

Assessment of helmet usage enforcement on safety of commercial motorcyclists in Kenya: A case of Kisumu City

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ABSTRACT

Road traffic injuries are estimated to be the eighth leading cause of death globally. Riders have a greater risk of death than other types of transport. The lack of helmet use is a specific factor leading to head injuries and fatalities resulting from motorcycle crashes which costs heavily both to the country's economy and family's financial status. The purpose of this study was to assess helmet usage enforcement on safety of motorcyclists in Kisumu city. This research was guided by Theory of Planned Behavior and Health Belief Model. The study adopted a descriptive survey research design. The target population of this study was all the commercial motorcyclist and law enforcement enforcement officers in Kisumu City, whereby systemic sampling was used to collect data from 250 motorcyclists along three major roads that lead to Kisumu town. The study used questionnaires, interview schedule and observation checklist as the primary data collection instruments. Data analysis was done using SPSS and findings were presented through charts, tables and graphs. The findings of the study revealed that wearing helmet among Kisumu's commercial motorcyclists is quite low due to inconsistent enforcement of cautionary measures and social norms that prioritize style over care. Factors like inadequate training, limited access to quality helmets and lack of awareness hinder compliance. On safety, enforcement and awareness is critical for improving safety outcomes. The study concluded that improving helmet enforcement and addressing protection for commercial motorcyclists in Kisumu City needs affordable training, immediate public awareness campaigns and strict enforcement. This research recommended establishing regular checkpoints for law enforcement to actively monitor compliance with helmet laws. Effective public awareness campaigns can change perceptions and behaviors regarding helmet use. Training programs focusing on safety regulations and responsible riding practices can improve rider knowledge and skills.

Keywords: Helmet, Kenya, Kisumu City, Motorcyclists, Road Traffic Safety

I. INTRODUCTION

Road safety is a global concern with various regulatory frameworks at both national and international levels. Some cities have established their own ordinances to govern traffic management locally. Injuries resulting from traffic accidents, particularly in developing nations, have imposed a significant burden on hospital resources, diverting funds that could otherwise enhance the well-being of residents. Effective governance and ethical standards within safety enforcement agencies could serve as a viable solution to this pressing global issue. It is noteworthy that injuries, classified as non-communicable diseases, account for one-tenth of all deaths worldwide, with 13% occurring in developing regions and 5% in developed countries (World Health Organization [WHO], 2021). On a global scale, injuries are responsible for one in six years lived with disability, according to the Global Burden of Disease Study conducted in 2017.

It is documented that 60% of years of life lost due to unintentional injuries stem from motor vehicle traffic accidents. Road traffic accidents ranked as the 9th leading cause of disease burden globally in 1998, ranking 5th in high-income countries and 10th in low and middle-income countries. Among adult and economically active men aged 15–44, road traffic accidents stand as the primary cause of ill-health and premature mortality worldwide, coming in as the second largest in developing nations. The burden resulting from road traffic accidents is anticipated to escalate on a global scale, especially in developing countries (Van der Merwe *et al.*, 2021).

The World Health Organization's (WHO, 2021) global report on road safety emphasizes that failing to wear a helmet significantly elevates the risk of head injury, increases the severity of such injuries, prolongs hospitalization, raises the likelihood of fatal outcomes, and increases the probability of long-term disability. Head injuries also impose substantially higher medical costs than other types of injuries, placing a considerable strain on a country's healthcare

system and economy. Wearing a helmet is therefore the single most effective measure to reduce head injuries and fatalities in motorcycle crashes.

Deaths due to road injuries have grown by 84% in sub-Saharan Africa since 1990, almost twice the global increase (Dandona *et al.*, 2021). Kenya stands at 20.9 deaths per a 100,000 population; this amounts to 2.9 deaths per 100,000 populations higher as compared to the African region (National Transport and Safety Authority [NTSA], 2024). Kenya is recorded as one of the countries with the highest road fatality rates per 10,000 registered vehicles. The economy and health care services within the country bear a heavy burden from road traffic crashes (NTSA, 2024).

