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Original Article

Knowledge and Practice of Safety Measures among Tricycle (Keke) Drivers in Owerri Municipal South East Nigeria

Bede Chinedu Azudialu [1], Henry N. Chineke[2], Henry Chibuikem Chineke[3], Victory C. Chineke[4], Emeka Peter Uwha[5], Fredrick Chiedozie Anolue[2], Olisa Derrick Ezekunie[6], Prosper Adogu[7].

[1]Department of Family Medicine Federal University of Technology Teaching Hospital Owerri Nigeria
[2]Department of Family medicine Imo State University Teaching Hospital Orlu Nigeria
[3]Department of Obstetrics of Gynaecology Imo State University Owerri
[4]Professor Nnaemeka Specialist Hospital Nnewi [5]Professor Chineke Specialist Hospital Awo-Idemili Orsu LGA Imo State Nigeria [6]Department of Internal Medicine Imo State University Teaching Hospital Orlu
[7]Department of Community Medicine Nnamdi Azikiwe University Awka Nigeria

Abstract

Background: Road traffic accidents, injuries and deaths remain important public health problems in both developed and developing countries. These problems have since escalated in Nigeria with the introduction of the new phenomenon of tricycle (Keke) mode of transportation specially in the Urban slums, as a result of disregards of the various safety measures guarding road transportation. **Objectives:** To evaluate the knowledge and practice of safety measures among tricycle (Keke) rivers in Owerri Nigeria. **Methodology**: Using a simple random sampling, 153 tricycle drivers were interviewed using both self and interviewer administered questionnaire. Collated data was analysed using the statistical package for social sciences SPSS, version 20 IBM USA, and results were presented using frequency tables. **Results:** Majority of the respondents 148 (98%) knew about safety measures; and the mode of knowledge was mostly from regular ready safety awareness campaigns carried out in their major parks. Majority were married 101 (63.7%). Only 19(13%) had no formal education. Major cause of indulging in over speeding was to make more daily returns, 40(26.7%) also majority 142(95%) carry passengers hanging on the left side of the driver which is a risk factor for increased injuries in the event of a road crash, as the passenger will easily fall out. **Conclusion**: Knowledge of road safety measures amongst commercial tricyclists in Owerri Municipal was quite high, but the dangerous practices of over speeding so as to make more returns and carriage of passengers on the front left attachment seat should both be discouraged.

Key words: knowledge, practice, safety measures tricycle, Owerri.

Corresponding author*: Henry N. Chineke, Department of Family medicine Imo State University Teaching Hospital Orlu Nigeria.

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Introduction

Driving as an occupation has its own hazards, the most common being road traffic collision or accident. It can occur when two tricycles (Keke) collide head on, or when it hits a pedestrian, an animal, road debris or other stationary obstruction [2]. Road traffic accident is a major cause of death and disability world wide[3]. The World Health Organization (WHO) has opined that road traffic injuries will rise to become the 5th leading cause of death globally by the year 2030 [4]. Several factors contribute to the rising incidence of road crashes involving tricycle riders viz: driver's factors, the tricycle factors and environmental factors[5]. These will be exhaustively evaluated in this study.

Methodology

Study Area: The study was conducted in Owerri Municipal. Owerri is the capital of Imo State of Nigeria. It is located between latitude 14° North and longitude 18° East. It has a robust population of 401,873 according to the 2006 national census[6].

Study Population: The study population consists of commercial tricycle (Keke) drivers whose take off points were from some strategic terminals in the Owerri Municipal eg the busy Imo State University (IMSU) round about, Government House junction, World bank, Control post, and Wethedral Road junction.

Inclusion criteria: Commercial tricycle drivers whose take off point must be within the Owerri Municipal.

Study Design: It was a cross-sectional descriptive study.

Sample size determination: Using 11% of the study population, (as obtained from a similar study)[6], the sample size was determined using the Cochrane formula. Sample size (n)

$$n = \frac{z^2pq}{d^2}$$

Where z = normal standard deviation = 1.96
p = Proportion of the target population estimated to have a particular characteristics
q = 1- p
d = degree of accuracy desired, usually 0.05
n = 1.96^2 x 0.89 x $0.11/0.05^2$
n = 150.4 (approximately 150)

Sampling technique

Simple random sampling method was used. Six different terminals were sampled. Respondents were interviewed using both self administered and interviewer- administered questionnaires.

Date Analysis

Collated data were analysed using the Statistical Package for Social Sciences Version 20 IBM USA[7], and results were presented in frequency tables.

Limitation of study

All the respondents were of the male gender, there was no female Tricycle driver in all the centres unlike obtained in some other cities e.g. Lagos in South West Nigeria.

Results

Table: Age of respondents

Drivers age (in years)	Number/ frequency	Percentage %
<20	0	0
20-29	17	11.3
30-39	58	38.7
40-49	46	30.7
50-59	27	18.0
60 and above	2	1.3
TOTAL	150	100

This study shows that 11.3%(17) of the respondents were between the ages of 20-29 years, 38.7%(58) were between the ages of 30-39 years, 30-7% (46) were between the ages of 40-49 years, while 18% (27) were between the ages of 50-59 years and only 1.3%(2) were of the ages of 60 years above . There was no respondent below 20 years of age.

Tables 2: Marital status of respondents

Marital status	Numbers of frequency	Percentage%
Single	30	20
Married	101	67.3
Divorced	5	3.3
Widower	14	9.3
Total	150	100

The study shows that 67.3% (101) of the respondents were married, 20%(30) were single while 3.3%(5) and 9.3%(14) divorcees or widowers respectively.

