

**Pattern of Seat Belt and Mobile Phone use while driving in an Urban Population of  
Commercial Drivers**

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## **Pattern of Seat Belt and Mobile Phone use while driving in an Urban Population of Commercial Drivers**

### **Abstract**

#### **Objective**

Human error contributes significantly to the occurrence of road traffic accidents (RTAs) and their attendant morbidity and mortality. While driving, distractions such as the use of mobile phones and poor compliance with the use of seat belts play different roles in the occurrence of RTAs and possible injuries arising from them. This study aimed at evaluating the pattern of seat belt and mobile phone use (while driving) in an urban population of commercial drivers. It also investigated the relationship between mobile phone use and recorded accidents.

#### **Methods**

Commercial intercity vehicle drivers were interviewed face to face at the five major motor parks in Ilorin-Nigeria about mobile phone and seat belt use while driving.

#### **Results**

Three hundred and ninety nine (399) commercial intercity vehicle drivers (CIVDs) participated in the study. All were male. Eighty-three drivers (20.8%) had been involved in RTA over the last 10 years and common causes were faulty vehicles 44 (42.7%) and driving errors 22 (21.4%). Two hundred and thirteen (53.4%) of the drivers engaged their seat belts regularly, 151 (37.8%) did so occasionally, and 35 (8.8%) never did. In addition, 155 (38.8%) drivers believed it was always necessary to use their seat belts, while 111 (27.8%) had a contrary opinion. 105 (26.3%) drivers admitted that the seat belts in the vehicles they drove had malfunctioned. Twenty-nine (11.5%) out of 253 mobile phones owners used these devices when driving, while twenty-five (96.9%) out of the 29 drivers who made or received calls in transit did not use hands-free devices. There was no statistically significant association between calls while driving and involvement in RTA ( $p > 0.05$ ).

#### **Conclusion**

The use of mobile phones and poor compliance with the use of seat belts while driving are common among commercial drivers in Ilorin, Nigeria. There is a need for improved education, monitoring, and enforcement of existing laws against these vices to curb these risky habits.

**Key words:** *Commercial drivers, seat belt, mobile phone, road traffic accident*

## **Introduction**

Road traffic accidents and injuries (RTAs and RTIs) constitute a major public health and developmental crisis and are likely to increase if road safety is not adequately addressed.<sup>1</sup> In comparison with other means, road transport has the highest risk of accidents.<sup>2</sup> In many low income countries, the burden of traffic related injuries represents between 30% and 86% of all trauma admissions.<sup>3</sup> It also constitutes a major cause of morbidity and mortality among Nigerians.<sup>4</sup>

Over 90% of road traffic accidents are attributable to human errors amongst which, visual anomalies play a crucial role.<sup>5</sup> Risky habits and behaviours exhibited by some drivers for instance the non-utilization of seat belts<sup>9-11</sup> and use of mobile phone while driving,<sup>6-8</sup> also contribute to the figures.

This study aimed at examining the pattern of seat belt and mobile phone use while driving in an urban population of commercial drivers and investigating the relationship of the latter with accident records.

## **Methods**

This cross sectional descriptive study was carried out in Ilorin, the Kwara State capital. The study participants were recruited consecutively from the commercial intercity drivers of the five major motor parks in the city.

The study was approved by the Ethics Committee of the University of Ilorin Teaching Hospital (UIH). The permission of the chairpersons of the National Union of Road Transport Workers (NURTW) and Road Transport Employers Association of Nigeria (RTEAN) of each motor park was obtained. Each participant also gave written (informed) consent to be part of the study.

Structured questionnaires, administered during face-to-face interviews at the parks, provided information on bio data as well as seat belt and mobile phone use while driving. An enquiry about participants' involvement in RTA(s) within the preceding ten years was made.

The data obtained from the questionnaires were checked manually for possible errors and analyzed on a microcomputer using the Statistical Package for Social Sciences (SPSS) 12.0.1 software package (SPSS Inc, Chicago, IL, USA) and Stata /IC 11.1 (StataCorp LP, College Station, Texas, USA). Frequency counts were generated for variables and statistical tests of significance was performed with chi square test. Fisher's exact was employed when variable count was less than five. A p-value of < 0.05 indicated statistical significance.