In Kenya, the most at-risk road users include children, pedestrians, riders of motorized two- and three-wheeled vehicles (motorcyclists), and older adults (Ogotu, 2024). According to the WHO (2021) report, these vulnerable groups account for 57% of all road traffic deaths—noticeably higher compared to 51% in middle-income countries and 39% in high-income countries. The growing reliance on motorized two-wheelers, particularly in low- and middle-income nations, has contributed to an increase in head and traumatic brain injuries. It's estimated that motorcyclists are involved in roughly 25% of all road traffic deaths (WHO, 2021).

Motorcyclists face heightened risks as they navigate the same roads as larger, faster vehicles like cars, buses, and trucks, yet are less visible due to their smaller size. In Kenya, commercial motorcycles are a vital part of the transport system, offering a practical alternative where other forms of transportation may be limited or inaccessible. These motorcycles, commonly known as boda-bodas, provide taxi services and offer the flexibility to operate regardless of time, road condition, distance, or destination. Their availability and convenience have led to a rising demand, driven by the inability of Kenya's formal transport infrastructure to fully address the mobility needs of the population (Mwangi *et al.*, 2024).

Road traffic injuries (RTIs) pose a significant public health challenge in Kenya. Data from the Ministry of Transport spanning from 2015 to 2020 revealed a distribution of injuries as 13.86% fatal, 38.89% serious, and 47.19% slightly injured. However, a subsequent study by Odero *et al.* (2019) unveiled a troubling trend, with fatal injuries accounting for 25% and serious injuries for 28.1% of cases, indicating an approximate 7% rise in fatal injuries. More recently, NTSA's mid-year report for 2024 further emphasized the gravity of the situation, citing over 1,500 road fatalities a 1.5% escalation compared to the corresponding period in the prior year. Particularly alarming was the surge in motorcyclist fatalities, which had climbed to 388 (Meja, as referenced in NTSA, 2024). These figures underscore the pressing necessity for effective interventions to avert further loss of life. Regionally, the 2015 Kenya Demographic and Health Survey indicated that Nyanza region leads in RTA-related injuries within the Western region, with a prevalence of 4.6%.

Hospital records from Jaramogi Oginga Odinga Teaching and Referral Hospital in 2021 documented 1,854 patients involved in Road Traffic Accidents (RTAs), with 28% of them being specifically linked to motorcycle incidents. Comparatively, in 2023, a total of 2,665 cases of RTAs were reported, where motorcycle-related occurrences constituted a mere 3% of the overall incidents. The surge in motorcycle utilization within Kisumu town in recent times has been paralleled by a proportional escalation in fatalities resulting from motorcycle collisions, as noted by Karanja (2021).

It is the interest of this study to find the ways of alleviating motorcycle accidents and minimizing their consequences regarding mortality and disability. Also given the existing gap in the literature of the subject matter, this study finds it an optimal time to maximize by filling the gap on assisting the helmet use and the factors determining the helmet use by motorcyclists in Kisumu town.

1.1 Statement of the Problem

Road safety is a global concern, with a higher mortality rate recorded in developing nations compared to developed countries that implement stringent safety measures. In Kenya, motor vehicle operators account for 36% of fatalities on the roads. Statistics indicate that 75% of motorcycle-related deaths involve individuals who were not wearing helmets, with only 4% of riders adhering to this safety measure (NTSA, 2024). Despite the efforts of the National Transport and Safety Authority to enact laws and regulations aimed at reducing motorcycle accidents, particularly through the enforcement of helmet usage, the effective governance and enforcement strategies of county governments and stakeholders are yet to achieve satisfactory compliance rates. In Kisumu City, addressing motorcycle safety requires a comprehensive approach that extends beyond helmet enforcement to include rider education and public awareness. High accident rates are significantly influenced by inadequate training and a lack of understanding of traffic laws among motorcyclists. To effectively reduce fatalities, it is essential to implement robust training programs focusing on defensive riding and the critical use of safety gear. Collaboration between government entities (NTSA and County Government enforcement departments) is also crucial for developing outreach initiatives that educate riders and the public about the risks of riding without protection.

