



**KPONG, EASTERN REGION**

**DEPARTMENT OF COMMUNITY HEALTH**

**SUBSTANCE USE AMONG OKADA RIDERS AT THE KPONE KATAMANSO  
MUNICIPALITY, GREATER ACCRA REGION, GHANA.**

**BY**

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**APRIL 2025**

**ENSIGN GLOBAL UNIVERSITY**

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A THESIS SUBMITTED TO THE DEPARTMENT OF COMMUNITY HEALTH, IN  
THE FACULTY OF PUBLIC HEALTH, ENSIGN GLOBAL COLLEGE  
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE MASTER OF  
PUBLIC HEALTH DEGREE

APRIL 2025

**DECLARATION**

I hereby declare that this submission is my own work towards the MPH, and to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the university, except where due acknowledgement has been made in the text.

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Signature

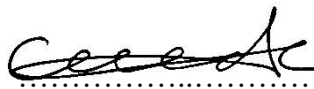
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Certified by:

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(Supervisor)



Signature

05/05/2025

Date

Certified by:

**Dr. Stephen Manortey**

(Head of Academic Program)

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Signature

.....

Date

## **DEDICATION**

To the commercial motor riders (Okada riders), whose resilience and strength inspire this work. May this research contribute to safer, healthier future of the communities in the Kpone

Katamanso Municipality of the Greater Accra Region of Ghana

## **ACKNOWLEDGEMENT**

I thank God Almighty for Ensign Global University and for the strength and inspiration for this thesis work. I thank all faculty members for their impart of knowledge throughout my stay at EGU. I do not take the support, guidance and expertise of my supervisor (Dr. Nuworza Kugbey) for granted. I also thank the NRSA and research assistants for their support. I am grateful to the Okada riders who participated in this study, sharing their experiences and insights made the work more meaningful.

I thank my husband Mr. Philip Kojo Manchie especially for the all-round support I received on this project. Glory to God.

## **DEFINITION OF TERMS**

**Okada riders:** a person who uses a motorcycle to transport people from place to place for the purpose of receiving money.

## **ABBREVIATIONS AND ACRONYMS**

EGU	Ensign Global University
NRSA	National Road Safety Authority
KKMA	Kpone Katamanso Municipal Assembly
KKMHD	Kpone Katamanso Municipal Health Directorate
GHS	Ghana Health Service
WHO	World Health Organization
RTA	Road Traffic Accidents/Crashes
FDA	Food and Drugs Authority
NACOC	Narcotics Control Commission
GPS(MTTD)	Ghana Police Service (Motor Traffic Transport Department)
GSS	Ghana Statistical Service
DUI	Driving Under the Influence
MMDAs	Municipal and District Assemblies
BAC	Blood Alcohol Content

## ABSTRACT

**Background:** Alcohol and illicit drug usage pose serious concerns to road safety, especially for commercial motor riders popularly known as Okada riders. However, there is limited data within the Ghanaian setting on substance use and its association with the risk of road traffic accidents in Ghana.

**Aim:** This study examined the prevalence of substance use, the most commonly used substances, and association between substance use and the incidence of road traffic accidents, given the growing reliance on motorcycles as a primary mode of transportation, despite their illegal status in Ghana.

**Method:** A quantitative cross-sectional design was used. The study used a multistage sampling technique to select 249 Okada riders and a structured questionnaire was interviewer administered to assess their substance use behaviors and incidence of road traffic accidents in the Kpone Katamanso Municipality. The data obtained was analyzed with Stata 17.0 version.

**Results:** Substance use among commercial motorcycle riders was 66.27% with alcohol being the most common (37.1%), followed by unspecified substances (33.06%), prescribed drugs (16.53%), and marijuana (13.31%). Although variations exist between substance users and non-users in their rates of RTAs, the association was not statistically significant. The rate of RTAs was 41% among the participants but none of the factors had a statistically significant association with the rate of RTA.

**Conclusion:** Substance use is prevalent among Okada riders, especially younger and less experienced individuals. RTAs are common in this population and calls for a more holistic

approach involving several stakeholders to address both substance use and RTAs among the riders in the face of government's attempt to legalize their operations.

**Keywords:** substance use, Okada riders, road traffic accidents and crashes, prevalence.

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## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background

Substance use, particularly the consumption of alcohol and illicit drugs, have been a significant concern among commercial motorcycle riders (Okada riders), a group that plays a crucial role in transportation and economic activities in many parts of the world Oridota, O., *et al.* (2017) Motorcyclists constitute an important group of road users globally. In many developing countries, motorcycles are an increasingly popular means of public transportation for the medium and low-income earners, due mainly to convenience, affordability, ease of use, maneuverability and ability to navigate through poor road networks and traffic congestion (Jamilu & Dantsoho, 2021). Road transport is the dominant mode of transport in Ghana (WHO, 2018). It accounts for more than 80% of passenger traffic and over 70% of freight traffic in the country (WHO, 2018). Increased economic activities and investments in road transport infrastructures have resulted in increased usage of motorcycles, more especially in the urban centers where it is used for commercial purposes though their operations are illegal (Baset et al., 2017), yet increased use of motorcycles have been accompanied by an unprecedented increase in road traffic crashes.

Drug and substance use is now a global problem causing both social and public health havoc in many countries. Without doubt drugs have been of tremendous benefit to man but it has been acknowledged that the inappropriate use of same can- do incalculable harm not only to individuals but to society at large. Drug abuse has been defined as any use of drugs that cause physical, psychological, legal or social harm to the individual or to others affected by the drug

user's behavior (Alti-Muazu & Aliyu, 2008). One of the leading causes of death for individuals between the ages of 15 and 29 years.

Globally, about 1.3 million people are killed in motor vehicle crashes and 20–50million more are seriously injured (Ref). By 2020, motor vehicle crashes are expected to become the third most serious threat to human health in the world (Ezekiel Oridota et al., 2017b). Sarmiento et al (2020) examined the prevalence of alcohol and illicit substance use in fatal motorcycle crashes in the United States. The study found that a substantial proportion of these crashes involved riders who had consumed alcohol and/or illicit substances, underscoring the significant role that substance use plays in increasing the risk of severe and fatal motorcycle accidents.

The World Health Organization estimates that 1.35 million people die as a result of road traffic crashes (WHO, 2018). Between 20 and 50 million more people suffer non-fatal injuries, with many incurring a disability (WHO, 2018). Road traffic injuries cause significant economic losses to individuals and their families and countries all over the world. These losses may be associated with cost of treatment, loss of productivity and valuable working time for victims and relatives, loss of skilled labor force, and loss of school hours.

Road traffic crashes cost most countries 3% of their gross domestic product (WHO, 2018). Road traffic injuries are now the leading killer of people aged 5–29 years. Similarly, a study conducted in Dar es Salaam, Tanzania, investigated the association between alcohol consumption, marijuana use, and road traffic accidents among commercial motorcycle riders. The researchers found that both alcohol and marijuana use were independently associated with an increased risk of road traffic injuries, highlighting the need for interventions targeting substance use in this population. A study explored risky riding behavior in India using the

Motorcycle Rider Behavior Questionnaire. The findings suggested that substance use, along with other factors such as speeding and lack of safety gear, contribute to the prevalence of risky riding practices, which can have serious consequences for both riders and other road users.

Driving under the influence (DUI) of any drug that acts on the brain could impair one's motor skills, reaction time, judgment, perception, cognition, attention, balance, coordination and other faculties required for safe driving. (Oridota et al., 2017b). The problem of substance abuse is growing at an explosive rate and in just over a decade it has spread widely all over the globe surmounting almost all barriers of race, caste, creed, religion, gender, educational status and economic strata (King & Chassin, 2014).

## **1.2 Problem Statement**

Commercial motor riders have been a major means of public transport in peri-urban settings in Ghana even though they have not been legalized to operate as a commercial means of transport. Several factors have been associated with motor riders having a high incidence of crashes, especially in urban and peri-urban communities where it is used as a means of transport. Motor riders ride without a prior notion about crashes in their mind, hence risking their lives by riding while unprotected or under the influence of substances used. According to data compiled by the Ghana Motor Traffic and Transport Department (MTTD), a total of 2,076 people died in motorcycle traffic accidents in 2017, with a total number of 3,487 motorcycles being involved (Konlan et al., 2020).

The National Road Safety Authority also conducted a study among the road user class which was reported their 2023 annual review report showed that among the road user class, which includes pedestrians, cars, buses, motorcycles, trucks, cycles and others: road crashes involving

motorcycles were the highest over 150% increment in 2023 alone with cycles being the least as compared to the previous year. Despite the education by the National Road Safety Authority and Public health organizations; occurrence of road traffic crashes associated with commercial motorcycles have also been on the increase with a rise in the number of injuries reported to health facilities. The NRSA also reviewed the trends in motorcycle fatalities over a period of ten years thus from 2011 to 2021. 2011 recorded 313 and remained in the 300s till 2016 where it rose to 437 and then entered the 500s in 2018 then by 2020, the fatalities were in the 800s and sharply rose to 915 as of 2021. Even though motorcyclists are at high risk of road traffic crashes, few studies have been done on that with only a few community-based studies done to examine the influence of substance use among commercial motor riders and drivers in Ghana, this has limited the knowledge on the prevalence of road accidents among riders that are related to substance use.

Substance use among commercial motor riders, encompassing operators of motorcycles, trucks, and other commercial vehicles, has emerged as a significant public health concern in Ghana and across many African countries. This issue is closely linked to elevated rates of road traffic accidents, injuries, and fatalities. The use of substances by riders impairs judgment, reduces reaction time, and increases risky behavior on the roads, thereby exacerbating the burden of trauma care and economic losses associated with road crashes. The prevalence of substance use among this group is influenced by multiple factors, including long working hours, fatigue, economic pressures, cultural norms, and inadequate regulatory enforcement. This section provides a comprehensive overview of the prevalence of substance use among commercial motor riders in Ghana and Africa, drawing on data from multiple studies, and discusses the key factors influencing this phenomenon as well as its broader health, safety, and policy implications.

In Ghana, the rising prevalence of substance use among commercial motor riders is a growing concern for road safety and public health. A study focusing on motorcycle accidents revealed that a significant proportion of riders involved in accidents were young males, many of whom lacked formal training and licensure (Marnah & Manortey, 2022). Although this study did not specifically quantify substance use, it highlights the vulnerability of this demographic to engaging in risky behaviors, including the use of psychoactive substances.

Further evidence comes from a study that assessed drunk-driving prevalence through roadside breathalyzer tests, revealing that 8.7% of drivers had detectable alcohol in their breath, with 5.5% exceeding the legal blood alcohol concentration (BAC) limit of 0.08% (Kirrane et al., 2009). While this study covered all drivers and not just commercial motorcyclists, it underscores the significant presence of alcohol use among the driving population in Ghana, implicitly including Okada riders who constitute a substantial portion of road users.