## Results

Three hundred and ninety nine (399) commercial intercity vehicle drivers (CIVDs) participated in the study. All were male. One hundred and fifty six of them (39.0%) aged between 41-50 years, while 107 (26.8%) were within the 31-40 year range. One hundred and sixty-eight (42.1%) had no form of western education, while 149 (37.3%) had primary education. Sixty-eight (17.0%) and 14 (3.5%) had secondary and post secondary educations respectively. Two hundred and thirty-seven (59.4%) had been driving for more than 20 years, while 26 (6.5%) had 1-5 years driving experience.

## Involvement in RTA

Eighty-three drivers (20.8%) had been involved in RTA 10 years prior to our study, while 316 (79.2%) had not. Of the former, seventeen (20.5%) had been involved in more than one RTA. Majority (42.7%) of the accidents were due to faulty vehicles while driving errors were responsible for 22 (21.4%) of the accidents. Bad roads and over speeding also ranked high. Table 1 shows the causes of road traffic accidents.

Table 1: Causes of Road Traffic Accidents

<b>Cause of RTA</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Faulty vehicle	44	42.7
Driver error	22	21.4
Excessive speeding	12	11.6
Bad road	17	16.5
Bad weather	4	3.9
Pedestrian error	3	2.9
Others	1	1.0
Poor vision	0	0.0
<b>Total</b>	<b>103</b>	<b>100.0</b>

## Seat belt use

One hundred and fifty one drivers (37.8%) used seat belts occasionally, and 35 (8.8%) never did. 155 (38.8%) drivers believed it is always necessary to wear seat belt, while 111 (27.8%) thought the use of a seat belt was unnecessary. 105 (26.3%) drivers admitted not having a functional seat belt in the vehicle they drove.

### Mobile phone

Two hundred and fifty-three (63.4%) of the drivers owned mobile phones, while 146 (36.6%) were yet to acquire one. Twenty-nine (11.5%) of the former admitted making or receiving calls while driving.

Of the 29 drivers who made or received calls while driving, 25 (96.9%) did not use hands free devices. All reduced their speed while making or receiving calls, but never stopped to park their vehicles.

**Table 2: Relationship between use of mobile phone while driving and involvement in MVA in the last 10 years**

		<i>Involvement in RTA in last 10 years</i>		
		Yes	No	Total
<b>Calls while driving</b>				
<b>Yes</b>	5	24	29	
<b>No</b>	51	173	224	
<b>Total</b>	56	197	253	
		$x^2 = 0.45$ , p-value = 0.49		
<b>Use of hands free devices among users of mobile phone while driving</b>				
<b>Yes</b>	1	3	4	
<b>No</b>	5	20	25	
<b>Total</b>	6	23	29	
		p value = 1.00 (2 sided Fisher's exact)		

The association between calls while driving, use of hands free devices and involvement in RTA were not statistically significant ( $p > 0.05$ ) as shown in table 2.

## **Discussion**

Motor vehicle accident (MVA) is a major cause of injury, death, and disability in many countries. Worldwide, about 1.2 million people die from RTIs every year while 50 million persons sustain some form of injury.<sup>1</sup>

In Kwara State-Nigeria, 1196 people died and 1408 were injured following RTAs between 1999 and 2004.<sup>12</sup> RTI was also found to be the second largest cause of ocular trauma in Benin city, Nigeria.<sup>13</sup> In this study, about one fifth (20.8%) of the drivers had been involved in RTA at one time or the other over a 10 year period. This is lower than the 43.7% of Erikitola,<sup>14</sup> who also studied commercial drivers, but higher than the 3.5% of Nwosu<sup>15</sup> who investigated drivers of government vehicles in a southwestern city in Nigeria. This may be because government drivers may be more reluctant to disclose their accident records for the fear of losing their jobs. The drivers attributed almost half (42.7%) of the accidents to faulty vehicles, with driving error also ranking high. This questions the worthiness of vehicles on our roads.

