short Alcohol and Alcohol Problems Perception Questionnaire; <sup>b</sup>Motivation, Work satisfaction, Role Adequacy, Role Legitimacy, and Task Specific Commitment=8; Role security=16; Therapeutic commitment=24; \*Expression of latent factors Role Security=(Motivation and Role Legitimacy); †Expression of latent factor Therapeutic Commitment=Work satisfaction, Role adequacy and Task specific self-esteem.

Majority of nurses (85.7%) were well motivated to manage patients who are diagnosed with alcohol use disorders. Table 12 presents the prevalence of negative, positive and perception among nurses.

**Table 12: Prevalence of Negative, Neutral and Positive Perception of Nurses**

<b>Short Alcohol and Alcohol Problems Perception Questionnaire (SAAPPQ)</b>	<b>Negative Perception n(%)</b>	<b>Neutral Perception n(%)</b>	<b>Positive Perception n(%)</b>
a) Motivation (Adequacy)	5(6.5%)	6(7.8%)	66(85.7%)
b) Work Satisfaction (Self-esteem)	39(51.3%)	15(19.7%)	22(28.9%)
c) Role Adequacy (Motivation)	44(57.9%)	12(15.8%)	20(26.3%)
d) Role Legitimacy (Legitimacy)	4(5.2%)	7(9.1%)	66(85.7%)
e) Task Specific Self-esteem (Satisfaction)	42(54.5%)	8(10.4%)	27(35.1%)
1. Role Security	1(1.3%)	1(1.3%)	75(97.4%)
2. Therapeutic Commitment	51(66.2%)	3(3.9%)	23(29.9%)

#### **4.3.2 Socio-demographic factors associated with nurses' attitudes towards patients with AUD**

Male and female nurses reported had the same attitudes towards these patients in all the domains in SAAPPQ (Independent sample t-test/ Mann-Whitney test, all  $p>0.05$ ). The same results are seen concerning the nurses' attitude and age, religion, marital status, cadre, years of experience and department (Table I3 and 14), suggesting that attitudes are similar regardless of their socio-demographic factors (ANOVA/ Kruskal-Wallis test, all  $p>0.05$ ).

**Table 13: Comparison SAAPPQ scores with Socio-demographic Characteristics of Nurses Means ±Standard deviation on the five sub-scales**

Variable	Category	N	Motivation		Work Satisfaction		Role Adequacy		Role Legitimacy		Task Specific Self-esteem	
			Mean±SD	Sig.	Mean±SD	Sig.	Mean±SD	Sig.	Mean±SD	Sig.	Mean±SD	Sig.
Age	30 Years and Below	57	11.4±2.4	0.641	7.0±3.1	0.608	7.1±2.6	0.176	11.6±2.1	0.073	7.5±3.3	0.202
	31-40 Years	15	10.8±2.2		6.1±2.4		5.8±2.7		10.4±2.0		5.9±3.0	
	41-50 Years	5	11.6±0.5		7.0±2.8		5.8±2.4		10.2±2.3		6.2±4.3	
Gender	Male	41	11.3±2.1	0.977	6.9±3.3	0.782	6.6±2.7	0.588	11.5±2.2	0.380	6.7±3.7	0.244
	Female	36	11.3±2.4		6.7±2.4		6.9±2.5		11.1±2.1		7.6±3.0	
Religion	Protestant	35	11.5±2.2	0.780	6.6±2.8	0.676	7.0±2.8	0.639	10.8±2.3	0.161	7.1±3.1	0.200
	Catholic	36	11.1±2.2		7.1±3.0		6.5±2.6		11.6±2.0		7.5±3.4	
	Muslim	6	11.2±3.0		6.2±3.7		6.2±2.1		12.2±1.7		4.8±4.3	
Marital Status	Married	33	11.5±2.3	0.443	6.5±2.7	0.485	6.3±2.8	0.177	11.1±2.2	0.562	6.5±3.4	0.163
	Single/Unmarried	44	11.1±2.2		7.0±3.1		7.1±2.4		11.4±2.1		7.6±3.3	
Cadre	Enrolled nurse	24	11.0±2.1	0.687	6.8±3.1	0.785	6.5±2.7	0.222	11.2±2.4	0.541	7.6±3.8	0.072
	Registered nurse	41	11.5±2.5		7.0±2.6		7.2±2.4		11.1±2.1		7.4±3.3	
	Student Nurse	12	11.3±1.7		6.3±3.8		5.8±2.9		11.9±1.7		5.1±1.9	
Work Experience In years	0-5	56	11.5±2.2	0.347	6.7±3.2	0.792	7.0±2.7	0.266	11.5±2.1	0.360	7.3±3.4	0.709
	6-10	12	10.4±2.5		6.7±2.3		5.8±2.1		10.8±2.2		6.4±3.7	
	11-20	9	11.3±1.9		7.4±1.2		6.1±2.4		10.7±2.3		6.9±3.2	
Education Level	Student	12	11.3±1.7	0.687	6.3±3.8	0.785	5.8±2.9	0.222	11.9±1.7	0.541	5.1±1.9	0.072
	Certificate	24	11.0±2.1		6.8±3.1		6.5±2.7		11.2±2.4		7.6±3.8	
	Diploma and Above	41	11.5±2.5		7.0±2.6		7.2±2.4		11.1±2.1		7.4±3.3	
Department	Inpatient	35	11.5±2.4	0.420	7.0±3.0	0.681	7.2±2.7	0.136	11.1±2.5	0.458	7.0±3.4	0.806
	Outpatient	42	11.1±2.1		6.7±2.9		6.3±2.5		11.5±1.8		7.2±3.3	