The prevalence of substance use among commercial motor riders is not confined to Ghana but represents a broader, continent-wide challenge. A systematic review conducted by Giroto et al. (2014) examined psychoactive substance use among truck drivers across Africa and other regions. Their findings revealed that the most used substances included alcohol, amphetamines, marijuana, and cocaine, with prevalence rates ranging widely: alcohol use ranged from 0.1% to 91.0%, amphetamines from 0.2% to 82.5%, marijuana from 0.2% to 29.9%, and cocaine from 0.1% to 8.3%. Similarly, a study focusing on trauma cases at a Level I Trauma Center found that among 1,067 drivers involved in road traffic accidents, 242 tested positive for alcohol or drug use (Renzi et al., 2021). The substances most commonly detected were alcohol (62.3%), cannabis (21.3%), and cocaine (14%). Importantly, the study established a strong association between substance use and the severity of injuries, with substance-using drivers

experiencing higher injury severity scores and more frequent head injuries. Several interrelated factors contribute to the high prevalence of substance use among commercial motor riders in Ghana and across Africa, Commercial motor riders often endure prolonged working hours, including night shifts, as they strive to maximize earnings under challenging economic conditions. Fatigue is a frequent consequence, prompting some drivers to use stimulants such as amphetamines to stay awake and alert during long-distance or extended shifts (Giroto et al., 2014; Dini et al., 2019). Weak enforcement of substance use laws exacerbates the problem. In many African countries, including Ghana, random drug testing and stringent penalties for substance-impaired driving are rare or inconsistently applied. This lack of enforcement creates an enabling environment for the persistence of substance use among commercial drivers (Kirrane et al., 2009; Giroto et al., 2014). Cultural perceptions also play a crucial role. In some communities, alcohol use is culturally normalized and even encouraged as a coping mechanism for stress or as a social bonding activity. This normalization extends to professional drivers, who may view moderate substance use as acceptable or even beneficial (Kirrane et al., 2009; Ricci et al., 2008) The economic demands placed on commercial motor riders cannot be overstated. Riders face pressure to deliver passengers and goods quickly to meet financial obligations. To cope with the physical and psychological demands, some resort to substances believed to enhance endurance and alertness (Giroto et al., 2014; Dini et al., 2019). The implications of substance use among commercial motor riders are profound, both for individual health and public safety,

### **1.3 Rationale for the study**

The study has the potential to significantly address the critical issue of substance use among commercial motor riders since more light will be thrown on understanding the prevalence and patterns of substance use among motorcycle riders which can inform strategies to reduce substance impaired riding and related crashes, injuries, and fatalities, enabling tailored interventions for vulnerable groups. The findings may contribute valuable insights for education, policy formulation, and targeted interventions by the Ghana health Service (GHS), National Road Safety Authority (NRSA), Ghana Police Service (GPS) and other stakeholders ultimately leading to improved road safety and public health outcomes in the Kpone Katamanso municipality. Motorcycle riders may engage in other high-risk behaviors; studying substance use can help evaluate the intersection of these behaviors and develop comprehensive prevention programs since there are only few community-based studies that have been done to examine the influence of substance use.

The findings of this study have significant implications for scholarship, research, practice, and policy. Academically, the study adds to the growing body of literature on substance-impaired riding and the challenges posed by the commercial use of motorcycles in contexts where it is illegal, such as Ghana. For future research, the findings highlight the need for more extensive investigations into the relationship between regulatory gaps and risky road behaviors among commercial riders. In terms of practice, the results underscore the necessity for targeted road safety interventions, public education campaigns, and health promotion strategies aimed at reducing substance use among riders. For policy, the study provides evidence to support the formulation and enforcement of laws that clearly define and regulate motorcycle usage, closing existing loopholes that riders exploit to evade prosecution, particularly within the Kpone Katamanso Municipality.

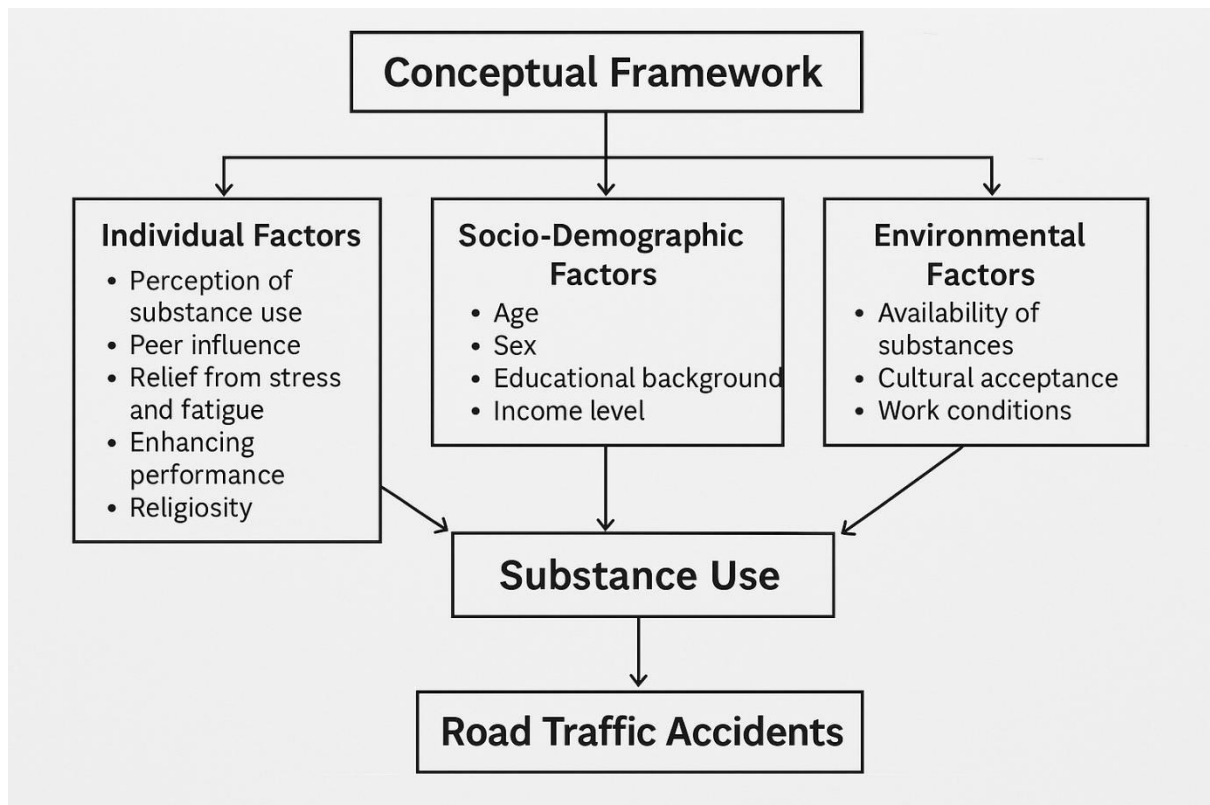
## **1.4 Conceptual framework**

The conceptual framework illustrates the complex interplay of factors contributing to substance use among commercial motor riders as seen in figure 1.1. It categorizes these influences into three main groups: behavioral factors, socio-demographic factors, and environmental factors. The behavioral factors encompass personal characteristics and motivations that may drive a rider to use substances. These include the rider's perception towards substance use, which could be influenced by personal beliefs or experiences. Peer pressure plays a significant role, as riders may feel compelled to use substances to fit in with their colleagues. Income level is another crucial factor, potentially affecting access to substances or serving as a stressor that leads to substance use. Religiosity might act as a protective factor or influence attitudes towards substance use. The framework also considers stamina, relief from fatigue and stress, and the pursuit of high performance as individual factors that could motivate substance use among riders seeking to enhance their work capacity or cope with job demands.

Socio-demographic factors form the second category, highlighting the importance of broader social and demographic characteristics in substance use patterns. Age and sex are included, suggesting that substance use behaviors may vary across different age groups and genders. The level of education could influence awareness of risks associated with substance use or affect employment opportunities and stress levels. Income status, distinct from individual income level, might reflect broader socioeconomic conditions affecting substance use.

Environmental factors constitute the third category, focusing on external conditions that facilitate substance use. The availability of substances in all forms is a crucial environmental factor, as easy access can increase the likelihood of use. Additionally, the framework notes the presence of a culture among stationed riders, suggesting that social norms and practices within

the community of commercial motor riders may encourage or normalize substance use. All these factors may eventually lead to substance use among Okada riders.



*Fig 1,1 Conceptual framework of the study*

### **1.5 Research Questions**

1. What is the prevalence of substance use among commercial motor riders (Okada riders)?
2. What type of substances are commonly used among commercial motor riders?

3. What is the association between substance use and road traffic accidents among commercial motor riders?

### **1.6 General objective**

To assess the patterns of substance, use and its relationship with road traffic accidents among commercial motor riders (Okada riders) in the Kpone Katamanso Municipality.

### **1.7 Specific Objectives:**

The specific objectives of this study are:

1. To determine the prevalence of substance use among commercial motor riders
2. To identify the types of substances commonly used by commercial motor riders in the area.
3. To examine the association between substances used and the occurrence of road traffic accidents among commercial motor riders.

### **1.8 Profile of Study area**

Kpone Katamanso District is one of the newly created 6 districts of the Greater Accra Region and is located in the south-eastern part of Ghana. The district was carved out of the Tema Metropolis in August 2012 and became operational on 1<sup>st</sup> October 2012. The built-up part of the district is largely sub-urban with a good number of industries. The district is partly rural with new residential communities springing up. Kpone Katamanso District is only 38 kilometers drive from Accra central, the Capital city of Ghana. The municipality is bounded to the North by Aburi Municipal, on the Northeast by Shai Osu-Doku and Ningo Prampram districts on the Northwest by Adentan and Ashaiman Municipalities, on the Southwest by Tema

Metropolis and in the South by the Gulf of Guinea. Kpone-Katamanso Municipal district is one of the twenty-nine districts in Greater Accra region was formerly part of the then-larger Tema Municipal district, which was created from the former Tema district Council, until the eastern portion of the district was split off to create Kpone-Katamanso district on 28 June 2012, which was established by Legislative Instrument (L.I.) 2031; thus, the remaining part has been retained as Tema. It has population of 426,098 according the Ghana population census, conducted in 2021.

The district has semi-urban, as well as rural sections. The semi-urban sections are made up of several settlements, namely: Community 25, Kpone township, Golf City, Oyibi, Sebrepor, Kakasunanka No.1&2, Nsrehu, Michel Camp, Gbetsile, Coastal Estate, Saki, Bediako, Bethlehem. The rural part is made up of a number of settlements including Oyibi, Saduase, Kpone Bawaleshie, Apolonia, Kubekro 1&2, Katamanso, Kpoi Ete, Gonyitein, Santor, Old and New Saasabi, Kubekro number 1 & 2, Okushibri, Nmanoman, and Adigon. Some previously rural communities, such as Gbetsile, Kakasunanka No. 1 & 2, and Zenu, which were small villages until recently, are now fast growing into sub-urban areas. Zenu is almost merging with adjacent urban communities like the Ashaiman Municipality.

Kpone Katamanso District is very important for the economic development and security of Ghana. Numerous large as well as small industrial establishments are located within the district and these include VALCO, Tema Steel, Alu-works, and Private Garages (Toyota, Tata) Tema Oil Refinery, Sunon-Asogli Power Ghana Limited, Air Liquide, B5 Plus and the Free Zone enclave. Next in line in economic activity are small scale fishing (canoe, canoe), medium and small-scale manufacturing and commercial trading – wholesale and retail. There are small and medium markets in the built-up communities whilst the rural settlements have none. Small-scale vegetable farming and animal husbandry are undertaken in the peripheral and rural areas,

but most have difficulty in accessing wholesome water for their trade. Another employment sector comprises small manufacturing businesses and vocational enterprises (Carpentry, Masonry, Tailoring, Hairdressing, Auto-electrical, Auto-mechanic, Welding, Refrigeration, Air-conditioning, etc.). There are also the transportation companies in the form of tricycle (Abobo Yaa and Keke aka Mahama-can-do), motor bicycle riders (Okada riders), Taxis and minibuses (trotro) in the district.