## **Use of Mobile Phones**

Making or receiving phone calls are some of the habits that drivers (private and public) engage in while driving. Some drivers send and receive messages (short mail services) while driving. All these reduce the level of concentration of the driver on the task. There is also the possibility of hearing some bad news on the phone, which may cause momentary (or prolonged) disturbance for the driver. These may lead to catastrophic results.

An observational study among Melbourne metropolitan drivers revealed that mobile phone use while driving is quite common.<sup>16</sup> In Perth-Western Australia, this was associated with a fourfold increase in the likelihood of a crash. Moreover, the use of a hands-free set was not any safer,<sup>17</sup> though another work is of the opinion that hands-free mobile telephones are less distracting,<sup>18</sup> and therefore less risky.

In this study, the prevalence of mobile phone amongst commercial drivers in transit was 11.5% and majority did not use hands free devices. This is less than 27.5% and 50.5 % found by Akande<sup>19</sup> and Omolase<sup>20</sup> respectively, though they studied non-commercial drivers, which may have been responsible for the striking difference. Taylor et al<sup>16</sup> reported a much lower value (1.85%) in an observational study of Melbourne drivers. This lower prevalence may be the result of long standing legislation against the use of mobile phones while driving in Australia. However, no statistically significant relationship was found between use of mobile

phones while driving and the occurrence of RTA ( $p > 0.05$ ) in our study (Table 4), in contrast to the findings of McEvoy et al<sup>17</sup>. This is perhaps, related to the face-to-face mode of data collection employed in our study, as some drivers may be unwilling to disclose their accident records despite assurances that it will not be used against them. Therefore, an underestimation of the prevalence may have occurred.

A handheld phone engages one hand, leaving only the other to steer the vehicle. A hands-free device on the other hand cannot eliminate the accompanying distraction from the conversation. This study found that only 4.1% of mobile phone users in transit employ the use of hands free devices such as ear/headphones, but no statistically significant relationship was found between non-use of hands free devices and occurrence of MVA. This may be related to our method of data collection (face-to-face interview) with the possibility of participant's reluctance to divulge accident records. Since these events occurred in the past, some drivers may have forgotten related details. Furthermore, establishing a causal relationship between past events and current habit may not be possible with this study design.

### **Seat Belt**

The seat belt is an important personal protection device. When used correctly, it reduces the risk of injury and death in a crash by as much as 65%, a rather significant figure.<sup>21</sup> Driving without the use of a seat belt is an offence in most countries including Nigeria.<sup>22</sup>

Rates of seat belt use vary greatly among different countries and regions within the same country<sup>9-11, 21, 23-25</sup> depending on the existence of laws mandating their installation and use, and the degree of enforcement of such laws.<sup>21</sup> Compliance rates as low as 7.7%<sup>25</sup> and as high as 67%<sup>9</sup> among drivers have been quoted. About one-third of the drivers in this study use seat belts occasionally, and some (8.8%) admitted they never did. Although half (53.4%) of the drivers had a habit of using their seat belts, only 38.8% thought it was really very necessary. Majority perhaps, were merely avoiding sanctions by the authorities. In fact personal observation has revealed that many a driver fasten his seat belt just before encountering an Federal Road Safety Corp (FRSC) or police check point and promptly unfastens it after passing through, not realising the fact that the seat belt is for his own personal protection. Furthermore, the driver and other occupants of a motor vehicle may be willing to use a seat belt, but this may not be possible if the device is not functional. Over a quarter (26.3%) of the drivers studied admitted that the seat belts in their vehicles had malfunctioned. This is higher than 10% and 18.5% prevalence of absent or deficient seat belts observed in Jamaica<sup>24</sup> and

China<sup>9</sup> respectively. It is perhaps, related to the higher number of older vehicles on our roads, as older vehicles are more likely to have malfunctioned seat belts.<sup>24</sup>

### **Conclusion**

A significant number of commercial drivers in our study population use their mobile phones in transit. An equally significant percentage is poorly compliant with the use of the seat belts. Further investigations into attitudes towards mobile phone and seat belt use will help to promote public awareness through campaigns on the dangers and consequences inherent in these unsafe habits. Improved monitoring and stiffer penalties will also go a long way in reducing the prevalence of these vices and the consequent carnage on our roads.

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