**Table 14: Comparison SAAPPQ scores with Socio-demographic Characteristics of Nurses Means  $\pm$ Standard deviation on the two latent sub-scales**

Variable	Category	N	Role Security		Therapeutic Commitment	
			Mean $\pm$ SD	P-Value	Mean $\pm$ SD	P-Value
Age	30 Years and Below	57	23.0 $\pm$ 3.3	0.130	21.3 $\pm$ 5.7	0.109
	31-40 Years	15	21.2 $\pm$ 2.8		17.8 $\pm$ 5.9	
	41-50 Years	5	21.8 $\pm$ 2.7		19.0 $\pm$ 7.6	
Gender	Male	41	22.8 $\pm$ 2.9	0.544	20.2 $\pm$ 6.4	0.631
	Female	36	22.3 $\pm$ 3.5		20.8 $\pm$ 5.5	
Religion	Protestant	35	22.3 $\pm$ 3.4	0.710	20.7 $\pm$ 6.2	0.374
	Catholic	36	22.7 $\pm$ 2.9		20.8 $\pm$ 5.8	
	Muslim	6	23.3 $\pm$ 4.0		17.2 $\pm$ 5.5	
Marital Status	Married	33	22.6 $\pm$ 3.4	0.879	19.3 $\pm$ 5.9	0.136
	Single/Unmarried	44	22.5 $\pm$ 3.1		21.4 $\pm$ 6.0	
Cadre	Enrolled nurse	24	22.2 $\pm$ 2.9	0.634	20.9 $\pm$ 6.1	0.110
	Registered nurse	41	22.6 $\pm$ 3.6		21.2 $\pm$ 5.6	
	Student Nurse	12	23.3 $\pm$ 2.1		17.2 $\pm$ 6.4	
Work Experience In years	0-5	56	23.0 $\pm$ 3.2	0.179	20.8 $\pm$ 6.4	0.613
	6-10	12	21.2 $\pm$ 3.0		18.9 $\pm$ 5.1	
	11-20	9	22.0 $\pm$ 3.2		20.4 $\pm$ 4.8	
Education Level	Student	12	23.3 $\pm$ 2.1	0.634	17.2 $\pm$ 6.4	0.110
	Certificate	24	22.2 $\pm$ 2.9		20.9 $\pm$ 6.1	
	Diploma and Above	41	22.6 $\pm$ 3.6		21.2 $\pm$ 5.6	
Department	Inpatient	35	22.6 $\pm$ 3.2	0.943	20.8 $\pm$ 6.5	0.672
	Outpatient	42	22.5 $\pm$ 3.2		20.2 $\pm$ 5.6	

Most of the nurses had a positive attitude towards motivation but there were no significant differences in terms of their socio-demographic characteristics. These results are presented in Table 15.

**Table 15: Comparison between Motivation attitude and Socio-demographic Characteristics of Nurses.**

Variable	Category	Motivation		$\chi^2$	d.f.	P-value
		Negative Perception	Positive Perception			
Age In Years	30 Years and Below	8(14.0%)	49(86.0%)	1.24	2	0.539
	31-40 Years	3(20.0%)	12(80.0%)			
	41-50 Years	0(0.0%)	5(100.0%)			
Gender	Male	6(14.6%)	35(85.4%)	0.01	1	0.926
	Female	5(13.9%)	31(86.1%)			
Religion	Protestant	5(14.3%)	30(85.7%)	2.07	2	0.355
	Catholic	4(11.1%)	32(88.9%)			
	Muslim	2(33.3%)	4(66.7%)			
Marital Status	Married	5(15.2%)	28(84.8%)	0.04	1	0.851
	Single/Unmarried	6(13.6%)	38(86.4%)			
Cadre	Enrolled nurse	3(12.5%)	21(87.5%)	0.67	2	0.715
	Registered nurse	7(17.1%)	34(82.9%)			
	Student Nurse	1(8.3%)	11(91.7%)			
Years Of Experience	0-5 Years	7(12.5%)	49(87.5%)	1.35	2	0.510
	6-10 Years	3(25.0%)	9(75.0%)			
	11-20 Years	1(11.1%)	8(88.9%)			
Education Level	Student	1(8.3%)	11(91.7%)	0.67	2	0.715
	Certificate	3(12.5%)	21(87.5%)			
	Diploma and Above	7(17.1%)	34(82.9%)			
Department	Inpatient	6(17.1%)	29(82.9%)	0.43	1	0.513
	Outpatient	5(11.9%)	37(88.1%)			

Most of the nurses had a negative attitude towards work satisfaction but there was no statistically significant difference in comparison of the different socio-demographic characteristics.

**Table 16: Comparison between Work satisfaction attitude and Socio-demographic Characteristics of Nurses.**

Variable	Category	Work Satisfaction		$\chi^2$	d.f.	P-value
		Negative Perception	Positive Perception			
Age In Years	30 Years and Below	37(66.1%)	19(33.9%)	2.65	2	0.266
	31-40 Years	13(86.7%)	2(13.3%)			
	41-50 Years	4(80.0%)	1(20.0%)			
Gender	Male	28(68.3%)	13(31.7%)	0.33	1	0.566
	Female	26(74.3%)	9(25.7%)			
Religion	Protestant	25(71.4%)	10(28.6%)	0.06	2	0.970
	Catholic	25(71.4%)	10(28.6%)			
	Muslim	4(66.7%)	2(33.3%)			
Marital Status	Married	27(81.8%)	6(18.2%)	3.29	1	0.070
	Single/Unmarried	27(62.8%)	16(37.2%)			
Cadre	Enrolled nurse	16(66.7%)	8(33.3%)	1.13	2	0.570
	Registered nurse	28(70.0%)	12(30.0%)			
	Student Nurse	10(83.3%)	2(16.7%)			
Years Of Experience	0-5 Years	38(69.1%)	17(30.9%)	0.39	2	0.822
	6-10 Years	9(75.0%)	3(25.0%)			
	11-20 Years	7(77.8%)	2(22.2%)			
Education Level	Student	10(83.3%)	2(16.7%)	1.13	2	0.570
	Certificate	16(66.7%)	8(33.3%)			
	Diploma and Above	24(70.0%)	10(30.0%)			
Department	Inpatient	30(70.6%)	12(29.4%)	0.01	1	0.936
	Outpatient	54(71.4%)	22(28.6%)			