Kpone Katamanso District is endowed with a number of educational institutions at basic level both public and private. Currently, there is One (1) Government second cycle school in the district however, can boast of one of the first private tertiary institutions-the Valley View University at Oyibi. The rural communities have basic schools that are also fairly adequate. Literacy rates are relatively high compared to other districts. Adult literacy (persons aged 15 years and above) was 87% among men and 73% for women in year 2000 according to the Ghana Statistical Service, Population and Housing Census. This is partly the result of the large numbers of literate migrant workforce.

For the purposes of effective healthcare delivery, the district is called Kpone Katamanso Municipal Health Directorate (KKMHD) which is divided into five health sub-districts namely, Kpone, Apollonia, Zenu, Gbetsile and Oyibi sub districts.

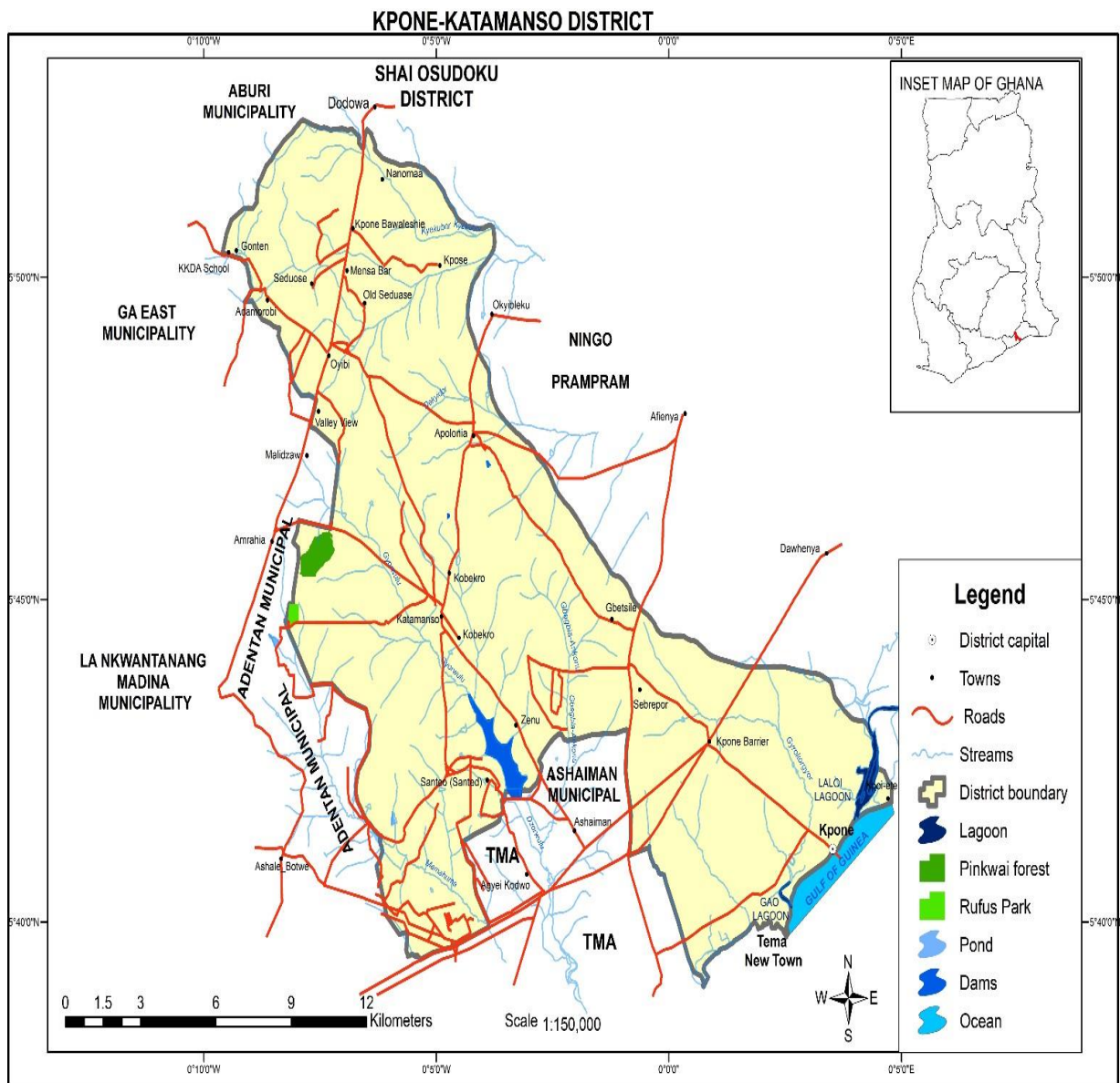


Figure 1.2: Kpone Katamanso District Map. Source: GSS 2022

### 1.9 Scope of study

The study covered substance use among Okada riders in the Kpone Katamanso municipality. The organization under study were stationed Okada riders in various Okada stations in the KKM where the primary data was collected from. The prevalence of substance use among this group is influenced by multiple factors from individual, socio economic to environmental factors such as long working hours, fatigue, economic pressures, cultural norms, and

inadequate regulatory enforcement. These riders indulged in all kinds of substance use ranging from illicit drugs, alcohol and unspecified substances. The study found that there is some level of association between substance use and road traffic accidents though not huge but some accidents could be traced to substance use.

### **1.10 Organization of Report**

The study is made up of six chapters. Chapter one discusses the context, problem statement, purpose, research questions, significance, scope, and organization of the study. Chapter two is the literature review which discusses the fundamental theories and tenets of the research and also a review of the empirical literature.

The study restrictions, study region, target population, sample size and procedures, data types and sources, data collection instrument, data processing procedure, and research design are all covered in chapter three. The findings and discussions of the study are presented in chapter four. Chapter five summarizes the findings of the research and chapter six provides conclusion and recommendations.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents the review of empirical literature relating to substance use among drivers according to the specific objectives of the study. The first section presents a review of related studies on substance use prevalence among drivers, followed by the type of substances that are used by drivers and finally the association between substance use and occurrence of road traffic accidents among drivers including Okada riders. The details are presented in the sub-sections below.

#### **2.2 Prevalence of substance use among commercial motor riders and drivers**

Substance use among commercial motor riders, encompassing operators of motorcycles, trucks, and other commercial vehicles, has emerged as a significant public health concern in Ghana and across many African countries. This issue is closely linked to elevated rates of road traffic accidents, injuries, and fatalities. The use of substances by riders impairs judgment, reduces reaction time, and increases risky behavior on the roads, thereby exacerbating the burden of trauma care and economic losses associated with road crashes. The prevalence of substance use among this group is influenced by multiple factors, including long working hours, fatigue, economic pressures, cultural norms, and inadequate regulatory enforcement. This section provides a comprehensive overview of the prevalence of substance use among commercial motor riders in Ghana and Africa, drawing on data from multiple studies, and discusses the key factors influencing this phenomenon as well as its broader health, safety, and policy implications.

In Ghana, the rising prevalence of substance use among commercial motor riders is a growing concern for road safety and public health. A study focusing on motorcycle accidents revealed that a significant proportion of riders involved in accidents were young males, many of whom lacked formal training and licensure (Marnah & Manortey, 2022). Although this study did not specifically quantify substance use, it highlights the vulnerability of this demographic to engaging in risky behaviors, including the use of psychoactive substances.

Further evidence comes from a study that assessed drunk-driving prevalence through roadside breathalyzer tests, revealing that 8.7% of drivers had detectable alcohol in their breath, with 5.5% exceeding the legal blood alcohol concentration (BAC) limit of 0.08% (Kirrane et al., 2009). While this study covered all drivers and not just commercial motorcyclists, it underscores the significant presence of alcohol use among the driving population in Ghana, implicitly including Okada riders who constitute a substantial portion of road users.

The prevalence of substance use among commercial motor riders is not confined to Ghana but represents a broader, continent-wide challenge. A systematic review conducted by Giroto et al. (2014) examined psychoactive substance use among truck drivers across Africa and other regions. Their findings revealed that the most used substances included alcohol, amphetamines, marijuana, and cocaine, with prevalence rates ranging widely: alcohol use ranged from 0.1% to 91.0%, amphetamines from 0.2% to 82.5%, marijuana from 0.2% to 29.9%, and cocaine from 0.1% to 8.3%. Similarly, a study focusing on trauma cases at a Level I Trauma Center found that among 1,067 drivers involved in road traffic accidents, 242 tested positive for alcohol or drug use (Renzi et al., 2021). The substances most commonly detected were alcohol (62.3%), cannabis (21.3%), and cocaine (14%). Importantly, the study established a strong association between substance use and the severity of injuries, with substance-using drivers

experiencing higher injury severity scores and more frequent head injuries. Several interrelated factors contribute to the high prevalence of substance use among commercial motor riders in Ghana and across Africa, Commercial motor riders often endure prolonged working hours, including night shifts, as they strive to maximize earnings under challenging economic conditions. Fatigue is a frequent consequence, prompting some drivers to use stimulants such as amphetamines to stay awake and alert during long-distance or extended shifts (Giroto et al., 2014; Dini et al., 2019). Weak enforcement of substance use laws exacerbates the problem. In many African countries, including Ghana, random drug testing and stringent penalties for substance-impaired driving are rare or inconsistently applied. This lack of enforcement creates an enabling environment for the persistence of substance use among commercial drivers (Kirrane et al., 2009; Giroto et al., 2014). Cultural perceptions also play a crucial role. In some communities, alcohol use is culturally normalized and even encouraged as a coping mechanism for stress or as a social bonding activity. This normalization extends to professional drivers, who may view moderate substance use as acceptable or even beneficial (Kirrane et al., 2009; Ricci et al., 2008) The economic demands placed on commercial motor riders cannot be overstated. Riders face pressure to deliver passengers and goods quickly to meet financial obligations. To cope with the physical and psychological demands, some resort to substances believed to enhance endurance and alertness (Giroto et al., 2014; Dini et al., 2019). The implications of substance use among commercial motor riders are profound, both for individual health and public safety,

**Driving Impairment:** Substance use reduces concentration, coordination, and decision-making ability, drastically increasing the risk of accidents. In Ghana, a study found that 43% of patients involved in road traffic accidents tested positive for alcohol or drugs, with alcohol accounting for 72% of cases (Ricci et al., 2008). Drivers under the influence of substances are more likely

to sustain severe injuries, including traumatic brain injuries, as shown by higher injury severity scores among substance-using drivers in trauma studies (Renzi et al., 2021). Chronic Health Consequences: Long-term use of psychoactive substances also poses serious health risks for riders. Chronic amphetamine use can cause cardiovascular disease, while sustained alcohol use can lead to liver cirrhosis and mental health disorders (Dini et al., 2019; Sriracha et al., 1994). Given the serious consequences, a multi-pronged policy and intervention strategy is essential: Governments should strengthen existing road safety laws by implementing mandatory random breathalyzer and drug tests for commercial drivers. Laws should be enforced consistently to deter substance use among drivers (Kerrane et al., 2009; Girotto et al., 2014). Sustained public health campaigns targeting commercial riders are critical. These campaigns should emphasize the dangers of impaired driving and highlight the importance of compliance with traffic laws (Marnah & Manortey, 2022; Ricci et al., 2008). Employers and industry associations should adopt proactive workplace interventions. Programs could include periodic drug testing, provision of wellness programs, counseling services, and employee assistance initiatives to support drivers struggling with substance use (Couper et al., 2002; Dini et al., 2019). Structural reforms should also focus on addressing the economic conditions that push drivers toward substance use. Regulations limiting the maximum number of driving hours per day, mandating rest breaks, and improving working conditions could mitigate the need for stimulants (Girotto et al., 2014; Dini et al., 2019).

## **2.2 Types of Substances Commonly Used by Commercial Motor Riders**

Substance use among commercial motor riders including operators of motorcycles, buses, and trucks represents a critical and escalating public health issue across Africa, particularly in

Ghana. Motorcyclists, often referred to locally as "Okada" riders, form a significant part of the informal transportation system, providing essential mobility in both urban and rural areas.