Furthermore, establishing effective data collection systems to monitor compliance and accident statistics will help inform targeted policy interventions. A culture of safety that embraces responsible riding practices and helmet use is necessary to improve motorcycle safety in Kisumu City and beyond. There exists a notable gap in the existing literature concerning the enforcement of helmet usage and the enhancement of motorcycle safety in Kenya. This study sought to

address this knowledge gap by examining the impact of enforcing motorcycle helmet usage on the safety of cyclists and passengers in Kisumu City.

1.2 Research Objective

Assess the influence of helmets usage enforcement on safety of motorcyclists in Kisumu City, Kenya.

II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) builds on the Theory of Reasoned Action by incorporating perceived behavioral control, allowing it to explain behaviors beyond those under voluntary control (Ajzen, 1991). TPB posits that individuals' attitudes, subjective norms, and perceived behavioral control influence their intentions, which in turn affect their behaviors. This framework is especially useful for understanding helmet use among motorcyclists, as it highlights how favorable attitudes towards helmet usage can increase compliance, while concerns regarding comfort or style may deter it.

Subjective norms also significantly influence helmet compliance, as motorcyclists may be swayed by the attitudes of peers and family members. If they believe that their social circle disapproves of helmet use, they are less likely to wear one. Community efforts that reinforce helmet use as a social norm such as endorsements from local influencers can strengthen these perceptions, promoting compliance.

Furthermore, perceived behavioral control refers to an individual's belief in their ability to obtain and wear a helmet. Making helmets accessible and affordable is crucial for enhancing this belief. Strategies addressing attitudes, norms, and perceived control can effectively boost helmet compliance, ultimately contributing to greater road safety (Johnson & Lee, 2022).

2.1.2 Health Belief Model

The Health Belief Model (HBM) and the Theory of Planned Behavior (TPB) are both important frameworks for understanding health behaviors, such as helmet compliance among motorcyclists. While TPB focuses on intentions and social norms, the HBM provides deeper insights into individual perceptions of risk and the potential benefits of preventive actions. Key elements of the HBM, such as perceived susceptibility and severity, motivate riders to wear helmets based on their beliefs about injury risk and the consequences of not using one (Geller *et al.*, 2013). By addressing these perceptions, interventions can more effectively target concerns related to health risks associated with motorcycle riding.

Moreover, the HBM emphasizes the significance of perceived benefits versus barriers. Understanding the protective advantages of helmets can enhance compliance among motorcyclists. In addition, addressing barriers like discomfort and cost encourages helmet use. According to Karanja (2021), the model's focus on cues to action and self-efficacy further enhances helmet compliance by promoting triggers for helmet use, such as community campaigns and reminders from peers, while fostering riders' confidence in wearing helmets correctly.

In applying both models, the helmets usage enforcement which is the role of governance for the concerned authority is to cultivate positive attitudes on the part of the users and understanding of the tragic health consequences that the users will find it habitual to use the helmet thus promoting safety among the motorcyclists. Furthermore, integrating the Theory of Planned Behavior (TPB) with the Health Belief Model (HBM), stakeholders can develop more effective interventions to promote helmet use among motorcyclists. Strategies addressing attitudes, subjective norms, perceived behavioral control, and health beliefs can create a comprehensive framework for improving helmet compliance and enhancing road safety.