Table 3: Respondents educational status

Level of education	Numbers/frequency	Percentages %
No formal education	19	12.7
Completed primary school	64	42.7
Completed secondary school	62	41.3

Completed tertiary education	5	3.33
Total	150	100

The study shows that 12.7%(9) of respondents have no formal Education, 42.7%(64) completed primary education, while 41.3%(62) completed secondary education. Only 3.3%(5) of the respondents had tertiary education.

Table 4: Duration of respondents in tricycle driving job

No of years	Numbers/frequency	Percentage %
1-5	93	62
5-10	53	35.3
10-15	3	2
15-20	1	0.6
20 and above	0	0
Total	150	100

The study shows that 62%(93)of respondents have been in the tricycle driving business for 1-5years, 35.3% (53)have been for 5-10 years, 2% (3) have been driving for 10-15yrs and a mere 0.6% (1)have been driving for 15-20 years.

No respondent has been in the business for up to 20 years or above.

Table 5a: Respondents' knowledge of safety measures on the road

Knows about safety measure	Number/frequency	Percentage %
Yes	148	98.7
No	2	1.3
Total	150	100

5b. Respondents source of knowledge of road safety measures

Source	Numbers/frequency	Percentages %
Online news/information	10	6.6
Safety awareness talk in motor parks by FRSC	117	78
TV/radio jingle	23	15.3
Total	148	100

The study shows that 98.7%(148) of respondent knew about safety measures, while 1.3% (2) do not. Then 78%(117) of those who know about safety measures sourced it from road safety awareness campaigns 15.3(23) from TV/radio, while 6.6%(10) from the online information (social media).

Table 6a: Respondents indulgence in over speeding

Overspeeding	Numbers/ frequency	Percentages %
Yes	40	27
No	110	73
Total	150	100

6b. Respondents reason for over speeding

Reason for over speeding	Numbers/frequency	Percentages %
Make more returns	37	92%
Influence of alcohol	3	8%
Influence of drug	0	0%
TOTAL	**40**	**100%**

Study shows that 26.7%(40) respondents do over speed while 73% (110) do not over speed. Reasons for over speeding include the need to make more 92%(37) and influence of alcohol 8%(3).

Table 7: Respondents carriage of passengers in the left front attachment seat

Carry passengers in the left front attachment seat	Numbers/frequency	Percentages %
Yes	142	95
No	8	5
Total	150	100

Study shows that 95%(142) of the drivers carry passengers in the left front attachment seat while 5%(8) do not.

Table 8: Respondents quarrelling with passengers

Quarrel with passengers	Numbers/frequency	Percentages %
Yes	59	39
No	91	61
Total	**150**	**100%**

This study shows that 39% (59) of respondents quarrel with their passengers while 61%(91) do not.

Discussion

The study shows that majority of the respondents were mature and able bodied men between the age range of 30 to 49 years. Younger respondents of 20 years and below, as well as older respondents above 60 years of age were quite few. This is a good omen, as older men and younger respondents (youths) are more liable to poor judgment and miscalculation of difficult traffic situations, either due to frailty of old age or youthful exuberance leading to an avoidable road crash, as observed by Adogu et al[8], in their study on the predictors of road traffic accidents among commercial motorcyclists in an urban area of Nigeria. Most of the responds were currently in marriage.

A married tricyclist, is less likely to engage in dangerous driving and flouting of basic road safety principles vizover speeding, use of drugs, drinking of alcohol while on duty, usage of phones while driving and other dangerous practices that can lead to a ghastly road crash, as his mind will be all the while focused on his dependants at home, who will bear the brunt indirectly if he gets involved in a road crash. Thus he becomes, more temperate, calm, calculative and cautious, as observed by Okafor et al,[9] in their PubMed study.Majority of the respondents completed both primary and secondary school education.The educated mind is a plus for safe driving as observed by Sangowawa et al [10], in their study in Ibadan, South West Nigeria. The educated tricyclist can both read and interpret road signs, and do the needful while the illiterate driver may not be able to do so, thus endangering both himself and other road users. The study unfortunately revealed the gross lack of long term driving experience amongst Owerri municipal commercial tricyclists, none had experience of 20 years and above while only one respondent had 15 years experience, while majority were new entrants into the business with a mere 1-5 years experience. Murray et al[11], in their research at the prestigious Harvard University harped on the importance of garnering adequate experience as a co-driver for an appreciable duration of time before engaging in the real driving of both private and commercial automobiles of any sort.This effort should therefore be sustained by this government parastatal. However, knowledge does not automatically transform to practice, as quite a significant number of the respondents indulge in over speeding, in order to make more returns. Over speeding is a very important risk factor for road crashes, as hinted by Peden at al [12], in their World Health Organization (WHO) report on road traffic injury prevention.Finally most of the respondents engage in the risky practice of carrying passengers on the front left attachment seat beside the driver. In the event of a crash or even near crash, the front left attachment seat passenger is easily thrown out of the tricycle leading to varying degrees of trauma. This practice has been discouraged by authors in various online publications [13, 14, 15].

Conclusion/Recommendations

Knowledge of road safety measures amongst commercial tricyclists in Owerri Municipal was quite high, but the dangerous practices of over speeding so as to make more returns and carriage of passengers on the front left attachment seat should both be discouraged and outlawed by the Federal Road Safety Commission, or enforcement of the extant laws that revolve round these dangerous practices.

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