Most of the nurses had a negative attitude towards role adequacy. However, there was a statistically significant difference while comparing the different religions with Muslims having a more negative attitude compared to Catholics and Protestants (p-value= 0.03). These results are presented in Table 17.

**Table 17: Comparison between Role adequacy attitude and Socio-demographic Characteristics of Nurses.**

Variable	Category	Role Adequacy		$\chi^2$	d.f.	P-value
		Negative Perception	Positive Perception			
Age In Years	30 Years and Below	41(73.2%)	15(26.8%)	0.11	2	0.946
	31-40 Years	11(73.3%)	4(26.7%)			
	41-50 Years	4(80.0%)	1(20.0%)			
Gender	Male	32(78.0%)	9(22.0%)	0.88	1	0.350
	Female	24(68.6%)	11(31.4%)			
Religion	Protestant	21(60.0%)	14(40.0%)	7.04	2	<b>0.030</b>
	Catholic	29(82.9%)	6(17.1%)			
	Muslim	6(100.0%)	0(0.0%)			
Marital Status	Married	24(72.7%)	9(27.3%)	0.03	1	0.868
	Single/Unmarried	32(74.4%)	11(25.6%)			
Cadre	Enrolled nurse	18(75.0%)	6(25.0%)	2.81	2	0.245
	Registered nurse	27(67.5%)	13(32.5%)			
	Student Nurse	11(91.7%)	1(8.3%)			
Years Of Experience	0-5 Years	39(70.9%)	16(29.1%)	0.87	2	0.646
	6-10 Years	10(83.3%)	2(16.7%)			
	11-20 Years	7(77.8%)	2(22.2%)			
Education Level	Student	11(91.7%)	1(8.3%)	2.81	2	0.245
	Certificate	18(75.0%)	6(25.0%)			
	Diploma and Above	27(67.5%)	13(32.5%)			
Department	Inpatient	22(64.7%)	12(35.3%)	2.56	1	0.110
	Outpatient	34(81.0%)	8(19.0%)			

Most of the nurses had a positive attitude towards role legitimacy. Moreover, there was a statistically significant difference on while comparing the nurses who were working in the inpatient and outpatient department with those in the outpatient department having a more positive attitude as compared to those in the inpatient departments (p-value =0.009).

These results are shown in Table 18

**Table 18: Comparison between Role Legitimacy attitude and Socio-demographic Characteristics of Nurses.**

Variable	Category	Role Legitimacy		$\chi^2$	d.f.	P-value
		Negative Perception	Positive Perception			
Age	30 Years and Below	7(12.3%)	50(87.7%)	0.72	2	0.698
	31-40 Years	3(20.0%)	12(80.0%)			
	41-50 Years	1(20.0%)	4(80.0%)			
Gender	Male	6(14.6%)	35(85.4%)	0.01	1	0.926
	Female	5(13.9%)	31(86.1%)			
Religion	Protestant	7(20.0%)	28(80.0%)	2.23	2	0.328
	Catholic	4(11.1%)	32(88.9%)			
	Muslim	0(0.0%)	6(100.0%)			
Marital Status	Married	6(18.2%)	27(81.8%)	0.72	1	0.397
	Single/Unmarried	5(11.4%)	39(88.6%)			
Cadre	Enrolled nurse	5(20.8%)	19(79.2%)	2.84	2	0.241
	Registered nurse	6(14.6%)	35(85.4%)			
	Student Nurse	0(0.0%)	12(100.0%)			
Work Experience In years	0-5	7(12.5%)	49(87.5%)	0.66	2	0.717
	6-10	2(16.7%)	10(83.3%)			
	11-20	2(22.2%)	7(77.8%)			
Education Level	Student	0(0.0%)	12(100.0%)	2.84	2	0.241
	Certificate	5(20.8%)	19(79.2%)			
	Diploma and Above	6(14.6%)	35(85.4%)			
Department	Inpatient	9(25.7%)	26(74.3%)	6.84	1	<b>0.009</b>
	Outpatient	2(4.8%)	40(95.2%)			

Most of the nurses had a negative attitude towards task-specific self-esteem. The nurses scored above 50 % in a negative perception of the different socio-demographic characteristics. However, there was a statistically significant difference while comparing the cadre with student nurses and registered nurses having a more negative perception as compared to enrolled nurses (p-value=0.018)