However, the demands of their work, characterized by long hours, physical strain, mental fatigue, and economic pressures, have contributed to the widespread use of psychoactive and performance-enhancing substances. While some riders turn to these substances seeking improved stamina, alertness, or coping mechanisms, the consequences are severe: impaired driving skills, heightened accident risks, long-term health complications, and broader social harms. This section provides an in-depth exploration of the types of substances commonly used by commercial motor riders in Ghana and across Africa, highlighting findings from key studies.

In Ghana, various substances are widely used among commercial motor riders, each associated with specific motivations and significant health and safety implications. Alcohol remains the most widely consumed psychoactive substance among commercial drivers, including motorcyclists. Research indicates a strong association between alcohol use and involvement in road traffic accidents. A study by Konlan et al. (2020) observed that alcohol consumption among commercial bus drivers was prevalent, contributing significantly to accident rates. Similarly, Shaibu (2015) highlighted that 34.2% of motorcyclists involved in accidents had consumed alcohol prior to riding. The widespread use of alcohol is often linked to cultural acceptance, stress management, and the socialization practices of riders. However, alcohol impairs coordination, reaction time, and judgment, dramatically increasing the risk of traffic crashes.

The misuse of Tramadol, a prescription-only opioid analgesic, has become alarmingly common among Ghanaian motorcyclists. Originally intended for moderate to severe pain management, Tramadol is now widely abused for its perceived ability to boost energy, suppress fatigue, and

maintain alertness during long driving hours. A qualitative study conducted among young people in the Kwabre-East Municipality found that Tramadol is among the most commonly abused substances in the area (Kasore et al., n.d.). Despite its short-term stimulating effects, Tramadol use can lead to severe dependency, seizures, cardiovascular complications, and cognitive impairments, all of which pose serious dangers to road safety. Although specific national prevalence data are limited, marijuana (commonly referred to as "Indian hemp") use among commercial riders in Ghana is well-recognized. Riders often use marijuana to suppress feelings of fatigue and enhance focus during long and stressful trips. Evidence from studies in neighboring Nigeria corroborates the widespread use of cannabis among motorcyclists for similar reasons (Alti-Muazu & Aliyu, 2008; Gudaji & Habib, 2016). However, marijuana impairs judgment, slows reaction time, and distorts perception, making riders more susceptible to accidents. Inhalant abuse, particularly the use of gasoline and glue, has been identified among young commercial riders. These substances are inhaled to induce short-term euphoria or to cope with psychological stressors related to their precarious livelihoods. A study by Kasore et al. (n.d.) identified inhalant use as a common risk behavior among youth engaged in high-risk occupations such as commercial driving. However, inhalant abuse is associated with serious neurological damage, cognitive decline, and sudden cardiac death, further endangering both the riders and the general public.

In addition to illicit substances, commercial motor riders commonly consume stimulants such as caffeine (through energy drinks) and kola nuts. While these substances are legal, their excessive consumption to ward off fatigue can result in overstimulation, impaired judgment, and aggressive riding behavior (Alti-Muazu & Aliyu, 2008; Shaibu, 2015). Although often overlooked, the misuse of legal stimulants plays a subtle but important role in traffic accidents and occupational health risks.

### **2.3. Association Between Substance Use and Occurrence of Road Traffic Accidents among Commercial Motor Riders**

Extensive research has established a strong, statistically significant association between psychoactive substance use and RTAs among commercial motor riders. In Kano, Nigeria, a study showed that motorcycle operators who used psychoactive substances were significantly more likely to violate traffic laws ( $P < 0.001$ ;  $OR = 1.6$ ) and to be involved in RTAs ( $P = 0.004$ ;  $OR = 2.6$ ) compared to non-users (Gudaji & Dankishiya, 2016). In Lagos, Nigeria, Oridota et al. (2013) reported that commercial drivers who used cannabis were significantly more likely to have a history of road traffic crashes. In Enugu, Nigeria, Achigbu et al. (2014) found that 78% of commercial motorcyclists used CNS-affecting drugs, and among them, 57.7% had been involved in RTAs. Younger riders (aged 21–30) were especially at risk, highlighting the vulnerability of younger demographics to both substance use and accident involvement. In Mexico City, Borges et al. (2024) discovered that substance use among motorcycle passengers was associated with a reduced likelihood of helmet use, significantly increasing the severity of injuries sustained during accidents. These studies collectively confirm that substance use substantially increases the risk of traffic accidents through impaired psychomotor functioning and poor safety practices

A complex interplay of occupational, social, and economic factors drives the high prevalence of substance use among commercial motor riders; The work environment of commercial motor riders is inherently stressful. Riders often endure long hours under harsh conditions, facing daily exposure to traffic congestion, environmental hazards, and pressure to meet income targets.

In Oyo, Nigeria, Nelson et al. (2018) found that commercial tricycle riders cited occupational stress, fatigue, and exhaustion as primary motivators for substance use. Similarly, in Zaria, Nigeria, Alti-Muazu and Aliyu (2008) reported that 69% of motorcyclists worked more than 10 hours per day, resulting in fatigue that riders attempted to combat using stimulants. In Ijero Township, Nigeria, Olatunji et al. (2020) found that 67% of commercial motorcyclists had used drugs without a prescription, often initiated by peer influence. Economic hardship compels riders to work extended hours, leading to physical exhaustion and a reliance on substances for endurance. In Pakistan, 54.9% of commercial drivers reported experiencing severe fatigue while working (Mir et al., 2010), a factor closely linked to increased substance use. In Zaria, Nigeria, Alti-Muazu and Aliyu (2008) found that the most common injuries among motorcyclists involved in RTAs were bruises and lacerations (62.5%), with a significant proportion sustaining fractures. In Mexico City, Borges et al. (2024) observed that substance using motorcycle passengers were significantly less likely to wear helmets, leading to more severe injuries and fatalities.

RTAs involving substance-impaired riders contribute to increased hospital admissions, emergency care costs, and prolonged rehabilitation. Families face economic hardship due to lost income, while communities bear the cost of premature morbidity and mortality.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Research Design**

I used the analytic cross-sectional design which gives a snapshot of substance use and its association with RTAs at a single point. Though this allows for the examination for the association between substance use and RTAs, there are also limitations such as self-report bias where participants may report inaccurately which may affect reliability of data, no causal inference since both exposure and outcome are measured at the same time, it is difficult to determine which came first and also confounding variables which are other unmeasurable factors that may influence substance use and likely lead to RTAs making interpretation challenging.

#### **3.2 Data collection Techniques and Tools**

A close ended structured interviewer administered questionnaires were deployed to collect data utilizing multiple choice questions to ensure reliability which will be mounted on a mobile Open Data collection tool (ODK) application with a total of 17 items, the questionnaire consist of four sections with the socio demographics containing four questions The first section is on sociodemographic (age, gender, how long have you been an Okada rider? do you ride Okada as your primary job?). the second section asked Questions on substance abuse, (In the past month, have you used any substances (e.g., alcohol, marijuana, other drugs) while riding? If yes, what types of substances have you used? Substances being marijuana, locally made tobacco, tramadol in energy drink etc. (all that apply will be checked), What time of day do you most often use substances while riding? How often do you use these substances while riding?), the third section as well asked Questions on prevalence Among your fellow Okada

riders, how common do you think substance use is? What do you think are the reasons Okada riders use substances? (Check all that apply). Finally, Questions on association between substance use and road accidents; Have you ever been involved in a road accident while riding an Okada? If yes, how many road accidents have you been involved in? Were you using any substances at the time of the accident(s)? In your opinion, how does substance use affect your ability to ride safely, do you know other riders who have been involved in accidents due to substance use? The questionnaire was based on similar studies that have been conducted in the same area of research. E.g. Alti-Muazu & Aliyu, 2008; Ogundipe et al. 2020).

The scoring used was on binary variables. Yes and No responses used where Yes was coded as one (1) and NO coded as (0).

### **3.3 Study population**

The study population for this study was commercial motorcyclists in the Kpone Katamanso District. A commercial motorcyclist is described as a person who uses a motorcycle to transport people from place to place for the purpose of receiving money. This category of motorcyclists was also classified as Okada Riders. Commercial motorcyclists have been operating in the informal sector and have no identifiable professional group that specifically regulates their activities. This population is largely fluid, as there are no identifiable grouping or registration required to commence business. Any person in possession of a motorcycle can engage in the business. However, those who engage in this business will usually have designated places where they wait for passengers. The study population, therefore, included all these persons who located at these vantage points and engage in commercial motor cycling. Through the observations there are about 8 park stations from which the riders commute every day for work. There was a snow balling method where one rider helped us locate another and other park

stations till the sample size was exhausted. There was no specific number assigned to each park stations since there was no record of stations and the number of riders at each station.

### ***3.3.1 Inclusion Criteria***

The study sample included Okada riders (commercial motor cyclists) who;

- have been in business for at 3 months.
- gave their consent to be used for the study and are stationed at waiting areas.
- are between the ages of 15 to 50years

### ***3.3.2 Exclusion Criteria***

- Okada riders who did not consent to the study,
- Okada riders who were absent from meeting during the study period,
- Injured Okada riders from road accidents but not present at the station
- other non-commercial motor riders were also excluded from the study.

## **3.4 Study variables**

The variables of the study were categorized into dependent and independent variables. The independent variables include, Age, sex, years of experience as an Okada rider and whether Okada serves as primary job or not. The dependent variables include substance use and occurrence of accidents among the Okada riders.

## **3.5 Sampling**

The term "sampling technique" refers to the mechanism by which the sampled entities were chosen (Sekaran & Bougie, 2009). Convenience sampling approach allowed for a rapid and cost-effective collection of data from a diverse group of Okada riders who were accessible at the time of the study This method statement outlines the approach used to select participants and gives a clear explanation of how the sample was chosen, while also acknowledging the limitations of convenience sampling.

This sample size was calculated based on previous research with 73% prevalence (Anigwe et al., 2024).

Using a prevalence of prevalence of 73%.

The sample size was calculated using the Cochran's formula as shown below.

$$n = \frac{Z^2 \times pq}{e^2}$$

Where;  $n$  = sample size (Cochran, 1977)

$Z$  = the z-score that corresponds with 96% confidence interval which is 1.96

$p$  = Proportion of people who uses any form of substance or drugs is 73% which is

equals to 0.73  $q$  = Proportion of people who don't take any substance or drug is equal

to  $1-0.73=0.26$   $e$  = Margin of error set at 4% (0.04)

Therefore,

$$n = \frac{(1.96)^2 \times (0.3 \times 0.3)}{(0.04)^2}$$

= 248

A non-response rate of 5 % resulting to about 23 respondents will be added to the minimum sample size to get participants 496.

### 3.6 Pre-Testing

A pretest including about 12 Okada riders was conducted as a critical step in the research process to ensure the effectiveness of the survey instrument and data collection methods prior to the main study. This pretest was to identify any potential issues with the survey, allowing for necessary adjustments to enhance clarity, relevance, and overall effectiveness. There were not

much adjustments done to the questionnaires, they were rather reworded to suit and reflect the understanding of the participants. There was no statistical analysis conducted.

### **3.7. Data handling**

After data collection, a meticulous process of handling analysis was conducted. The first step involved cleaning and validating the data. This ensured accuracy and consistency by identifying and rectifying errors, such as typos, inconsistencies, or missing values. Once the data was cleaned, it was organized and stored in a structured format, on a computer backed up in cloud storage to be used only for the purposes of this study. which facilitates efficient access and analysis. Data was organized and stored on a personal computer under lock and backed up in cloud storage to be used only for the purposes of this study. The persons who participated in this study will remain anonymous and their names will not be required in this study. The data will be stored for at least most 5 years before handing it over to the NRSA.