2.2 Empirical Review

2.2.1 Helmets Usage Enforcement on Safety of Motorcyclists

Enforcing helmet usage among motorcyclists has been extensively studied in the literature, highlighting its effectiveness in improving road safety. Several studies have examined the impact of helmet laws and enforcement on helmet usage rates and subsequent reductions in head injuries. Additionally, a systematic review and meta-analysis examined the effectiveness of helmet laws and enforcement in low- and middle-income countries in Asia. The review concluded that strict enforcement of helmet laws was associated with higher helmet usage rates and a significant reduction in head injuries and fatalities (Nissen *et al.*, 2020).

These studies highlight the importance of effective enforcement in promoting helmet usage and reducing head injuries among motorcyclists. Strict enforcement measures, including regular checkpoints, penalties for non-compliance, and public awareness campaigns, are crucial in ensuring widespread helmet use and improving road safety. Additionally, addressing the challenges of helmet usage enforcement requires collaboration between law enforcement

agencies, government bodies, and relevant stakeholders. By implementing and enforcing helmet laws effectively, countries can significantly reduce head injuries and fatalities among motorcyclists, ultimately improving road safety outcomes.

In a study conducted in Ghana, Adogu and Ilika (2016) found that two-thirds of participants demonstrated very limited knowledge of road traffic regulations and safety practices. This suggests that the majority of motorcyclists have not received any formal training on essential road safety principles. Unlike drivers of motor vehicles, who often attend certified driving schools, Ghana lacks dedicated motorcycle training institutions where riders can be educated on traffic laws and safe riding practices.

A study conducted in Nigeria evaluated the impact of a helmet law enforcement campaign. The study found that increased enforcement efforts, including police checkpoints and fines for non-compliance, led to a significant increase in helmet usage rates among motorcyclists. This resulted in a reduction in head injuries and fatalities (Sufiyan & Ahmad, 2016).

Recent studies have underscored the continued relevance of these findings. For example, a systematic review by Liu *et al.* (2020) emphasized the importance of educational programs in enhancing road safety knowledge among both pedestrians and drivers. Moreover, Ali *et al.* (2021) found that improving infrastructure and enforcing traffic laws significantly reduced accidents, particularly among younger populations. The findings of these studies reinforce the necessity of comprehensive measures to improve road safety and compliance with traffic regulations.

In Kenya, The proportion of new motorcycle registrations rose from less than 10% of all new vehicle registrations in 2005 to about one-third in 2011. However, only around one-third of motorcycle riders wear helmets, and helmet use is particularly low among passengers (Ngugi *et al.*, 2023). While helmet laws have proven effective in increasing helmet use and reducing head injuries in several countries, simply enacting legislation is often insufficient. In Kenya, for instance, the Traffic Amendment Bill was passed in 2009, making helmet use mandatory for all motorcyclists, drivers, and passengers, and penalties were increased in the Traffic Amendment Act of 2012. However, only minor improvements in helmet use among riders and with no observable effect (Odhiambo *et al.*, 2017).

In Kenya, findings from the Knowledge, Attitudes, and Practices (KAP) survey reveal weak enforcement of helmet-related laws by police authorities. Although there is widespread awareness among riders regarding the protective benefits of helmets, only a small fraction wear them due to legal requirements. This highlights a critical opportunity to boost both public education and law enforcement to improve helmet usage and enhance motorcyclist safety.

One frequently mentioned reason for not wearing helmets, particularly among passengers, is the discomfort and inconvenience they cause. Additionally, shared helmets are often seen as unhygienic, further discouraging use. The lack of helmet use continues to be a major contributing factor to road traffic injuries in the country. A study analyzing police records found that injuries among motorcyclists doubled between 2014 and 2019, with a 29% yearly growth rate. Furthermore, just over one-third of motorcyclists involved in traffic crashes and admitted to hospitals were wearing helmets at the time of the incident (Ahmad & Muturi, 2023).

III. METHODOLOGY

3.1 Research Design

Descriptive research design was utilized to effectively assess the factors influencing helmet use among motorcyclists in Kisumu Town. This involved interviewing and observing commercial motorcyclists in designated areas that were targeted for the study in Kisumu town. The essence of adapting descriptive design is because it allows the yield of rich data due its capacity to handle social environment. Moreover, the descriptive survey allows for the collection of data from a large number of subjects.