**Table 19: Comparison between Task-Specific Self-esteem attitude and Socio-demographic Characteristics of Nurses**

Variable	Category	Task Specific Self esteem		$\chi^2$	d.f.	P-value
		Negative Perception	Positive Perception			
Age	30 Years and Below	36(63.2%)	21(36.8%)	0.597	2	0.742
	31-40 Years	11(73.3%)	4(26.7%)			
	41-50 Years	3(60.0%)	2(40.0%)			
Gender	Male	27(65.9%)	14(34.1%)	0.032	1	0.857
	Female	23(63.9%)	13(36.1%)			
Religion	Protestant	23(65.7%)	12(34.3%)	1.133	2	0.568
	Catholic	22(61.1%)	14(38.9%)			
	Muslim	5(83.3%)	1(16.7%)			
Marital Status	Married	22(66.7%)	11(33.3%)	0.076	1	0.783
	Single/Unmarried	28(63.6%)	16(36.4%)			
Cadre	Enrolled nurse	13(54.2%)	11(45.8%)	7.985	2	<b>0.018</b>
	Registered nurse	25(61.0%)	16(39.0%)			
	Student Nurse	12(100.0%)	0(0.0%)			
Work Experience In years	0-5	36(64.3%)	20(35.7%)	0.038	2	0.981
	6-10	8(66.7%)	4(33.3%)			
	11-20	6(66.7%)	3(33.3%)			
Education Level	Student	12(100.0%)	0(0.0%)	7.985	2	<b>0.018</b>
	Certificate	13(54.2%)	11(45.8%)			
	Diploma and Above	25(61.0%)	16(39.0%)			
Department	Inpatient	21(60.0%)	14(40.0%)	0.686	1	0.407
	Outpatient	29(69.0%)	13(31.0%)			

Most of the nurses had a positive attitude towards role security. However, there was no statistically significant difference in comparison to the various socio-demographic characteristics. Table 20 presents these results.

**Table 20: Comparison between Role Security attitude and Socio-demographic Characteristics of Nurses.**

Variable	Category	Role Security		$\chi^2$	d.f.	P-value
		Negative Perception	Positive Perception			
Age	30 Years and Below	2(3.5%)	55(96.5%)	0.72	2	0.698
	31-40 Years	0(0.0%)	15(100.0%)			
	41-50 Years	0(0.0%)	5(100.0%)			
Gender	Male	1(2.4%)	40(97.6%)	0.01	1	0.926
	Female	1(2.8%)	35(97.2%)			
Religion	Protestant	2(5.7%)	33(94.3%)	2.46	2	0.292
	Catholic	0(0.0%)	36(100.0%)			
	Muslim	0(0.0%)	6(100.0%)			
Marital Status	Married	1(3.0%)	32(97.0%)	0.04	1	0.836
	Single/Unmarried	1(2.3%)	43(97.7%)			
Cadre	Enrolled nurse	1(4.2%)	23(95.8%)	0.56	2	0.757
	Registered nurse	1(2.4%)	40(97.6%)			
	Student Nurse	0(0.0%)	12(100.0%)			
Work Experience In years	0-5	2(3.6%)	54(96.4%)	0.77	2	0.680
	6-10	0(0.0%)	12(100.0%)			
	11-20	0(0.0%)	9(100.0%)			
Education Level	Student	0(0.0%)	12(100.0%)	0.56	2	0.757
	Certificate	1(4.2%)	23(95.8%)			
	Diploma and Above	1(2.4%)	40(97.6%)			
Department	Inpatient	1(2.9%)	34(97.1%)	0.02	1	0.896
	Outpatient	1(2.4%)	41(97.6%)			

Most of the nurses had a negative attitude towards therapeutic commitment. However, there was no statically difference while comparing the different sociodemographic characteristics. These results are presented in Table 21.

**Table 21: Comparison between Therapeutic Commitment attitude and Socio-demographic Characteristics of Nurses.**

Variable	Category	Therapeutic Commitment		$\chi^2$	d.f.	P-value
		Negative Perception	Positive Perception			
Age	30 Years and Below	37(64.9%)	20(35.1%)	4.84	2	0.089
	31-40 Years	14(93.3%)	1(6.7%)			
	41-50 Years	3(60.0%)	2(40.0%)			
Gender	Male	28(68.3%)	13(31.7%)	0.14	1	0.707
	Female	26(72.2%)	10(27.8%)			
Religion	Protestant	23(65.7%)	12(34.3%)	0.90	2	0.638
	Catholic	26(72.2%)	10(27.8%)			
	Muslim	5(83.3%)	1(16.7%)			
Marital Status	Married	25(75.8%)	8(24.2%)	0.87	1	0.350
	Single/Unmarried	29(65.9%)	15(34.1%)			
Cadre	Enrolled nurse	16(66.7%)	8(33.3%)	1.20	2	0.548
	Registered nurse	28(68.3%)	13(31.7%)			
	Student Nurse	10(83.3%)	2(16.7%)			
Work Experience In years	0-5	36(64.3%)	20(35.7%)	3.82	2	0.148
	6-10	11(91.7%)	1(8.3%)			
	11-20	7(77.8%)	2(22.2%)			
Education Level	Student	10(83.3%)	2(16.7%)	1.20	2	0.548
	Certificate	16(66.7%)	8(33.3%)			
	Diploma and Above	28(68.3%)	13(31.7%)			
Department	Inpatient	23(65.7%)	12(34.3%)	0.60	1	0.440
	Outpatient	31(73.8%)	11(26.2%)			



## **CHAPTER FIVE**

### **DISCUSSION**

#### **5.1 Sociodemographic Characteristics**

Most studies found that female nurses were more than their male counterparts (Maigari, Mosaku, & Dathini, 2014; Muthoni, 2016; Vargas, 2013). However, in our study most of the nurses were male. This could be explained by the fact Baringo County is one of the hardship areas, therefore, women tend to avoid working in such areas.