### **3.8 Data Analysis**

Initially, data was prepared in Stata, where it was imported from various formats. The data cleaning process followed, addressing inconsistencies, missing values, Descriptive statistics was computed using Stata, summarizing the sample characteristics through means, medians, standard deviations, and frequencies.

STATA was used to conduct the Chi-Square test, which assesses the significance of associations between categorical variables. Data was organized into contingency tables within Excel, allowing for straightforward calculations of expected frequencies and the Chi-Square statistic. This analysis helped identify relationships, such as the association between types of substance use and road crashes among motor riders. Additionally, both Stata and Excel was used to create visual representations of the data, such as graphs and charts, enhancing the clarity of the findings. Results obtained from both software tools was interpreted within the context of the

research questions, highlighting significant findings and their implications for the commercial motorcycling population in the Kpone Katamanso District.

### **3.9 Ethical Consideration**

Ethical clearance was obtained from the Research Ethics Committee of the Ensign Global University with REF: ENSIGN/IRB/EL/SN-289/01. Clearance was also obtained from the National Road Safety Authority for the collection and validation of data. The Municipal Health Management team in the KKMA also consent to the collection of data within the institutional review board's frame work and guidelines in the municipality. Respondents were recruited into the study after they agreed and signed a written consent form that contained the purpose, objectives, benefits and significance of the study. The participants were assured that their identity will remain anonymous and information collected from them was only going to be used for study and nothing more.

### **3.10 Limitations of study**

The investigation of substance use among Okada riders in the Kpone Katamanso Municipality is a significant endeavor that seeks to illuminate the patterns and implications of drug use within this specific group. However, like any research study, it is subject to various limitations that may affect the validity and reliability of its findings. Understanding these limitations is crucial for accurately interpreting the results and considering their broader implications.

One of the primary limitations of the study is related to sample size and selection. A limited sample may not adequately represent the diverse population of Okada riders in the municipality. If the sample is too small or not randomly selected, the results may not be generalizable to the broader community. This limitation raises concerns about the external validity of the findings,

as the behaviors and characteristics observed in the sample may not reflect those of all Okada riders in the area. Another significant concern is the reliance on self-reported data. Participants may underreport or overreport their substance use due to social desirability bias or the stigma associated with drug use. This potential for bias can skew the data, leading to inaccurate conclusions about the prevalence and patterns of substance use among the riders. The honesty of participants in disclosing their substance use habits is critical for the integrity of the study. The study also used a cross-sectional design, which captures a snapshot of substance use at a single point in time. While this design can provide valuable insights, it limited the ability to establish causal relationships or understand changes in behavior over time. Longitudinal studies would be more effective in tracking substance use trends and identifying factors that influence these behaviors. These limitations, including concerns about sample size, self-reported data, measurement tools, and external influences, highlight the need for careful interpretation of the findings.

### **3.11 Assumptions**

It is assumed in this study that there will be high prevalence of substance use among the Okada riders and different types of substances are being used by the rider. It was finally assumed that there will be a significant association between substance use and occurrence of road traffic accidents

## CHAPTER FOUR

### RESULTS

#### 4.1 Introduction

The study sought to understand the prevalence of substance use among Okada riders in the Kpone Katamanso Municipality and its association with road traffic accidents. The findings were gathered in the month of March 2025 are presented here in this chapter. The data were examined using descriptive statistics like mean, standard deviation, frequency, and percentages. The results were displayed graphically and in tabular form.

#### 4.2 Sociodemographic characteristics of respondents

The respondents' background information was gathered in order to have a thorough understanding of their demographic features and the category of Okada riders who participated in the study. Data were obtained and analyzed for age group of Okada riders, highest level of education, marital status and occupation. The results are summarized in Table 4.1.

From the Table 4.1, it was observed that the largest age group falls within 30-39 years (36.29%), followed by 20-29 years (28.23%). Together, these two groups account for 64.52% of the total population, indicating that the majority of individuals are in their early-to-mid career stages.

The 40-49 age group (21.37%) represents a smaller but still significant portion.

Individuals aged 50 and above make up only 2.42%. The gender composition reveals an overwhelming male dominance (99.19%), with only 2 female individuals (0.81%) in a total population of 248. The experience levels were Less than 1 year (26.61%) 1-3 years (24.19%) and 4-6 years (23.79%) More than 6 years (25.40%).

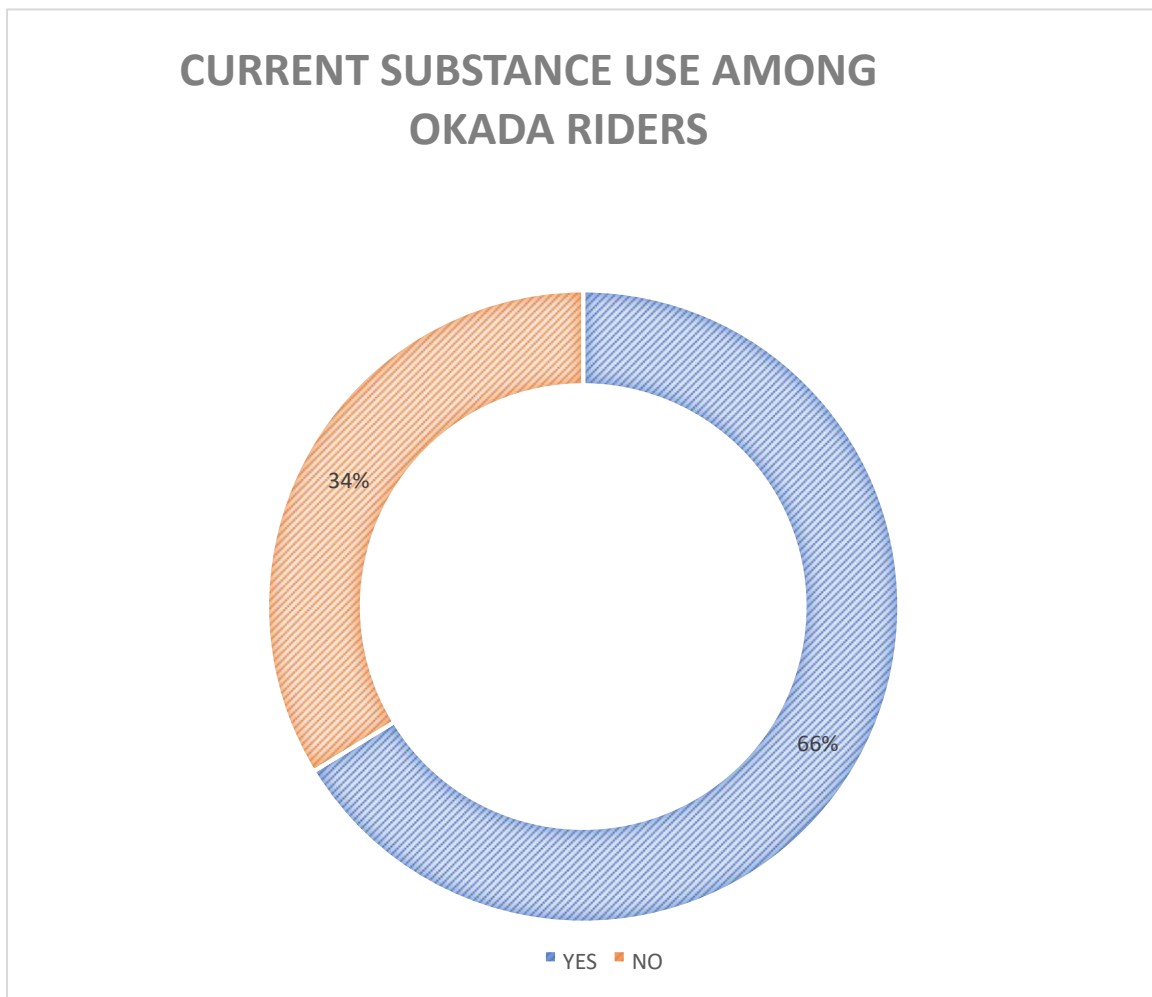
**Table 4.1: Demographic characteristics of the participants**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age category</b>		
Less than 20	30	12.05
20–29	70	28.11
30–39	90	36.14
40years and above	59	32.70
<b>Sex</b>		
Male	246	1.20
Female	3	98.80
<b>Years of experience as Okada rider</b>		
Less than 1 year	66	26.51
1-3 years	60	24.50
4-6 years	59	23.69
More than 6 years	63	25.30
<b>Okada riding as primary job</b>		
Yes	124	49.80
No	125	50.20

**Source:** Field data 2025

#### **4.3 Prevalence of substance use among Okada riders**

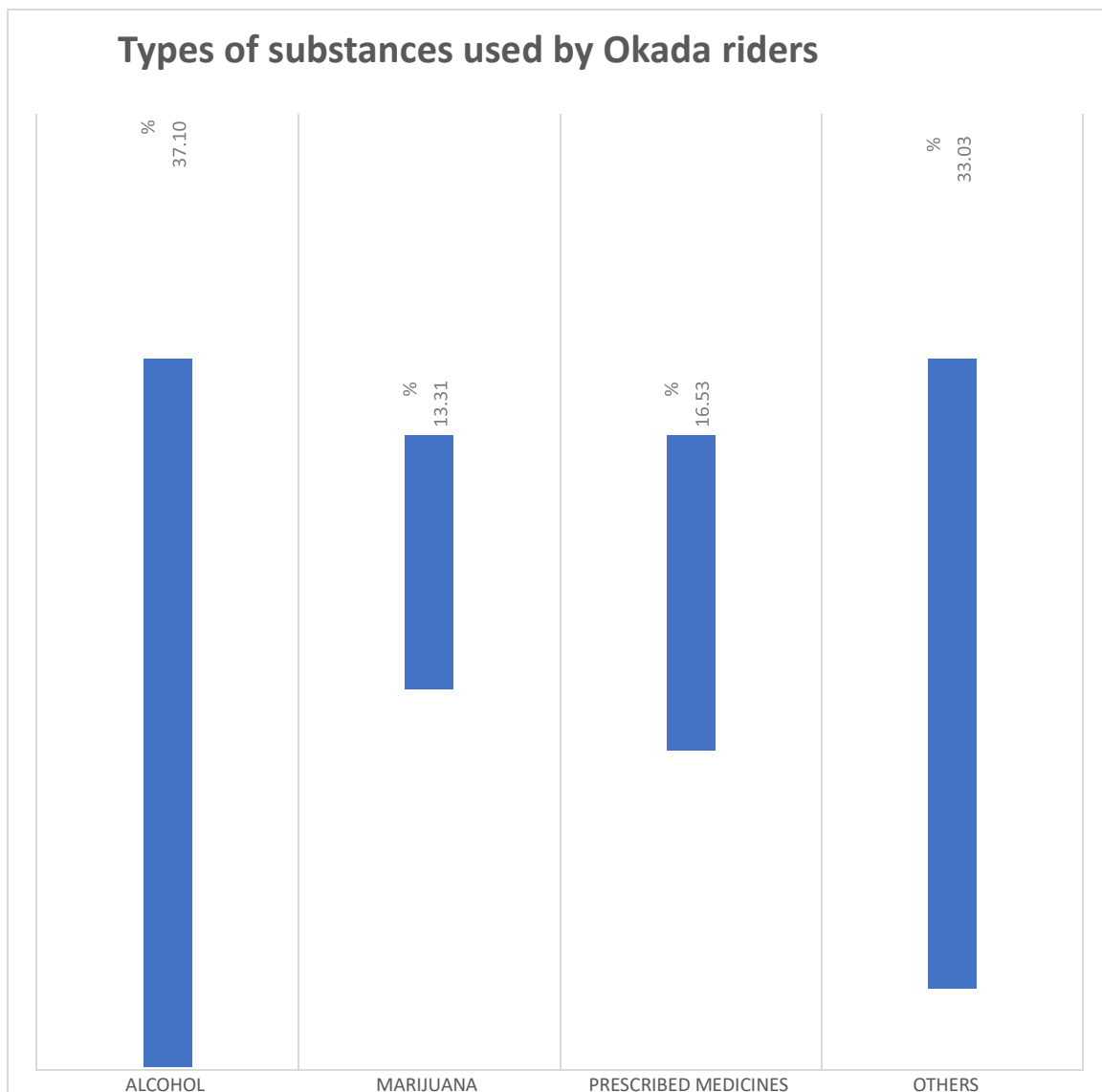
Results from the analysis showed that 66.27% of the Okada riders sampled reported current substance use with the remaining 33.73% reporting no current use of substances. The result is depicted in the figure 4.1 below.



