

Driving practices in the National Capital District, Papua New Guinea

PETER SAPAK, MMED, SCI*
VUI MEA**

Abstract

A total of 400 drivers in moving vehicles were interviewed in eight sentinel sites in the National Capital District (NCD) for their knowledge of driving and vehicle safety. Data from 370 Papua New Guinea (PNG) drivers were analysed. There were many more male than female drivers in the study. The overall mean age was 35 years. Education levels of drivers ranged from no formal education to university level.

The results of the study showed 17% of drivers ($n = 400$) received driving lessons from authorised driving schools and 83% from their relatives. Thirty percent of PNG drivers understood safe driving as 'drive with care' and 12% did not know what safe driving meant. Over 70% of drivers indicated 'careful driving' should be practised all the time while 9% did not know when to drive with care.

Over 30% of drivers were scored as bad drivers and 40% of vehicles inspected were categorised as unsafe and road unworthy. Factors showing significant association with bad drivers and unsafe vehicles were socio-economic status, lack of education and car ownership. Duration of driving is not associated with poor driving practice or knowledge.

Introduction

The negative effects of motor vehicle accidents (MVA) are increasing. Many international conferences (e.g. International Epidemiology Association XIIIth meeting in Sydney, September 26-29, 1993; 2nd World Conference on Injury

Control in Atlanta, May 20-23, 1993) have put control of motor vehicle related fatalities and injuries on the agenda to stimulate prevention. The United Kingdom have developed successful injury control strategies to reduce the impact of MVA over the last 40 years¹. In Victoria, Australia stringent road traffic regulations has reduced the incidence of MVA related injuries.

MVA fatalities and injuries is a growing and serious problem for many third world countries. In Thailand and PNG the frequency of mortalities and injuries from MVA are over 10 times the rates in developed countries. The World Health Organisation (WHO) is calling for measures to reduce the frequency of MVA worldwide. Recently, the Director of WHO for Western Pacific Region urged all countries to develop and strengthen national programs for preventing and treating of MVA related injuries².

The factors that lead to MVA are multiple and remain incompletely understood. Contributing factors include the road-user population, the vehicles and the road environment¹. Human factors such as lack knowledge of safe driving measures, non-compliance with traffic regulations, and inability to recognise the need for safety measures are important. The relationship between knowledge of safe driving measures and actual practice has not been investigated in many third world countries including PNG. The increasing frequency of MVA in the developing countries may be a reflection of failing road safety systems. In PNG, the failing road systems is costing the country millions of kina every year^{3,4}.

In view of limited knowledge the following two hypotheses were put forward for investigation: knowledge of safe driving practices is proportional to the duration of driving; and knowledge of safe driving practices is related to general education. The purpose of the study was to measure and relate: level of knowledge and safe driving; general education and attitude to safe driving practices; and duration of driving and safe practices.

“ Thirty percent of PNG drivers understood safe driving as ‘drive with care’ and 12% did not know what safe driving meant. ”

*Tropical Health Programme, University of Queensland, Herston Road, Brisbane 4006, Australia. **Department of Community Medicine, P.O. Box 5623, Boroko, Papua New Guinea.

Methods

Selection of vehicles and drivers was conducted in eight sentinel sites. These were the PNG Defence Force Barracks entrance, Hohola main road, Gordons Police Barracks entrance, Moitaka main road, Ela Beach main road, Stop 'N Shop Supermarket entrance, Government Office car park entrance and Waigani Drive. The study population was all drivers living in Port Moresby (about 35,500) and the sample population was a systematic random sample of drivers in moving vehicles in NCD on week days between 4 October and 10 November 1993.

Sampling

Selection of vehicles and driver interview was done between 0700 to 1200 hours daily on Monday and Friday. Due to logistic difficulty the study was not conducted on the weekend. Regular police weekend checks would have affected the unregistered cars and illegal drivers on the road. In each of the study sites, the selection of the first vehicle was at random. However selection of subsequent cars was every 10th vehicle moving on the road in the approaching direction or at the entrance to the car park. The selected vehicle was stopped and the driver was informed of the study and asked to participate. The driver was also informed that information obtained would be kept in confidence - would not go to the Police.

Information about the vehicle and the drivers' were recorded in the survey questionnaire. Drivers were asked to produce their licences for recording of date of expiry, class and personal particulars. Information was collected about level of education, knowledge and practice of safe driving, where drivers learned to drive, car ownership, and socio-economic class. Vehicles were inspected for faults. Any fault was recorded in the questionnaire.

Fault scoring scheme

Vehicle faults included defective: indicator lights, brake lights, reverse lights, horn, head lights, bald tyres and no seat belts. Vehicles safety status was scored out of 210 points (Table 1). An observed vehicle fault was deducted from the total score (using a written program in Epi-info ver 5.01b). The driver related faults recorded were: driving unregistered car, no driving permit, expired driving permit, not wearing seat

Indicator	Normal Points	Score per Fault
Seat belts (F)	20	-10
Seat belts (R)	10	-5
Signal lights	20	-5
Brake lights	20	-10
Reverse lights	20	-10
Horn	20	-20
Head lights	20	-5
Brakes	20	-10
Tyres	20	-5
Wind screen	20	-10
Body state	20	-20
Total	210	-210

belts, driving under the influence of alcohol, and poor knowledge of safe driving practice. Driver safety status was scored out of 120 points (Table 2).

Results

Over 3980 cars passed through the 8 sentinel sites. A total of 400 drivers in moving vehicles were selected and interviewed. Data from 370 PNG drivers were analysed. Records from two PNG drivers were excluded from the analysis because of incomplete information. The data from 28 expatriates were excluded.