#### **5.2 Knowledge of Alcohol Use Disorders**

The nurses' overall knowledge towards patients who have been diagnosed with alcohol use disorders on the KPAAQ was poor (mean 45.7). This finding was consistent with other studies although not all used a similar tool. (Broyles et al., 2012; Janaina, Divane, & Formigoni, 2013; Payne et al., 2014). In the study by Jaworowski et al., (2018), the nurses overall mean was also found low at 45 on KPAAQ. However, the sample size of the (23) nurses was smaller as compared to the (77) nurses in the current study. Poor Knowledge is also elaborated in other studies although different study designs were used (Broyles et al., 2012; Janaina et al., 2013). In the USA, did a qualitative study at a veteran medical clinic among nurses where lack of knowledge was a obstacle to the delivery of alcohol screening, brief intervention and referral to treatment to the patients. In an experimental study in Brazil, both trained and untrained nurses had poor knowledge (mean <50) of alcohol and related issues on Knowledge Questionnaire (Soares et al., 2013).

On comparison of domains in the KPAAQ, the nurses scored the highest mean (56.8) while responding to the long term consequences of alcohol. However, Jaworowski et al., (2018) found that nurses had the highest mean score (63.6) while responding to questions on alcohol use in pregnancy (63.6). In addition, more than half of the respondents (34.8%) were able to correctly answer the question about the effects of alcohol on mother, infant and child (Payne et al., 2014). In Kenya, Muthoni,( 2016) found that few 25 (34.2%) nurses knew about the standardized tools for screening alcohol. Similarly, this study found that only 29 (37.7%) nurses knew that audit is a test for Alcohol Use Disorder. This lack of knowledge is attributed to lack of training on alcohol use disorders (Mashayekhi & Kamali, 2019; Pilge and Arabaci, 2016; Vargas, 2013).

This study found registered nurses had the highest overall mean at 50 on KPAAQ as compared to other cadres. This did an exploratory quasi-experimental study and found that the nurses had a better knowledge as compared to nursing students since their mean scores were 6.8 and 5.4 respectively. Doctors were found to have higher knowledge compared to nurses since their overall mean on was 52 and 45 respectively on the KPAAQ (Jaworowski et al., 2018). The difference among the cadres could be explained by the fact that seniority in the medical profession is related to better knowledge (Jaworowski et al., 2018; Vargas, 2013). In the current study, the nurses who had work experience between 6-10 years were found to have higher knowledge than those with less than 5 years and more than 10 years' experience( $p=0.008$ ). This difference could be explained by the fact the nurses with 0-5 years had minimal hands-on experience and the nurses with more than 10 years' experience previous training had less emphasis on alcohol and related issues In addition ,students nurse had lowest overall mean score ( 44.8 ) on the KPAAQ as compared

with the registered (50) and enrolled nurses (47.4). This meant that the student nurses had little knowledge of alcohol use disorders as compared to the other cadres. The differences could be due to the small sample size and students nurses are still in training, therefore, they have not attained sufficient knowledge as compared to the other cadres. However, Sani & Sani,( 2013) found that respondents who had less than 5 years and 5-10 years of experience had better knowledge than those with over 10 years of experience ( $p=0.002$ ). However, the nurses' knowledge was in relation to standardized nurses language. In the current study, females were also found to have a higher knowledge than male nurses ( $P<0.001$ ). This could be due to the fact that female nurses were less than male nurses.

### **5.3 Attitude towards Alcohol Use Disorders**

In general, this study found that the nurses have a negative attitude towards Alcohol Use Disorders since most of the mean scores were below 8 apart from motivation (11.3) and role legitimacy (11.3). This finding is similar to other studies although different tools were used to assess the nurses' attitude and their sample size was were bigger. ( Nauman, Orlag, Lauren & Ciara, 2015; Pilge and Arabaci, 2016; Raistrick et al., 2015). Raistrick et al., (2015) which found that the 151 nurses overall therapeutic Attitude was low at 32.1 on the Alcohol and Alcohol Problem Perception Questionnaire in a general hospital setting. Similarly,89 nurses were found to have a negative attitude since they scored low at 49.43 on the Attitude Scale (Pilge and Arabaci, 2016). However, Nauman, Orlagh, Lauren & Ciara,( 2015) also found the health professionals who included mainly nurses (71.1%) were found to have a slightly positive attitude since the overall mean score was low at 37.31 on SPAAQ. In addition, positive attitudes were demonstrated in the task-specific self-esteem

and role legitimacy domains with mean scores of 8.36 and 8.01 respectively. In this study, nurses had a positive attitude in the motivation and role legitimacy domain whose mean scores were both 11.3. In regard to the other 3 domains on the SPAAQ, this study found that nurses had a negative attitude towards role adequacy, work satisfaction, task-specific self-esteem domains since their mean scores were below 8 on SAAPQ. This negative attitudes could be explained by the fact that the nurses have inadequate training and education on alcohol use disorders ( Nauman, Orlagh, Lauren, Ciara, 2015; Raistrick et al., 2015; Van Boekel, Brouwers, Van Weeghel, & Garretsen, 2013). In contrast, Positive attitude has been shown in other studies (Caixeta, Pedrosa, & Haas, 2016; Raistrick et al., 2015; Wheeler et al., 2014). Wheeler, Crozier, Robinson, Pawlow, & Mihala, (2014) used the SPAAQ to assess the mental healthcare workers attitude towards Alcohol and other drugs. The 54 nurses were found to have a positive attitude since all the mean scores in the five domains in the SAAPQ were above 8. These findings were similar to those found by Caixeta et al., (2016) who found the health professional to have a positive attitude since the mean score on factor 2 on the EAFAAA was 3.31. Another study in Brazil found that 75 nurses had a positive attitude towards alcohol and alcoholism problems since the mean score was high at 3.32 on the EFAAA(Vargas, 2013).