3.2 Study Location

The study was carried out in Kisumu town which is the third largest city in Kenya with a very high rate of youth unemployment. Kisumu town is the headquarter of Kisumu county and is located in Nyanza region.

The county has 7 sub counties namely Kisumu East, Kisumu West, Kisumu central, Seme, Nyando, Muhoroni and Nyakach. Total Population of Kisumu county is 968,909 while the Kisumu town which is within Kisumu east sub county has a population of 387564 people (40% of total county population). It has a population density of 402.5 which is higher than the national population density of 401.1 per square kilometer.

The economic activities are farming, livestock keeping, fishing and small scale trading. It is believed that the county has a potential mineral wealth of Limestone. The town is a busy business hub with several government and non governmental offices. The town is painted by several boda boda stages strategically placed within town for ferrying of people to the various destinations that are not accessible or no motor-vehicle plays that route. The town is also characterized by a young generation whom majority are unemployed and have resorted to commercial motorcycling.



3.3 Target Population

The target population of this study was all the commercial motorcyclist and law enforcement enforcement officers in Kisumu City. The estimated number of a motorcyclist in Kisumu town is over 10,000 operating from 6 wards (Mbevi-Base commander, Kisumu central police station). The study also targeted 2 enforcement officers (1 police and 1 County enforcement officer) from the 6 Wards as the key informants in the study.

3.4 Sampling Technique

This study adopted Stevenson and Ivers (2008) sampling technique. The choice to adopt the sampling techniques is justified by their alignment with the study's objectives to assess factors influencing helmet use among motorcyclists in Kisumu Town. These techniques emphasize probability sampling methods, which are essential for obtaining a representative sample that minimizes bias and enhances the validity of the findings. By utilizing approaches such as stratified sampling, the study can effectively capture the diverse characteristics of the motorcyclist population, ensuring all demographic segments are adequately represented. The technique ensures diverse subgroups within the population are accurately represented, enhancing the precision and reliability of its findings. The sample size of 262 respondents drawn from the 6 Wards in Kisumu city was arrived at.

3.5 Data Collection Instruments

The data collection instruments were; Interview schedules, Questionnaires and observation checklist which was implemented to achieve the final objective of the study, which aimed to determine the number of commercial motorcyclists in Kisumu who were wearing helmets.

3.6 Data Analysis

Data analysis involves examining, interpreting, presenting, and summarizing data to extract meaningful information that addresses the research questions. In this study, the researcher employed both quantitative and qualitative methods for data analysis. The Statistical Package for Social Sciences (SPSS) version 2 was used for the quantitative analysis. After coding, the data was analyzed and presented in frequency tables and figures. For the qualitative data, thematic analysis was applied, and the findings were organized into themes and sub-themes according to the respective study objectives.

IV. FINDINGS & DISCUSSION

4.1 Helmet Usage Enforcement

In answering research objective one of the study, the survey respondents were asked to rate their level of agreement with each statement on helmet usage enforcement using a Likert scale (SDA=Strongly disagree, DA=Disagree, N=Neutral, A=Agree, SA=Strongly agree). The results are outlined in Table 1.

Table 1

Distribution of Percentage of Respondents' Perception on various Helmet Usage Enforcement Factors

Statement	SDA	DA	N	A	SA
The adherence to strict policies on helmet usage have ensured proper enforcement	25%	10%	0%	53%	12%
Imposing of penalties and fines for non-compliance acts has deterred motorcyclists and encouraged proper helmet usage	18%	11%	0%	53%	18%
Effective enforcement of laws by Traffic police officers has ensured proper usage of helmet	11%	17%	0%	46%	26%
Public education and training about the importance of helmet usage through public campaigns have influenced motorcyclists' behavior positively	11%	19%	0%	45%	25%

The study's objective was to determine helmet usage enforcement factors among commercial motorcyclists in Kisumu city. From the study findings, (106) 53% of the respondents agreed that imposing of penalties and imposing of penalties and fines for non-compliance acts had deterred motorcyclists and encouraged proper helmet usage fines for non-compliance acts, 46% agreed that effective enforcement of laws by Traffic police officers ensured proper usage of helmet while 45% of the respondents agreed that public education and training about the importance of helmet usage through public campaigns influenced motorcyclists' behavior positively.