The distribution of PNG drivers ($n = 370$) by regions of origin show over 50% of the drivers interviewed were from Highland Provinces. The southern region was second and Momase and NGL with the least. The frequency of drivers by gender was 2.2% females (8/370) and 97.8% males (362/370). Age of drivers ranged between 19 to 62 years and the mean was 35.3 years.

More drivers had education level between grades 1-6 followed by grades 7-10 and fewer drivers were noted to have higher level of education. Thirty per cent of drivers said safe driving meant "driving with care" and 29% responded with any two correct combinations (Table 3). An unexpected 12% of drivers said they did not know the meaning of "safe driving". Conversely 68% of drivers correctly said careful driving should always be maintained (Table 4). The proportion (9.7%) of drivers who did not know when to "drive carefully" was lower than the 12% who did not know the meaning of safe driving. None of the drivers interviewed said "careful driving" to mean 'driving defensively', a common response by 71% (20/28) of the expatriate drivers.

A proportion (37%) of the interviewees drove public buses, 35% drove private cars, and 28% were in NGO, government or hire cars (Table 5 shows high error scores for this study sample). Driving duration indicates most drivers to have been driving for about 3-5 years and the number began to decline after 20 years. More bus drivers were considered bad drivers followed by those in privately owned cars while those in cars owned by NGO, government and hire cars were better.

Indicator	Normal Points	Score per Fault
Registered vehicle	20	-20
Driving licence	20	-20
Current permit	20	-20
Wearing seat belts	20	-20
Ever had MVA	20	-20
Driving practice*	20	-20
Total	120	-120

* Faults include suspected driving under the influence of alcohol, carrying passengers at the back of utilities, driving road unworthy cars, and not carrying the driver's licence.

Discussion

In relation to safe driving practice this study shows that having the knowledge of safe driving does not necessarily mean practising it and vice versa. For example, carrying passengers in the back of utilities vehicles without any form of cage or protective framework to contain passengers. Open back utilities have high rates of injuries and mortalities than other types of vehicle crash in PNG⁵. Many people (in particular rural owners) use the utilities for public transport. Despite continuous education campaigns and Government regulations this practice continues unabated.

This study suggests that ignorance and bad practice are principle factors causing many drivers not to observe and maintain safe driving. Although drivers are aware of safe driving measures, there is a need for regular policing to encourage safe driving practices. This is limited by the high cost of road checks and lack of motivation by individual drivers. Perhaps the need for better formal education and higher point score at defensive driving lessons before issuance of licences should be encouraged. Education should be seriously considered because it is a significant influence on bad driving practice. Majority of bus drivers in this study did not have formal education and their licences were suspect. Perhaps a reduction in illiteracy should be part of the MVA reduction strategy in PNG.

Many privately owned cars observed in this study were road unworthy and a majority of the owners have low socio-economic status. These cannot probably afford to maintain their vehicles. Higher socio-economic status responders were driving more road worthy cars than those in lower class.

Community and government resources should be fully utilised in future campaigns against MVA. Correct information should be disseminated to the people on legal requirements for

Table 3. Drivers' knowledge of the meaning of 'safe driving'

Safe driving meant	Frequency	
	No.	%
Any combination	107	28.9
Don't know	46	12.4
Drive with care	113	30.5
No accident	43	11.6
No drunk driving	12	3.2
No high speed	10	2.7
Observe traffic rule	39	10.5
Total	370	100

Table 4. Drivers' knowledge of when to 'drive with care'

When to drive with care	Frequency	
	No.	%
Always	253	68.4
Don't know	36	9.7
Drunk	7	1.9
Heavy traffic	44	11.9
Other	12	3.2
Rainy day	8	2.2
Z crossing	10	2.7
Total	370	100

Table 5. Driver and vehicle error scores in the survey

Category of error scores	Number with driver related errors	Number with vehicle related errors
Less than 100	99	1
100 or more	271	369
Total	370	370
Mean score	106.8	204.9
Standard deviation	18.1	18.5

licences. Stringent traffic regulation will allow only qualified persons to obtain driving licences. Business communities and non-government organisations (NGOs) must participate through education and provision of incentives to car owners to maintain vehicle's road worthiness, for example, cheaper spare parts and discount vehicle inspection.

The Department of Transport in collaboration with the Police should improve the quality of driver training programs, examinations of new drivers and establish evaluation schemes for existing drivers before renewal of licences. The Department of Health should launch mass education programs about the burden of the MVA on the limited health resources.

Acknowledgments

We thank the 4-Mile Traffic Office of the Royal PNG Police Constabulary, Defence Force, Road Safety Working Group (RSWG) and private enterprises for their assistance in this study. The study received support from the Medical Faculty Research Committee of the University of PNG and the Land Transport Division of the Department of Transport.

References

- Jacobs GD, Sayer L. Road accidents in developing countries. *Accid Anal and Prev*, 1983, 15 (5): 337-353.
- WHO. Press release. WHO/WPRO bats for development/strengthening of national safety programmes. WP11:1993
- Bouraga P. Road traffic accidents and the role of Police. *PNG Med J*, 1980, 23(2):59.
- Yaki R. Introduction speech at the second PNG National Road Seminar. In P. Sapak (editor), *Proceedings of the 2nd National Road Safety Seminar No 1* 1995
- Nelson DC and Strueber JV. The effect of open-backed vehicles on casualty rates: the case of Papua New Guinea. *Accid Anal and Prev*, 1991; 23(2/3) 109/117