

Perceptions and Attitudinal Disposition of Commercial Motorcycle Passengers towards Helmet Use in a Nigerian Metropolitan Suburb

^aBanjo T., ^bNwaze E. & ^{a*}Aja G. N. D

^aDepartment of Public & Allied Health, Babcock University, Nigeria

^bFederal Ministry of Health, Abuja

*Correspondence author <gndaja@yahoo.co.uk>

Abstract

The increasing risk of motorcycle accidents in developing countries poses a particular threat to the lives of commercial motorcycle passengers (CMPs) and riders. To help protect against head injuries arising from motorbike accidents, many countries, including Nigeria have formulated national helmet laws. However, there is a paucity of data on CMPs perceptions and attitudinal disposition to helmet use. This cross sectional study examined CMPs demographic characteristics and responses to eleven positive and negative statements relating to their perceptions and attitude towards helmet use. Two hundred and fifty residents of a gated residential area close to a nearby commercial motorcycle park in Ikorodu commercial suburb of Lagos State participated in the study by completing a pilot tested 18-item survey questionnaire. Data analysis showed that respondents were mostly secondary school females, Christians, singles, and aged 15-19 years old. The mean score for each of the eleven statements was calculated based on a scale where, for positive statements, 1 means strongly disagree and 4 means strongly agree and for negative statements, 1 means strongly agree and 4 means strongly disagree. Respondents' mean score on the positive statement that "motorcycle helmet use protects against head injury is highest (3.56±0.6), followed by the statements, I use materials like handkerchief and scarf before wearing a motorcycle helmet (3.29±0.7), every motorcycle passenger should have a helmet of his/her own (3.25±0.9), helmet use transmits diseases from one passenger to another (3.22±0.8), I prefer to have helmet of my own (3.20±0.8), use of motorcycle helmets by passengers can transmit disease from one person to another (3.16±1.0), motorcycle helmet can affect my hairstyle or mode of dressing (3.02±0.9) and it is okay to use helmets provided by motorcycle riders (2.20±1.3)." Respondents' mean score on the negative statements that "it is okay to pretend to be wearing a helmet when I'm not (2.38±0.8) is highest, followed by it is okay to use anything to cover my head as long as it looks like a helmet (2.24±1.1) and helmet use can cause headache (2.19±1.2)." Rather than focus more on enforcement of helmet laws, user (passenger) perspectives and preferences with regards to helmet convenience and related health concerns need to be carefully considered in future traffic policy development and implementation.

Keywords: Attitude; Commercial motorcycle passengers; Nigeria; Perceptions

Introduction

In developing countries, use of motorcycle for commercial transportation of persons, goods and services is common; a trend that has led to the promulgation of helmet laws in many countries to help protect riders and passengers from fatal head/brain injuries and deaths. Helmet use, generally, may reduce crash related head injury (Liu, 2004).

Many studies have focused on the vulnerability of riders, passengers and pedestrians (Solagberu *et al.*, 2009), as well as factors affecting helmet use (Skalkidou *et al.*, 1999), frequency of helmet use (Mumtaz *et al.*, 2007) and enforcement of helmet laws (Branas, 2001; McSwain, 1990; Sosin, 1990); while others have explored the reactions of motorcyclists (Krantz, 1985). Equally important is the need to understand user perspectives on issues related to helmet hygiene and comfort. The objective of this study was, therefore, to examine CMPs level of responses to some crucial statements related to helmet use perceptions and attitudes identified from literature and unpublished data in order to provide needed information for better implementation of helmet laws particularly in countries where resistance to legislation on motorcycle helmets still exists.

Methods

This cross sectional study was carried out in Ikorodu, a commercial suburb and a major

trading post in south west Nigeria. A structured questionnaire, pilot- tested in a similar study setting, was used to obtain information from CMPs residing at Unity Estate in a nearby Ojokoro motorcycle park. The questionnaire had three parts. Section 1 elicited information on the demographic characteristics, while section 2 focused on their perceptions and attitudinal disposition. Section 3 focused on self-efficacy and would be presented as a separate article as it distinctly measures passengers' confidence to use helmets. The statements on perceptions and attitude were obtained from literature and informal discussion with CMPs in other locations in Lagos. Participants were asked to express their degree of agreement with each of the statements on a Likert type scale of Strongly agree (SA), Agree (A), Disagree (D), and Strongly disagree (SD). Scores of 4, 3, 2, and 1 were assigned respectively to the positive statements. For negative items, responses SA, A, D, and SD were scored 1, 2, 3, and 4 (Fraser, 1982; Likert, 1932). Data was analyzed using SPSS version 14 (SPSS, 2006).

Participants who came to Ojokoro Motorcycle Park as passengers were approached by a student investigator/field assistant for consent to participate. The importance and reason of this research was explicitly explained to them and verbal consent obtained before administering the questionnaire. Thus, only those who agreed to participate responded to the questionnaire.