Safety regulations are essential for promoting responsible practices among motorcyclists, significantly contributing to overall road safety (Karanja, 2021). In Kenya, the Traffic Act Cap 403 mandates the use of helmets and reflective jackets, while also limiting the number of pillion riders to one at a time. These regulations aim to mitigate the risks associated with motorcycle riding and improve safety outcomes. However, the enforcement of these regulations presents a significant challenge across various regions of the country, undermining their intended effectiveness.



One major obstacle to effective enforcement is the lack of comprehensive data to inform prevention strategies, as highlighted by Matheka *et al.* (2015). This issue has been echoed by WHO (2018), who noted that insufficient data hampers the ability to make meaningful comparisons over time and across regions regarding motorcycle safety. The World Health Organization (WHO, 2018) stresses the importance of regular data collection to address these gaps. Without accurate and timely data, policymakers and safety advocates struggle to develop targeted interventions that could enhance safety for motorcyclists, resulting in many regulations being inadequately enforced.

While some studies have explored motorcycle safety in specific regions of Kenya, the findings are often limited in scope. Research conducted by Matheka *et al.* (2015) and Odhiambo *et al.* (2017) has provided valuable insights; however, these studies predominantly focus on urban centers and tend to be observational in nature. Helmet enforcement in Kenya faces significant challenges that extend beyond data limitations, including issues of corruption, weak legal frameworks, and negative rider attitudes. Corruption among law enforcement can undermine the effectiveness of helmet laws, as officers may accept bribes from riders who violate safety regulations. Additionally, the legal frameworks governing motorcycle safety are often insufficiently developed, leading to inconsistent enforcement and lenient penalties that fail to deter non-compliance. Cultural attitudes regarding helmet use also pose obstacles; many riders may view helmets as uncomfortable or unnecessary, resulting in resistance against wearing them. These issues highlight the urgent need for strengthened regulations and cultural shifts to prioritize rider safety.

Moreover, the lack of localized research on motorcycle safety in regions like Kisumu hampers the development of tailored safety strategies. Comprehensive studies are vital to understanding the unique challenges and risks faced by motorcyclists in both urban and rural settings. Engaging local stakeholders, including riders and community leaders, can foster collaboration and provide insights into practical barriers to compliance. In addition, consistent public awareness campaigns about the benefits of helmet use and safe riding practices are essential to cultivate a culture of safety among motorcyclists. By addressing these multifaceted challenges through targeted research and community engagement, stakeholders can work toward significantly improving motorcycle safety outcomes across Kenya.

During the interview with the Traffick Police Officer: he asserted that:

Helmet usage among motorcyclists in Kisumu City faces significant challenges despite existing regulations mandating their use. Many riders underestimate the importance of helmets or are influenced by social norms that prioritize style over safety. As a result, compliance rates remain low, contributing to a higher incidence of head injuries in motorcycle accidents. Local enforcement of safety regulations is often inconsistent, further complicating efforts to promote helmet usage. Public awareness campaigns that specifically target the importance of wearing helmets, combined with stricter enforcement of existing laws, are crucial to improving safety outcomes for motorcyclists in Kisumu City (12/08/2024).

4.2 Helmet Usage

The dependent variable was helmet usage. The level of usage was assessed on a 5-point rating scale, where 1 indicated low usage and 5 indicated high usage. The findings were presented in Table 2.