On comparison of attitude with the socio-demographic characteristics, this study found that nurses had similar attitude regardless of their age, sex, gender, cadre, marital status, years of experience and department. These findings were different from those of Vargas, (2013) who found that the nurse had a higher mean (3.8) than nurse assistants (3.0) while the females had a higher mean (3.3) than males (3.2). In addition, respondents who were 25 years and below had the highest mean (3.7) in comparison to the other age groups

(Vargas, 2013). In a study Raistrick et al.,( 2015) female were found to have a higher overall mean score (33.4) than their male counterparts (30.3).

#### **5.4 Conclusion**

The results of this study revealed that nurses have poor knowledge of alcohol use disorders. On comparison of the different domains on the KPAAQ, more than half of the nurses answered the questions on the long term consequences of alcohol. Females had significantly more knowledge as compared to males. Nurses with 6-10 years of experience had significantly more knowledge in comparison to those with 11-20 and 0-5 years of experience.

In general, the nurses had a negative attitude towards patients diagnosed with alcohol use disorder. However, the nurses had a positive attitude towards motivation, role legitimacy domains on the SAAPQ. In addition, there was no statically significance while comparing the sociodemographic characteristics with attitude.

#### **5.5 Recommendations**

There is a need for training of the nurses on alcohol use disorders to improve their knowledge since the nurses overall mean scores were below average on the KPAAQ (45.7).

Continuous medical education (C.M.E) should be carried out among the nurses with the aim of giving the nurses the most recent information on alcohol use disorders due to their poor knowledge. In addition, an explanation should be done among nurses as to how a negative attitude towards alcohol use disorders greatly affects the patients' management.

The books on National Protocol of Management of Substance Use Disorders in Kenya should be availed in the different departments of the hospital so that one can read and also refer to it when necessary. This will help the nurses to improve their knowledge and attitude towards alcohol use disorders.

## **5.6 Limitations**

Most of the nurses were busy working at the various working station, therefore, the researcher had to give the respondents a day or two to complete the questionnaires.

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## **APPENDICES**

### **Appendix I: Participant Information and Consent Form**

Title of study: Nurses Knowledge, Attitude and Practice on Alcohol Use at Baringo Teaching and Referral hospital

Principal Investigator: Korir Ruth Jepchumba. Department of Psychiatry student, University of Nairobi

Co-Investigator: Kuria Wangari, Mwayo Anne. Lecturers, Department of Psychiatry, University of Nairobi

#### **Introduction**

My name is Ruth Jepchumba Korir. I am carrying out a study to assess the nurses' knowledge and attitude on alcohol use disorders at Baringo County Referral Hospital. The purpose of this form is to give you the information you will need to help you decide whether you will be a participant in this study. Kindly feel free to ask any questions about the research. If you feel I have addressed all of your concerns to your satisfaction, then you may decide to participate in the study or not. Once you understand and agree to be in the study, I will request you to sign your name on this form. Your participation is voluntary and you may withdraw from the study at any time, without necessarily giving a reason. There will be no repercussions if you choose not to participate or withdraw in the middle of the study.

#### **Purpose of the Research**

The researchers listed above are interviewing nurses who are taking care of patients at Baringo Teaching and Referral Hospital. The purpose of the interview is to determine the knowledge and attitude on alcohol use disorder among nurses.

### **What will happen if you decide to be in this research study?**

If you agree to participate in the study, the researcher will give you a questionnaire to fill.

### **Duration**

The data collection will only take a period of 15 minutes to 30min. During this time, you will only be expected to answer the questions as outlined.

### **Risks**

There is no physical harm anticipated when taking part in this research.

In case of any psychological harm, the affected individual will be referred to the psychiatric department in the hospital or the researcher can offer psychological intervention where necessary.

The identity of those who will take part in the research will not be disclosed or shared with anyone. To ensure confidentiality the data collection forms will not bear your name. You will be identified by the study code number. The data collected will be kept under lock and key. All the data and the information obtained during the study will be used for the sole purpose of meeting the objective of the study.

### **Benefits**

There are no direct benefits to you as an individual. However, the information you provide will help the hospital in policy formulation and offer appropriate continuous medical education in regards to alcohol use disorders.

### **Will being in this study cost you anything**

There is no financial implication if you choose to participate in the study

There is also no monetary gain if you choose to participate in the study.

### **What if you have questions in the future?**

If you have further questions or concerns about participating in this study, please call or send a text message to the study staff at the number provided at the bottom of this page.

For more information about your rights as a research participant, you may contact the Secretary/Chairperson, Kenyatta National Hospital-University of Nairobi Ethics and Research Committee Telephone No. 2726300 Ext. 44102 email [uonknh\\_erc@uonbi.ac.ke](mailto:uonknh_erc@uonbi.ac.ke).

The study staff will pay you back for your charges to these numbers if the call is for study-related communication.

What are your other choices?

Your decision to participate in research is voluntary. You are free to decline participation in the study and you can withdraw from the study at any time without injustice or loss of any benefits.

## CONSENT FORM

### Participant's Statement

I have read this consent form or had the information read to me. I have had the chance to discuss this research study with a study counselor. I have had my questions answered in a language that I understand. The risks and benefits have been explained to me. I understand that my participation in this study is voluntary and that I may choose to withdraw any time. I freely agree to participate in this research study.

I understand that all efforts will be made to keep information regarding my personal identity confidential. By signing this consent form, I have not given up any of the legal rights that I have as a participant in a research study.