Results

Majority of the respondents were within the age range of 15-19 years (25.2%) and 20-24 years (13.2%). They were mostly single (52.4%), females (56.8%); although males, (43.2%) were well represented. Many of the respondents were Christians (82.4%) and about one-third were students (37.2%), specifically secondary school students (45.2%) (Table 1).

Table 2 shows the mean responses of CMPs to the eleven statements related to perceptions and attitude. Respondents' mean score on the positive statement that motorcycle helmet use protects against head injury is highest (3.56 ± 0.6), followed by the statements, I use materials like handkerchief and scarf before wearing a motorcycle helmet (3.29 ± 0.7), every motorcycle passenger should have a helmet of his/her own (3.25 ± 0.9), helmet use transmits diseases from one passenger to another (3.22 ± 0.8), I prefer to have helmet of my own (3.20 ± 0.8), use of motorcycle helmets by passengers can transmit disease from one person to another (3.16 ± 1.0), motorcycle helmet can affect my hairstyle or mode of dressing (3.02 ± 0.9) and it is okay to use helmets provided by motorcycle riders (2.20 ± 1.3). Respondents' mean score on the negative statements that it is okay to pretend to be wearing a helmet when I'm not (2.38 ± 0.8) is highest, followed by, it is okay to use anything to cover my head as long

as it looks like a helmet (2.24 ± 1.1) and helmet use can cause headache (2.19 ± 1.2).

Discussion

This study examined CMPs perceptions and attitudinal disposition towards helmet use. Respondents were mostly secondary school females, Christians, singles, and aged 15-19 years old. The seemingly high demand of students to use commercial motorcycle riders in this population may be due to busy work schedule of their parents during week days. The tendency for students to patronize commercial motorcycle business, therefore, requires intensified safety education programs in schools and colleges, particularly on the importance of helmet use. To adequately address their preferences and concerns, the question of helmet hygiene rather than safety alone must be taken into full consideration.

From this study, CMPs tend to agree that motorcycle helmet protects against head injury; thus, every CMPs should have their own personal helmet. While this may seem reasonable, the logistics needed to support ownership and maintenance of the helmet by passengers might need further exploration.

As a precautionary measure, CMPs tend to use handkerchiefs or scarf or anything to cover their head so far as it looks like a helmet, including the preference to have their own helmet rather than use helmets provided by motorcycle riders.

Table 1: Demographic characteristics of the respondents

Demographics	N=250	Percent (%)
Age		
Less than 15	11	4.4
15-19	63	25.2
20-24	33	13.2
25-29	28	11.2
30-34	32	12.8
35-39	23	9.2
40-44	28	11.2
45-49	21	8.4
50 and above	11	4.4
Gender		
Male	108	43.2
Female	142	56.8
Occupation		
Student	93	37.2
Unemployed	10	4.0
Self employed	54	21.6
Civil servant	74	29.6
Trader	13	5.2
Others	6	2.4
Education		
Primary	8	3.2
Secondary	2	0.8
Technical/commercial	113	45.2
University	49	19.6
Other	68	27.2
Marital Status		
Single	131	52.4
Married	113	45.2
Separated	4	1.6
Widowed	2	0.8
Religion		
Christianity	206	82.4
Islam	42	16.8
Other	2	0.8

Table 2: Mean distribution of CMPs perceptions and attitudinal disposition to helmet use

	^a Mean (N=250)	Std. Deviation
Motorcycle helmet use protects against head injury	3.56	0.6
I use materials like handkerchiefs and scarf on my head before wearing a motorcycle helmet	3.29	0.7
Every motorcycle passenger should have a helmet of his/her own	3.25	0.9
Helmet use transmits diseases from one person to another	3.22	0.8
I prefer to have a helmet of my own	3.20	0.8
Use of motorcycle helmet by passengers can transmit disease from one person to another	3.16	1.0
Use of motorcycle helmet can affect my hairstyle or mode of dressing	3.02	0.9
As a motorcycle passenger, it is okay to pretend to be wearing a helmet when I'm not	2.38*	0.8
As a motorcycle passenger, it is okay to use anything to cover my head as long as it looks like a helmet	2.24*	1.1
It is okay to use helmets provided by motorcycle riders	2.20	1.3
Use of motorcycle helmet can cause headache	2.19*	1.2

^aThe mean score is on a scale where 1 means *Strongly disagree* and 4 means *Strongly agree*.

*Negative items on a scale where 1 means *Strongly agree* and 4 means *Strongly Disagree*.