**Figure 4.1: A summary of substance use prevalence among Okada riders**

#### ***4.3.1 Types of Substances used by the Okada riders***

The types of substances that are commonly used by the Okada riders are presented in the bar charts below.

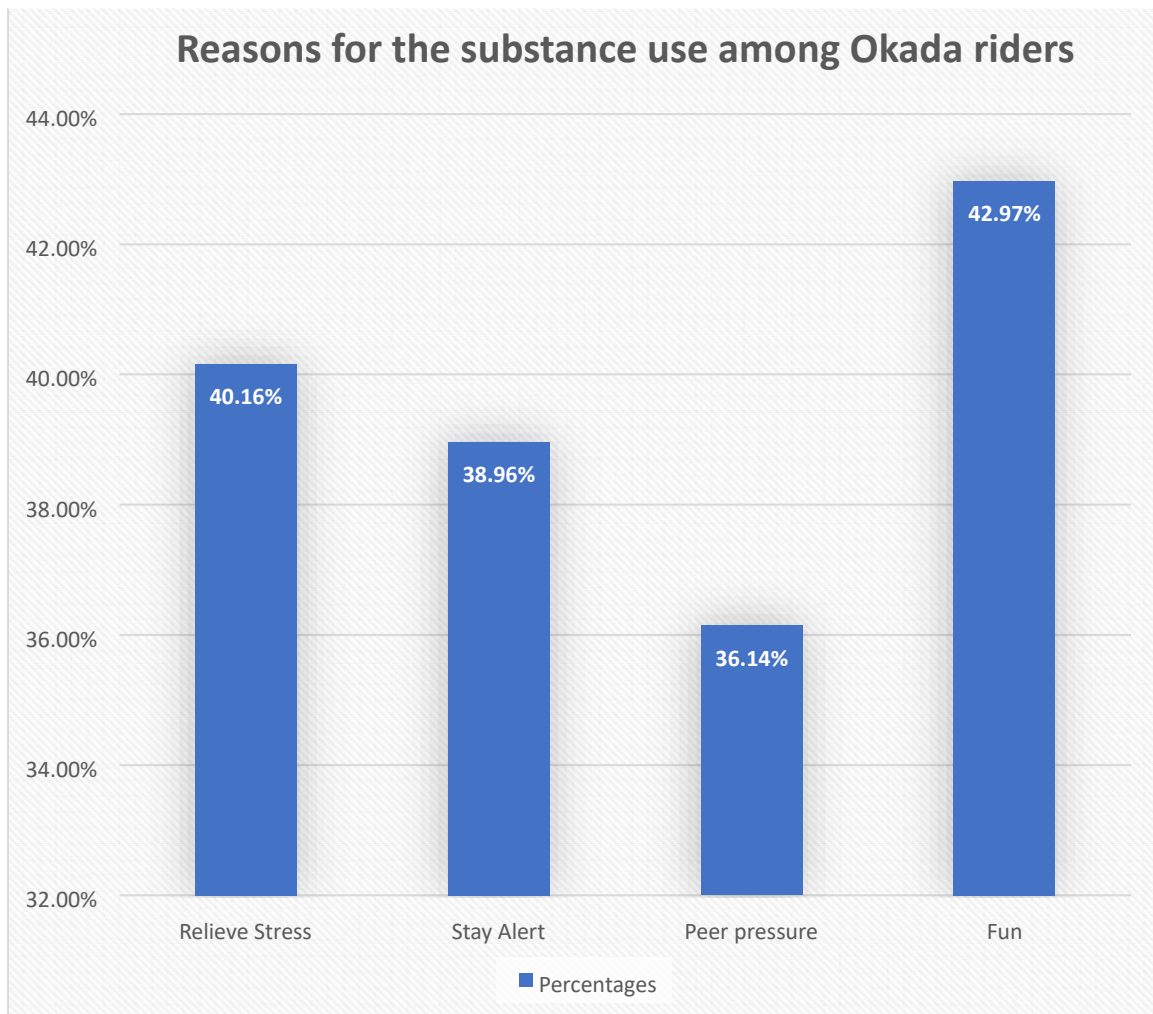


**Figure 4.2: A summary of types of substances used by the Okada riders**

The analysis of the types of substances that are commonly used by the Okada riders showed that alcohol is the predominant substance (37.10%). This is followed by the "others" category (33.06%) and prescribed drugs constitute (16.53%) with the least commonly substance being marijuana (13.31%).

#### ***4.3.2 Reasons for substance use by Okada riders***

Analysis of the data on the reasons for the current substance use among the Okada riders showed that, the most cited reason was fun (42.97%) followed by relieving stress (40.16%), staying alert (38.96%) and the least cited reason was peer pressure (36.14%). The details are summarized in Fig. 4.3 below.



**Figure 4.3: A summary of reasons for substance use among Okada riders**

#### 4.4: Association Between Substance Use and occurrence of Accident Okada riders

The association between substance use and experience of road traffic accident was examined using Chi-square and the results are summarized in Table 4.2 below.

**Table 4.2: Summary of Association between substance use and RTAs**

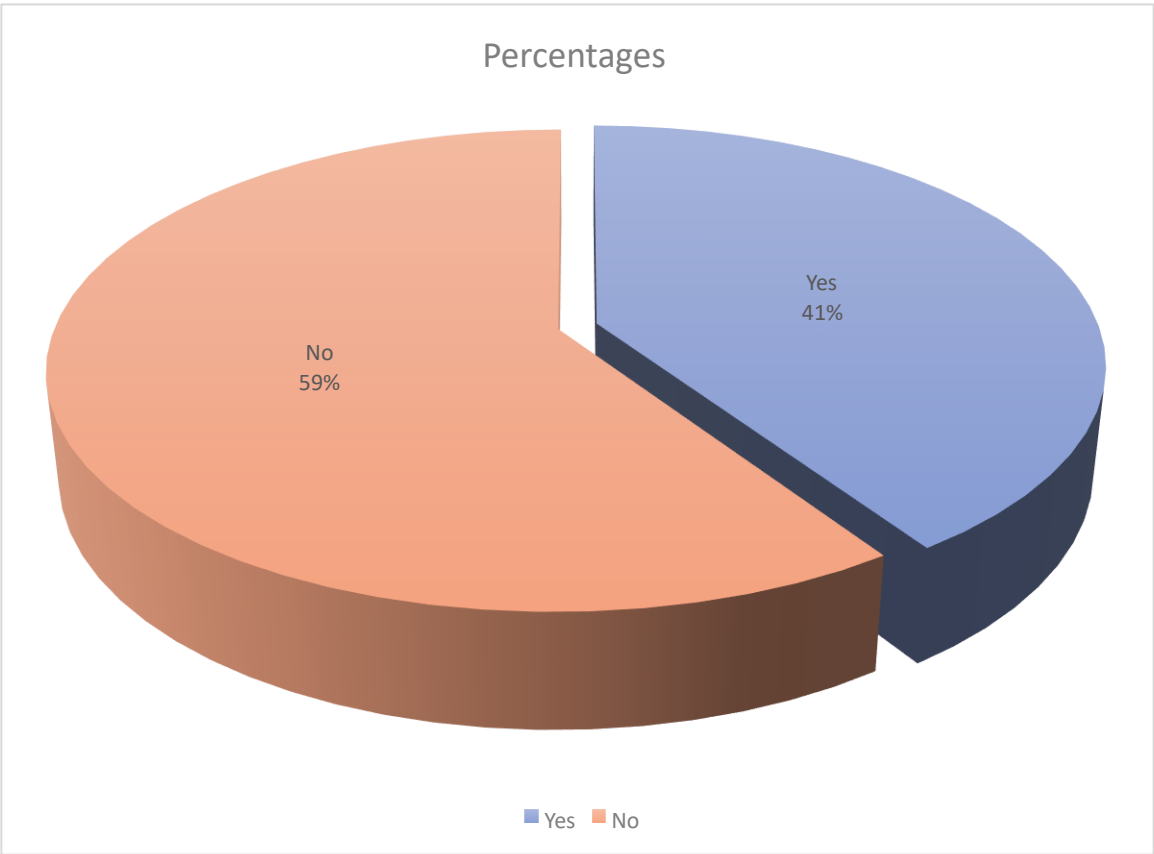
<b>Variables</b>	<b>Accident experience</b>		<b>X<sup>2</sup></b>	<b>□-value</b>
<b>Substance Use</b>	<b>Yes</b>	<b>No</b>	0.70	0.42
Yes	57.58%	42.42%		
No	63.10%	36.90%		
<b>Age Category</b>			0.94	0.82
Under 20years	46.67%	53.33%		
20-29years	38.57%	61.43%		
30-39years	42.22%	57.75%		
40years and above	37.29%	62.71%		
<b>Years of experience in Okada riding</b>			1.43	0.70
Less than 1year	40.91%	59.09%		
1-3years	34.43%	65.57%		
4-6years	42.37%	57.63%		
6years and above	44.44%	55.56%		
<b>Okada as primary job</b>			2.17	0.14
Yes	36.00%	64.00%		
No	45.16%	54.84%		

Results from Table 4.2. showed that Okada riders who use substance reported 42.42% prevalence of RTA whereas those do not use any substances reported accident rate of 36.90%. However, the association between the substance and experience of RTA was not statistically significant at the 0.05 level of significance,  $X^2 = 0.70$ ,  $p = 0.42$ .

Further analysis of some demographic factors showed that age of participants ( $X^2 = 0.94$ ,  $p = 0.82$ ), years of experience in Okada riding ( $X^2 = 1.43$ ,  $p = 0.70$ ) and Okada as primary job ( $X^2 = 2.17$ ,  $p = 0.14$ ) were not statistically and significantly associated with the occurrence of RTAs among the Okada riders. However, the analysis of the age categories showed that the highest RTA occurrence was among Okada riders below the age of 20years (46.67%). It was interesting to note that riders with 6years or more experience in riding reported the highest occurrence of RTAs (44.44%). It was also interesting to note that Okada riders who ride as their complimentary job reported a higher percentage of RTA occurrence (45.16%) compared to those who ride it as their primary jobs (36.00%).

#### ***4.4.1 Prevalence of RTA among Okada riders***

The prevalence of RTA among Okada was examined and the results showed that 41% of the respondents reported experiencing RTA in the course of their work. The details are presented in Fig. 4.4 below.