I agree to participate in this research study:    Yes            No

Participant printed name: \_\_\_\_\_

Participant signature / Thumb stamp \_\_\_\_\_

Date \_\_\_\_\_

### Researcher's Statement

I, the undersigned, have fully explained the relevant details of this research study to the participant named above and believe that the participant has understood and has willingly and freely given his/her consent.

Researcher 's Name: \_\_\_\_\_ Date: \_\_\_\_\_

Signature \_\_\_\_\_

If you have more questions or concerns about participating in this study please contact the researcher on the number 0723822332 or her supervisor, Dr. Anne Mbwayo on.0733823896 You can also contact KNH/UON-ERC on 276300 Ext 44102 email uonknh-erc@uonbi.ac

## Study Instruments

### Appendix II: Sociodemographic Information

1. Age (tick the appropriate age group)

a) 30 years and below [ ]

b) 31-40 years [ ]

c) 41-50 years [ ]

d) 50-60 years [ ]

2. Gender

a) Male [ ]

b) Female [ ]

3. Religion

a) Protestant [ ]

b) Catholic [ ]

c) Muslim [ ]

d) Others specify\_\_\_\_\_

4. Marital status

a) Married [ ]

b) Single /unmarried [ ]

c) Divorced/Separated [ ]

d) Others specify\_\_\_\_\_

5. Cadre

a) Enrolled nurse [ ]

b) Registered nurse [ ]

c) Nursing officer [ ]

d) Others specify\_\_\_\_\_

6. Years of experience

a) 0-5 years [ ]

b) 6-10 years [ ]

c) 11-20 years [ ]

d) Over 21 years [ ]

7. Highest level of education obtained....

a) Diploma [ ]

b) Undergraduate [ ]

c) Postgraduate [ ]

d) Others specify\_\_\_\_\_

8. Department of work

a) Inpatient [ ]

b) Outpatient [ ]

9. If you work at the outpatient department, kindly tick the sub department

a) Medical outpatient clinic [ ]

b) Surgical outpatient clinic [ ]

c) Paediatric outpatient clinic [ ]

d) Obstetric and gynaecological clinic [ ]

e) Accident and emergency [ ]

f) Others specify\_\_\_\_\_



10. If you work at the inpatient department, kindly tick the sub department

a) Medical wards  [ ]

b) Surgical wards  [ ]

c) Paediatric ward  [ ]

d) Maternity ward  [ ]

e) Others specify \_\_\_\_\_

## Appendix III: Knowledge of Psychiatric Aspects of Alcohol Use Disorder

### Questionnaire

In this section kindly tick one response

1. Drinking milk before drinking an alcoholic beverage will slow the absorption of alcohol into the body
  - a) True [  ]
  - b) False [  ]
  - c) Not sure [  ]
  
2. Naltrexone is used as a medical treatment of alcohol abuse
  - a) True [  ]
  - b) False [  ]
  - c) Not sure [  ]
  
3. Alcoholic beverages do not provide weight –increasing calories
  - a) True [  ]
  - b) False [  ]
  - c) Not sure [  ]
  
4. Binge drinking of alcoholic beverages is more common in older
  - a) True [  ]
  - b) False [  ]
  - c) Not sure [  ]
  
5. Alcohol is usually classified as a stimulant
  - a) True [  ]
  - b) False [  ]

- c) Not sure [ ]
6. Alcohol is not an addictive drug
- a) True [ ]
  - b) False [ ]
  - c) Not sure [ ]
7. The AUDIT questionnaire is a test for alcohol use disorder
- a) True [ ]
  - b) False [ ]
  - c) Not sure [ ]
8. GGT (Gamma Glutamyl Transpeptidase) is the most sensitive enzyme available to detect alcohol abuse
- a) True [ ]
  - b) False [ ]
  - c) Not sure [ ]
9. . Many people drink to escape from problems, loneliness and depression
- a) True [ ]
  - b) False [ ]
  - c) Not sure [ ]
10. Alcoholic drinks mixed with water will affect you faster than alcohol drunk straight
- a) True [ ]
  - b) False [ ]
  - c) Not sure [ ]

11. . A person weighing 70kg, to keep his blood alcohol concentration below the legally intoxicated level, would have to drink fewer than 3 beers in an hour

a) True [ ]

b) False [ ]

c) Not sure [ ]

12. A person cannot become an alcoholic by just drinking beer

a) True [ ]

b) False [ ]

c) Not sure [ ]

13. To prevent from getting a hangover, one should sip one's drink slowly, drink and eat at the same time, space drinks over a period of time, and not drink over one's limit

a) True [ ]

b) False [ ]

c) Not sure [ ]

14. Drinking in moderation can result in relaxation, enhanced social interactions, and a feeling of wellbeing.

a) True [ ]

b) False [ ]

c) Not sure [ ]

15. Spirits drinks (whiskeys, gin vodka, etc.) usually contain about 15 % alcohol by volume

a) True [ ]

b) False [ ]

c) Not sure [ ]

16. Self-help groups (Alcoholics Anonymous) are not helpful for those suffering from AUD

a) True [ ]

b) False [ ]

c) Not sure [ ]

17. It takes about as many hours as the number of beers drunk to completely burn up the alcohol ingested

a) True [ ]

b) False [ ]

c) Not sure [ ]

18. About 30 % of people suffering from alcohol abuse suffer from a mood disorder during their lifetime

a) True [ ]

b) False [ ]

c) Not sure [ ]

19. A blood alcohol concentration of 0.02% causes a person to be in a stupor

a) True [ ]

b) False [ ]

c) Not sure [ ]