Related reports show that CMPs are uncomfortable with helmet use for reasons ranging from “fear of the helmets being laced with magic spells that could knock the wearer unconscious and expose them to robbery to fear of picking up infections such as scabies, *craw-craw*, ringworm, dandruff” (cited in Oboh, 2009). Use of makeshift helmets such as fruit shells, dried pumpkin shells, calabash, paint pots and pans or pieces of rubber tire, and plates (Oboh, 2009; BBC News, 2009) is common in

Nigeria. Therefore, to allay the fears of CMPs on helmet use, there might be the need to develop measures that require riders to clean up helmets with sanitizer before handing it over to the next passenger. This is similar to what obtains in barbing salons where barbers clean and sterilize their tool in the presence of the customer. Furthermore, disposable sanitized handkerchiefs may be designed, produced and marketed as a safety measure for motorcycle passengers. Such “headkerchief” should be

regulated to ensure quality. Future studies, perhaps qualitative, may help elucidate reasons for perceived apathy of respondents towards helmets provided by commercial motorcycle riders.

Understanding passenger perspectives and attitude is key to implementing effective helmet laws. There seems to be a high degree of agreement among the respondents that helmet use may affect hairstyle or mode of dressing of motorcycle passengers; thus, the perceived tendency for CMPs to pretend to be wearing a helmet when they are not. Establishing dressing salons with mirrors at designated motorcycle parks may help CMPs fix their hairs and makeup at the arrival motorcycle park. Such salons can be set up by individuals and monitored by the Federal Road Safety Corp (in the case of Nigeria) and Ministry of Health. Obviously, the logistics for implementing this idea would need careful study. Rather than the current practice where commercial motorcycle riders have a pair of helmets (one for the passenger), a well coordinated helmet rental shops (equipped with sanitizers and cleaning agents) can be established at motorcycle parks for CMPs at a small fee. This may help build the confidence of CMPs to use (sanitized) helmets. In other words, the rental shop is expected to sanitize each helmet returned by a passenger before subsequent rental to another passenger. Again,

the logistics needed to implement this idea would need careful study.

Conclusion

The result of this study was based on self-report. However, the findings provide useful information needed to improve services offered to CMPs. Nigerian CMPs tend to have the opinion that motorcycle helmet use may protect against head injury but may as well transmit diseases from one passenger to another, cause headache and affect hairstyle or mode of dressing. As a safeguard, they resort to the use of materials like handkerchief and scarf to cover their head before wearing a motorcycle helmet. They may prefer to have helmet of their own, and may likely avoid riding on motorcycle because they don't like to wear helmet. Therefore, rather than focus more on enforcement of helmet laws, user (passenger) perspectives and preferences with regards to helmet convenience and related health concerns need to be carefully considered in future traffic policy development and implementation.

References

1. Liu, B. 2004. Cochrane Database of systemic reviews. *Helmets for preventing injuries in motorcyclists*, 10.1002/14651858.
2. Solagberu B.A., Ofoegbu C.K.P., Nasir A.A., Ogundipe O.K., Adekanye A.O., Abdur-

- Rahman L.O. 2006. Motorcycle Injuries in a developing country and vulnerability of riders, passengers, and pedestrians. *Injury Prevention*, 12:266-268.
3. Fraser, B. 1981. Test of science-related attitudes. Australian Council for Educational research, Radford House, Victoria 3122.
 4. Skalkidou A., Petridou E., Papadopoulos FC., Dessypris N., Trichopoulos, D. 1999. *Injury Prevention*, 5:264-267.
 5. Mumtaz B., Khan MH., Khan M.W., Ahmed M., Mahmood A. 2007. Frequency of helmet use among motorcycle riders in Rawalpindi. *Professional Medical Journal* 14(4):663-668.
 6. Hazen A., Ehiri J.E. 2006. Road traffic injuries: Hidden epidemic in less developed countries. *Journal of the National Medical Association*, 98(1):73-82.
 7. Branas, C.C. 2001. Accident Analysis and Prevention. *Helmet laws and motorcycle rider death rates*, 641-648.
 8. McSwain N.E., Belles A. 1990. Motorcycle helmets - medical costs and the law. *Journal of Trauma*, 30(10):1189-97.
 9. Sosin D.M., Sacks J.J., Holmgren P. 1990. Head injury-associated deaths from motorcycle crashes. *JAMA*, 264:2395-9.
 10. SPSS Inc. (2006) *Statistical Package for Social Sciences*. Version 14.0. Chicago.
 11. Likert, R. 1932. Technique for the measurement of attitudes. *Archives of Psychology*, 140.
 12. Krantz K.P. 1985. Head and neck injuries to motorcycle and moped riders with special regard to the effect of protective helmets. *Injury*, 16:253-8.
 13. BBC News. 2009. [Nigerian Motorcyclists Dodge Helmet Laws By Wearing Vegetables](http://www.huffingtonpost.com/2009/01/06/nigerian-motorcyclists-do_n_155756.html). BBC NEWS, January 6, 2009 . http://www.huffingtonpost.com/2009/01/06/nigerian-motorcyclists-do_n_155756.html
 14. Oboh M. 2009. Nigerian bikers wear fruit shells to avoid helmet law <http://www.reuters.com/article/2009/01/07/us-nigeria-bikers-idUSTRE5063FR20090107>