**Figure 4.4: Prevalence of RTAs among Okada riders**

## **CHAPTER FIVE**

### **DISCUSSION**

#### **5.1 Introduction**

This chapter presents the key findings from the study by explaining what the findings mean and relating the findings to previous related studies on substance use among Okada riders. This chapter is organized according to the specific objectives of the study by addressing the prevalence of substance use, types of substances that are commonly used and the association between substance use and occurrence of accidents among the participants.

#### **5.2 Prevalence of substance use among Okada riders**

The study found a high prevalence of substance use among commercial motorcyclists, commonly referred to as Okada riders. Results indicated that 66.27% of participants were actively using one form of substance or another, while only 33.73% reported not currently engaging in substance use. This pattern of behavior poses serious concerns, particularly in low- and middle-income countries where informal transportation systems, such as Okada riding, play a significant role in daily economic activity and public mobility.

The high rate of substance use among Okada riders highlights critical issues relating to road safety, occupational health, and broader public health implications. The fact that two out of every three riders use substances implies a heightened risk not only for the riders themselves but also for their passengers and other road users. The nature of their occupation which is characterized by long working hours, continuous exposure to hazardous traffic environments, financial instability, and physical fatigue may lead riders to turn to substances as a coping mechanism. These job-related stressors create a conducive environment for substance dependency.

Additionally, the informal structure of the Okada business means that it often lacks regulatory oversight. The absence of formal control systems may lead to a culture where substance use is normalized and even encouraged, with little fear of sanctions or legal consequences. Without workplace regulations or access to occupational health support, these riders are left to navigate their challenges in isolation, often resorting to harmful behaviours that compound public health risks.

Compared to previous studies on substance use among Okada riders in Nigeria, the current study's findings reflect a relatively higher prevalence. For instance, (Ogundipe et al. 2020) found that only 28.6% of riders consumed alcohol in the early mornings, suggesting a lower overall rate of substance use. Similarly, Afolaranmi et al. 2020 reported a prevalence rate of 43.2% among motorcyclists using psychoactive substances. However, some recent studies, such as that by Anigwe et al, 2024 have reported even higher rates, with up to 73.3% of riders reportedly engaging in substance use. These variations may be attributed to differences in study locations, the specific types of substances examined, and variations in data collection methodologies across African regions.

Despite these discrepancies, the persistent high levels of substance use among Okada riders represent a pressing public health issue. This population appears particularly vulnerable, and the issue demands targeted intervention and policy attention. Public health stakeholders must acknowledge the burden that substance use among commercial motorcyclists' places on healthcare systems, especially given the high risk of RTAs and injury-related outcomes linked to substance-impaired driving.

Further, the study also examined the key reasons why riders use substances and the most commonly cited reasons included seeking enjoyment, coping with stress, staying awake during long shifts, and peer pressure. These reasons are consistent with findings from other studies, including those conducted in Nigeria where Okada riding is a widespread mode of transportation. Ogundipe et al. (2020), for example, identified factors such as the need to suppress cold, remain alert, and conform to peer behavior as key drivers of substance use among riders.

Many Okada riders may rationalize their substance use without a full understanding of the short- and long-term health implications. The lack of awareness regarding the harmful effects of these substances only perpetuates their use. This underscores the need for more robust public health education and awareness campaigns tailored specifically to this group. Emphasizing the dangers of substance use, especially its link to injuries and fatal accidents, should be a key part of these initiatives. Considering that RTAs are a leading cause of morbidity and mortality globally (Haagsma et al., 2016; WHO, 2023), addressing substance use among Okada riders must be viewed as a public health priority.

### 5.3 Types of substances that are commonly used by Okada riders

The current study sought to examine the types of substances commonly used by commercial motorcycle operators (*Okada* riders). The findings indicate that alcohol is the most predominantly used substance (37.10%), followed by a heterogeneous "others" category (33.06%), prescribed drugs (16.53%), and marijuana (13.31%) as the least used. This pattern of substance use offers insight into the behaviors socio-economic pressures, and occupational realities shaping health risk behaviors among this group.

For example, the high prevalence of alcohol use among Okada riders in the present study is consistent with global and regional trends, where alcohol remains the most commonly abused psychoactive substance (Awosusi et al., 2019; Omumu, Tibi, and Chenube, 2017). Alcohol is often socially accepted and readily available, which contributes to its high usage rate. In sub-Saharan Africa, cultural norms and limited enforcement of alcohol control laws make alcohol consumption prevalent, even among occupational groups expected to exercise caution due to the nature of their work.

Similar findings have been observed in studies such as Ogundipe et al. (2020), who reported that commercial drivers in Nigeria consumed alcohol regularly as a means of relieving stress, enhancing social interaction, or preparing for long driving hours. In a related study, Konlan and Hayford, (2022) reported alcohol as one of the most used substances which is associated RTAs among drivers in Africa.

Several explanations may account for this predominance. First, alcohol may be perceived as a legal and less stigmatized substance, making it a more socially acceptable form of self-medication. Second, some riders may believe that alcohol consumption enhances physical endurance or courage, especially when navigating high-risk driving environments (Odejide,

2006). Finally, alcohol's wide availability and low-cost relative to other substances may contribute to its preference. However, alcohol consumption among commercial riders poses a serious public safety risk. Numerous studies have demonstrated that alcohol impairs motor coordination, slows reaction time, and increases the likelihood of reckless behavior, thus contributing to road traffic accidents (WHO, 2018).

The use of other substances such as tramadol, prescription drugs and marijuana are a major concern for not only health workers but National road safety authority as this substance may alter the riders' perception and judgement on the roads thereby endangering their lives and that of other road users. These findings of the use of other substances are consistent with previous studies conducted in SSA. For example, Alti-Muazu and Aliyu, (2008) identified marijuana (25.8%), solution (24.5%), caffeine (Kola) (15.8%), and coffee (4.8%) as the most common substances use. However, in recent times the use of tramadol and other opioids have become a major public health issue especially among the youth. For example, a study by Danso and Anto, (2021) among commercial drivers and their assistants reported 24.9% rate of tramadol abuse. This corroborates earlier findings on the abuse of prescription drugs and other substances among commercial drivers (Boun, Omonaiye and Yaya, 2024).

The varying patterns of substance use revealed in this study have several important implications. First, the predominance of alcohol use suggests the need for strict regulation and enforcement of alcohol sales, particularly around motor parks and known *Okada* operation points. Public health education should emphasize the dangers of alcohol-impaired riding and promote safer behaviors. In addition, the use of prescription drugs raises concerns regarding pharmaceutical regulation, access to healthcare, and the need for monitoring programs. Education campaigns should inform riders about the risks of self-medicating and encourage

use of formal healthcare services. Also, although marijuana use is less prevalent, its impact on rider safety cannot be ignored. Law enforcement agencies including the MTTD unit of the Ghana Police service may consider incorporating drug testing into roadside checks, especially for riders involved in accidents or erratic behavior

#### **5.4 Association between substance use and experience of RTAs among Okada riders**

Evidence in the extant literature has suggested a significant association between substance use and risk of road traffic accidents in commercial drivers including Okada riders. This study therefore examined the association between substance use and the prevalence of road traffic accidents (RTAs) among Okada riders. Findings showed that 42.42% of those who reported using substances had experienced an RTA, compared to 36.90% among non-users. However, the association between substance use and RTA was not statistically significant at the 0.05 level of significance.

This finding, while not demonstrating a statistically significant link, still suggests a higher risk of accident involvement among substance users. The finding means that the rates of accidents between those who use substances and those who do not use substances is not very significant. This can be attributed the overall high rate of RTAs among respondents. In this study, it was observed that 41% of the participants reported ever being involved in RTA. This is a major concern which needs to be addressed by all stakeholders including sectors beyond health such as the law enforcement, DVLA, religious bodies and civil society organization.

This finding is inconsistent with previous findings on the association between substance use and RTAs. For example, a study by Kiwango et al. (2021) in a study among motorcyclists in Tanzania reported that risky drinking and marijuana use were associated higher of odds of RTIs

compared to non-drinkers and non-smokers. In a scoping review by Konlan and Hayford (2022), alcohol use, smoking, and use of illicit drugs were found as significant risk factors for road traffic injuries. In the same vein, other studies have reported consistent significant association between substance use and RTAs among drivers (Davey et al., 2020; Hamzat, Kanmodi and Adesina, 2019; WHO, 2016).

The discrepancies between the current finding and previous findings could be due to self-report biases which may affect the accuracy of both substance use and accident history data. Riders may underreport their use due to stigma or legal concerns, while accident data may suffer from recall bias. While substance use is a known risk factor, the lack of a statistically significant association in this study suggests that interventions must also address other structural and behavioral risk factors. These may include rider training, enforcement of helmet laws, improved road infrastructure, and fatigue management. The recent processes in Ghana to legalize the operations of Okada by applying age limits is a call in the right direction. This is because although age did not have a statistically significant association with RTAs, those under the age of 20 reported the highest RTAs. This calls for support for the ongoing attempt by the government of Ghana to legalize the trade of the riders.

## CHAPTER SIX

### CONCLUSION AND RECOMMENDATIONS

#### 6.1 Conclusion

This study provides important insights into the prevalence and patterns of substance use among commercial motorcycle riders (popularly known as Okada riders). The findings indicate a high rate of substance use, with 66.53% of respondents reporting the use of one or more substances. Alcohol emerged as the most commonly consumed substance, often used in combination with other drugs, reflecting a notable trend of polysubstance use among this population. The prevalence was particularly high among younger and less experienced riders, suggesting a demographic group that is especially vulnerable to risk-taking behaviors. This observation aligns with existing literature that links youth and inexperience with increased susceptibility to substance use.

Although the study did not find a statistically significant association between substance use and the prevalence of road traffic accidents (RTAs), notable variations were observed. These differences, particularly, across age groups, levels of riding experience, and whether Okada riding serves as the rider's primary source of income, highlight the complex interplay of factors that may influence accident risk. Interestingly, RTAs were relatively common, with approximately 40% of riders reporting having experienced at least one accident in the course of their work. While the lack of statistically significant associations might suggest caution in drawing causal conclusions, the patterns identified underscore the need for targeted interventions. Policymakers and public health practitioners should consider age, riding

experience, and occupational dependence on Okada riding when designing strategies to address both substance use and RTAs.

## **6.2 Recommendations**

To address the high prevalence of substance, use and RTAs among commercial motorcycle riders in Ghana, there is a pressing need for the following;

1, Targeted health education campaigns, particularly aimed at younger and less experienced riders. These campaigns should be spearheaded by the Ghana Health Service (GHS) in collaboration with the National Road Safety Authority (NRSA) and Motor Traffic and Transport Department (MTTD) of the Ghana Police Service.

2. Routine medical screening and substance testing should be institutionalized through regulatory frameworks by the Driver and Vehicle Licensing Authority (DVLA) and local metropolitan, municipal, and district assemblies (MMDAs), particularly in areas where commercial riding is prevalent. 3. Alcohol, being the most frequently abused substance should be the immediate focus of interventions, with support from the Food and Drugs Authority (FDA), NRSA. GPS (MTTD) and civil society organizations working on substance abuse. Should encourage further research to understand and classify the range of other substances being used so as to tailor interventions like random BAC testing at the various Okada stations to keep riders in check. This will enforce traffic rules and regulation

4. Younger and less experienced riders being the most Okada riders group abusing substances and also being involved in RTAs, communication and engagement strategies like rider training workshops must be instituted for riders based on their experience levels, acknowledging that both new and long-serving riders are at risk but may be influenced by different factors. Lastly, a broader, multisectoral research agenda is recommended to explore other critical determinants

of road traffic accidents, such as mental health, road conditions, enforcement practices, and riding schedules. This will require collaboration across sectors, including health, transport, law enforcement, and academia, to create a safer and healthier environment for commercial riders and the public at large.