20. A glass of beer has very few calories so it has no impact on a diet

- a) True [ ]
- b) False [ ]
- c) Not sure [ ]

21. Proof on a bottle of alcoholic drink represents approximately half the percentage of alcohol contained in the bottle

- a) True [ ]
- b) False [ ]
- c) Not sure [ ]

22. Beer usually contains 2-5 % alcohol by volume

- a) True [ ]
- b) False [ ]
- c) Not sure [ ]

23. Eating while drinking will slow down the absorption of alcohol into the body

- a) True [ ]
- b) False [ ]
- c) Not sure [ ]

24. Drinking coffee or taking a cold shower can be an effective way of sobering up

- a) True [ ]
- b) False [ ]
- c) Not sure [ ]

25. Consuming alcoholic drinks mixed with water is a way of avoiding getting drunk

a) True [ ]

b) False [ ]

c) Not sure [ ]

26. Alcohol use is associated with about 50% of homicides and 25 % suicides

a) True [ ]

b) False [ ]

c) Not sure [ ]

27. Alcohol abuse reduces life expectancy by about 10 years

a) True [ ]

b) False [ ]

c) Not sure [ ]

28. Alcohol abuse is most prevalent among 18-29 years olds

a) True [ ]

b) False [ ]

c) Not sure [ ]

29. Men are more likely than women to be binge drinkers

a) True [ ]

b) False [ ]

c) Not sure [ ]

30. In an average-sized person, the amount of alcohol consumed from one standard  
drink is metabolized in 20 minutes

a) True [ ]

b) False [ ]

c) Not sure [ ]

31. Four standard drinks per day is a moderate alcohol consumption for women

a) True [ ]

b) False [ ]

c) Not sure [ ]

32. Women have higher levels of alcohol dehydrogenase than men

a) True [ ]

b) False [ ]

c) Not sure [ ]

33. Hypoglycemia may be caused by acute alcohol intoxication

a) True [ ]

b) False [ ]

c) Not sure [ ]

34. Autonomic hyperactivity is a feature of delirium tremens (DT)

a) True [ ]

b) False [ ]

c) Not sure [ ]

35. DTs are less likely when the person enjoys good physical health

a) True [ ]

b) False [ ]

c) Not sure [ ]



36. DT S usually commence 12-24 hours after stopping heavy alcohol intake

- a) True [ ]
- b) False [ ]
- c) Not sure [ ]

37. Vitamin B1 is effective in preventing DTS

- a) True [ ]
- b) False [ ]
- c) Not sure [ ]

38. Benzodiazepines are effective in preventive DT

- a) True [ ]
- b) False [ ]
- c) Not sure [ ]

39. DT normally appears after at least 5 years of heavy alcohol use

- a) True [ ]
- b) False [ ]
- c) Not sure [ ]

40. Epileptic convulsions are not seen in alcohol withdrawal

- a) True [ ]
- b) False [ ]
- c) Not sure [ ]

41. Thiamine is used to prevent the development of Korsakoffs Amnestic Syndrome

- a) True [ ]
- b) False [ ]

c) Not sure [ ]

42. The mortality rate for untreated DT approaches 15 %

a) True [ ]

b) False [ ]

c) Not sure [ ]

43. Alcohol use rarely causes disturbed sleep

a) True [ ]

b) False [ ]

c) Not sure [ ]

44. There is no genetic basis for alcohol use disorders

a) True [ ]

b) False [ ]

c) Not sure [ ]

45. Alcohol withdrawal-related hallucinations cannot be differentiated from DTs

a) True [ ]

b) False [ ]

c) Not sure [ ]

46. Withdrawal from alcohol is more physically dangerous than withdrawal from  
heroin

a) True [ ]

b) False [ ]

c) Not sure [ ]

47. Methadone is more dangerous than alcohol for a pregnant woman

a) True [ ]

b) False [ ]

c) Not sure [ ]

48. Alcohol consumption in pregnancy does not affect the fetus

a) True [ ]

b) False [ ]

c) Not sure [ ]

49. Alcohol consumption during pregnancy does not affect the child's postnatal development

a) True [ ]

b) False [ ]

c) Not sure [ ]

50. Microcephaly, craniofacial malformation and heart defects are commonly seen in infants affected with fetal alcohol syndrome

a) True [ ]

b) False [ ]

c) Not sure [ ]

**Appendix IV: Shortened Alcohol and Alcohol Problems Perception Questionnaire**

Please tick one number for each question for each statement	Strongly agree	Quite strongly agree	Agree	Neither agree nor disagree	Disagree	Quite strongly disagree	Strongly disagree
1. I feel I know enough about the causes of drinking problems to carry out my role when working with drinkers.	7	6	5	4	3	2	1
2. I feel I can appropriately advise my patients about drinking and its effects	7	6	5	4	3	2	1
3. I feel I do not have much to be proud of when working with drinkers	7	6	5	4	3	2	1
4. All in all I am inclined to feel a failure with drinkers	7	6	5	4	3	2	1
5. I want to work with drinkers	7	6	5	4	3	2	1
6. Pessimism is the most realistic attitude to	7	6	5	4	3	2	1

take towards drinkers							
7. I feel I have the right to ask a patient questions about their drinking when necessary	7	6	5	4	3	2	1
8. I feel that my patients believe I have the right to ask them questions about drinking when necessary	7	6	5	4	3	2	1
9. In general, it is rewarding to work with drinkers	7	6	5	4	3	2	1
10. In general, I like problem drinkers	7	6	5	4	3	2	1

**Appendix V: KNH Ethical Approval Letter**