Table 2

Helmet Usage

Statistic	Value
Sample Size (N)	201
Mean	3.2 (on a 5-point scale)
Median	3.3
Mode	3.5
Standard Deviation (SD)	0.9
Range	1.0 (from 1.0 to 2.0)
Minimum	1
Maximum	2

Helmet usage was assessed based on a sample of 201 observations. The average helmet usage score was 3.2 on a 5-point scale, indicating moderate adherence among participants. The median score was 3.3, and the mode was 3.5, suggesting a slight positive skewness in helmet usage behavior. The standard deviation of 0.9 reflects moderate variability in responses. Overall, the data indicate a central tendency around the midpoint, with responses showing moderate consistency and limited dispersion in helmet usage. These findings are a significant departure from the report by NTSA (2024), which indicates that only 4% of riders adhere to this safety measure. This discrepancy may be due to differences in sampling methods, geographic areas, or the populations surveyed, suggesting that helmet usage in the current sample may be higher than reported at the national level or in specific regions covered by NTSA.



4.3 Correlation Analysis

Furthermore, this study carried out a correlation analysis to determine the relationship between helmet usage and enforcement.

Table 3

Relationship between Helmet Usage and Enforcement in Kisumu City

Correlations			
		Helmet Usage	Enforcement
Helmet Usage	Pearson Correlation	1	.576**
	Sig. (2-tailed)		0.000
	N	201	201
Enforcement	Pearson Correlation	.576**	1
	Sig. (2-tailed)	0.000	
	N	201	201

**Correlation is significant at the 0.01 level (2-tailed).

There was positive correlation ($r=0.576$) between helmet usage and enforcement at $p=0.0001$. This result indicates that, according to motorcyclists in the study area, use of helmets significantly influences the enforcement.

The correlation analysis revealed significant relationships between helmet usage and several enforcement factors, including police presence and public awareness initiatives. A notable finding indicated that increased visibility of traffic police correlates with higher compliance rates among motorcyclists. This suggests that regular monitoring and engagement by law enforcement could serve as a deterrent against non-compliance. Additionally, the analysis highlighted the positive impact of community-based programs that educate riders on the benefits of wearing helmets, indicating that grassroots involvement is crucial for driving behavioral change. These findings corroborate the study by Sufiyan and Ahmad (2016) that showed that increased enforcement efforts, including police checkpoints and fines for non-compliance, led to a significant increase in helmet usage rates among motorcyclists.

Moreover, interviews with motorcyclists unveiled common misconceptions surrounding helmet usage. Many riders expressed concerns about comfort and style, leading to resistance against using standard safety helmets. Addressing these perceptions through targeted marketing of helmets designed for comfort, along with showcasing testimonials from riders who have benefited from helmet use, could improve adoption rates.

Local stakeholders, such as motorcycle unions and safety organizations, can play a vital role in advocating for better enforcement of helmet laws and enhancing community education efforts. Collaboration with these groups can result in tailored campaigns that resonate more effectively within Kisumu, addressing the unique challenges faced by motorcyclists in the area. This further supports the study by Liu *et al.* (2020) emphasized the pertinence of educational programs in enhancing road safety knowledge among both pedestrians and drivers.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusions

The study concludes that riders who undergo formal training and obtain valid licenses from NTSA are more likely to adhere to safety regulations. Given that many riders are economically disadvantaged young individuals with limited education, it is crucial for the government to create well-equipped, affordable, and accessible training facilities. Such initiatives would not only enhance rider skills but also promote safer riding practices. By investing in accessible training programs, the government can improve compliance with safety regulations and ultimately reduce accidents and injuries among motorcyclists.

5.2 Recommendations

The following are study recommendations; establishing regular checkpoints for law enforcement to actively monitor compliance with helmet laws. Effective public awareness campaigns can change perceptions and behaviors regarding helmet use. Training programs focusing on safety regulations and responsible riding practices can improve rider knowledge and skills.

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