## REFERENCES

- Alti-Muazu, M. and Aliyu, A.A., 2008.** Prevalence of psychoactive substance use among commercial motorcyclists and its health and social consequences in Zaria, Nigeria. *Annals of African Medicine*, **7(2)**.
- Anigwe, F.C., Mbanuzuru, A.V., Obi-Okaro, A.C., Edeh, G.C., Awugosi, M.C., Akwuobi, G.U., Emmanuel, S.I., Ugwanozie, C.F., and Anisiobi, P.U., 2024.** Riding under the influence: unravelling substance abuse patterns among motorcyclists in South-eastern Nigeria. *International Journal of Research in Medical Sciences*, **12(5)**, pp.1408– 1415. <https://doi.org/10.18203/2320-6012.ijrms20241220>.
- Cochran, W.C., 1977.** Snedecor G.W. and Cochran W.G. Statistical methods applied to experiments in agriculture and biology. *Citation Classics*, **19(19)**, p.1.
- Ezekiel Oridota, S., Adenike Olatona, F., and Soriyan, O., 2017a.** Substance and alcohol utilization among commercial drivers and its interrelationship with road traffic accidents. Available at: <https://www.researchgate.net/publication/308697877> [Accessed date].
- Ezekiel Oridota, S., Adenike Olatona, F., and Soriyan, O., 2017b.** Substance and alcohol utilization among commercial drivers and its interrelationship with road traffic accidents. Available at: <https://www.researchgate.net/publication/308697877> [Accessed date].
- Jamilu, Y.R. and Dantsoho, F.A., n.d.** Prevalence of substance abuse, assessment of socioeconomic and demographic determinants of commercial motorcyclists in Katsina State, Nigeria. *African Journal of Health Sciences*, **33(1)**.
- Konlan, K.D., Doat, A.R., Mohammed, I., Amoah, R.M., Saah, J.A., Konlan, K.D., and Abdulai, J.A., 2020.** Prevalence and pattern of road traffic accidents among commercial motorcyclists in the Central Tongu District, Ghana. *Scientific World Journal*, **2020**. <https://doi.org/10.1155/2020/9493718>.
- Konlan, K.D. and Hayford, L., 2022.** Factors associated with motorcycle-related road traffic crashes in Africa: A scoping review from 2016 to 2022. *BMC Public Health*, **22(1)**, p.649. <https://doi.org/10.1186/S12889-022-13075-2>.
- Kugbey, N., 2023.** Prevalence and correlates of substance use among school-going adolescents (11–18 years) in eight Sub-Saharan Africa countries. *Substance Abuse Treatment, Prevention, and Policy*, **18(1)**, pp.1–9. <https://doi.org/10.1186/s13011-023-00542-1>.
- Kyei-Gyamfi, S., Kyei-Arthur, F., Alhassan, N., Agyekum, M.W., Abrah, P.B., and Kugbey, N., 2024.** Prevalence, correlates, and reasons for substance use among adolescents aged 10–17 in Ghana: A cross-sectional convergent parallel mixed-method study. *Substance Abuse: Treatment, Prevention, and Policy*, **19(1)**, pp.1–9. <https://doi.org/10.1186/S13011024-00600-2>.

**Alti-Muazu, M. and Aliyu, A.A., 2008.** Prevalence of psychoactive substance use among commercial motorcyclists and its health and social consequences in Zaria, Nigeria. *Annals of African Medicine*, **7(2)**.

**Cochran, W.C., 1977.** Snedecor G.W. and Cochran W.G. Statistical methods applied to experiments in agriculture and biology. *Citation Classics*, **19(19)**, p.1.

**Ezekiel Oridota, S., Adenike Olatona, F. and Soriyan, O., 2017a.** Substance and alcohol utilization among commercial drivers and its interrelationship with road traffic accidents. Available at: <https://www.researchgate.net/publication/308697877> [Accessed date].

**Jamilu, Y.R. and Dantsoho, F.A., n.d.** Prevalence of substance abuse, assessment of socioeconomic and demographic determinants of commercial motorcyclists in Katsina State, Nigeria. *African Journal of Health Sciences*, **33(1)**.

**Konlan, K.D., Doat, A.R., Mohammed, I., Amoah, R.M., Saah, J.A., Konlan, K.D., and Abdulai, J.A., 2020.** Prevalence and pattern of road traffic accidents among commercial motorcyclists in the Central Tongu District, Ghana. *Scientific World Journal*, **2020**.  
<https://doi.org/10.1155/2020/9493718>.

**Konlan, K.D. and Hayford, L., 2022.** Factors associated with motorcycle-related road traffic crashes in Africa: A scoping review from 2016 to 2022. *BMC Public Health*, **22(1)**, p.649.  
<https://doi.org/10.1186/S12889-022-13075-2>.

**Kugbey, N., 2023.** Prevalence and correlates of substance use among school-going adolescents (11–18 years) in eight Sub-Saharan African countries. *Substance Abuse Treatment, Prevention, and Policy*, **18(1)**, pp.1–9. <https://doi.org/10.1186/s13011-023-005421>.

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## APPENDICES

### APPENDIX I: Informed consent form

*Title of Study: Substance Use Among Commercial Motor Riders in Kpone Katamanso Municipality*

**Dear Participant,**

The researcher of this study is a student of ENSIGN GLOBAL COLLEGE, KPONG researching on the topic “*Substance Use Among Commercial Motor Riders in Kpone Katamanso Municipality.*” This research is in partial fulfilment for the award of Master of Public Health (MPH). Your participation in this research is highly appreciated. Data collected is solely meant for academic purposes and for this research only. The privacy and confidentiality of all respondents are rest assured **Purpose**

**of the Study:**

We want to learn about the use of substances like alcohol or drugs among Okada riders and how this might relate to road accidents. Your participation will help us understand this issue better and potentially improve road safety in our area.

What Will Happen If You Participate:

If you agree to take part, we will ask you to:

1. Answer some questions about your work as an Okada rider
2. Share information about any substances you might use

3. Tell us about any road accidents you may have experienced The interview will take about 10 to 20 minutes of your time.

**Voluntary Participation:**

Taking part in this study is completely voluntary. You can refuse to participate or stop at any time without any penalty. You don't have to answer any questions you don't want to.

**Confidentiality:**

All information you provide will be kept strictly confidential. Your name will not be used in any reports or publications from this study. Only the research team will have access to the information you share.

**Risks and Benefits:**

There are no direct risks to you for participating. You might feel uncomfortable answering some questions, but remember, you can skip any question. While there may not be immediate benefits to you, your participation will help us understand how to make roads safer for Okada riders and the community. The study will help in the education of Okada riders who indulge in substance use without prior knowledge of the consequences it brings to them and their passengers and even society at large.

**Questions or Concerns:**

If you have any questions about this study, please feel free to ask now or contact Dr.

Nuworza Kugbey (PhD) (Research Supervisor) and Myself Bishara S. Pelpuo (student Researcher) @ [nuworza.kugbey@ensign.edu.gh](mailto:nuworza.kugbey@ensign.edu.gh) or [bishara.pelpuo@st.ensign.edu.gh](mailto:bishara.pelpuo@st.ensign.edu.gh) respectively.

Consent:

By signing below, you are agreeing to participate in this study. You will be given a copy of this form to keep.

\_\_\_\_\_  
Signature of Participant                      Date

\_\_\_\_\_  
Signature of Researcher                      Date

Thank you for considering participation in this important study.

## APPENDIX II: Questionnaire

### SUBSTANCE USE AMONG OKADA RIDERS IN THE KPONE KATAMANSO

#### MUNICIPALITY OF GREATER ACCRA REGION.

Section	Question	Response Options
<b>Socio Demographics</b>	1. Age	- Under 20 - 20-29 - 30-39 - 40-49 - 50 and above
	2. Gender	- Male - Female
	3. How long have you been an okada rider?	- Less than 1 year - 1-3 years - 4-6 years - More than 6 years
	4. Do you ride okada as your primary job?	- Yes - No
	<b>Substance Use</b>	5. In the past month, have you used any substances
	(e.g., alcohol, marijuana, other drugs) while riding?	

	6. If yes, what types of substances have you used? (Check all that apply)	<ul style="list-style-type: none"> <li>- Alcohol</li> <li>- Marijuana</li> <li>- Cocaine</li> <li>- Prescription drugs (e.g., painkillers, sedatives)</li> <li>- Other (please specify) _____</li> </ul>
	7. How often do you use these substances while riding?	<ul style="list-style-type: none"> <li>- Daily</li> <li>- Weekly</li> <li>- Occasionally</li> <li>- Rarely</li> </ul>
	8. What time of day do you most often use substances while riding?	<ul style="list-style-type: none"> <li>- Morning</li> <li>- Afternoon</li> <li>- Evening</li> <li>- Night</li> </ul>
<b>Prevalence of Substance Use</b>	9. Among your fellow okada riders, how common do you think substance use is?	<ul style="list-style-type: none"> <li>- Very common</li> <li>- Common</li> <li>- Rare</li> <li>- Very rare</li> </ul>
	10. What do you think are the reasons okada riders use substances? (Check all that apply)	<ul style="list-style-type: none"> <li>- To stay alert</li> <li>- To relieve stress</li> <li>- For fun</li> </ul>

		<ul style="list-style-type: none"> <li>- Peer pressure</li> <li>- Other (please specify) _____</li> </ul>
<b>Road Accidents and Substance Use</b>	11. Have you ever been involved in a road accident while riding an okada?	<ul style="list-style-type: none"> <li>- Yes</li> <li>- No</li> </ul>
	12. If yes, how many road accidents have you been involved in?	<ul style="list-style-type: none"> <li>- 1</li> <li>- 2-3</li> <li>- 4-5</li> <li>- More than 5</li> </ul>
	13. Were you using any substances at the time of the accident(s)?	<ul style="list-style-type: none"> <li>- Yes</li> <li>- No</li> </ul>
	14. In your opinion, how does substance use affect your ability to ride safely?	<ul style="list-style-type: none"> <li>- It makes riding more dangerous</li> <li>- It has no effect</li> <li>- It makes riding safer</li> </ul>
	15. Do you know other riders who have been involved in accidents due to substance use?	<ul style="list-style-type: none"> <li>- Yes</li> <li>- No</li> </ul>
Additional Information	16. What do you think could be done to reduce substance use among Okada riders?	(Open-ended)

Additional Information	17. Do you have any other comments or suggestions related to this study?	(Open-ended)
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APPENDIX III: Ethical clearance from ensign global universit



OUR REF: ENSIGN/IRB/EL/SN-289/01  
YOUR REF:

January 8, 2025

**INSTITUTIONAL REVIEW BOARD SECRETARIAT**

Bishara Salifu Pelpuo  
Ensign Global College  
Kpong.

Dear Bishara,

**ETHICAL CLEARANCE TO UNDERTAKE POSTGRADUATE RESEARCH**

At the General Research Proposals Review Meeting of the *INSTITUTIONAL REVIEW BOARD (IRB)* of Ensign Global College held on Wednesday, January 8, 2025, your research proposal entitled "**Substance use among Okada Riders at the Kpone Katamanso Municipality, Greater Accra Region, Ghana**" was considered.

You have been granted Ethical Clearance to collect data for the said research under academic supervision within the IRB's frameworks and guidelines.

We wish you all the best.

Sincerely,

Dr. (Mrs.) Rebecca Acquah-Arhin  
**IRB Chairperson**

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26 Sylvester Kyei-Gyamfi, Frank Kyei-Arthur,

Nurudeen Alhassan, Martin Wiredu Agyekum, Prince Boamah Abrah, Nuworza Kugbey.

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