

USE OF SEAT BELTS: PRIOR TO THE LEGAL REQUIREMENT

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Introduction

Today, seat belts are an accepted part of routine vehicle operation for millions of drivers and passengers. But the modern three-point automotive seat belt has only been around since 1959; and it saved thousands of lives since its introduction¹. Fatalities and serious injuries from road traffic accidents are increasing in Sri Lanka. In 2008, 2009 & 2010 the number of fatalities was 2176, 2263 & 2579 and grievous injuries were 4941, 5379 & 6124 respectively².

One of the reasons for the rise in fatalities and serious injuries is non usage of safety measures in vehicles such as seat belts. Car seat belts did not serve the designed purpose in U.S.A. till the time most of the states made it mandatory to fasten seat belts under threat of penalties under law. Even though the usage of seat belts in Sri Lanka was made mandatory in October 2011, many Sri Lankans are unaware of the importance of the safety measures in vehicles. The usage and reasons for not wanting to use seat belts in vehicles prior to it being a legal requirement was studied.

Objectives

1. To ascertain the frequency of usage of seat belts by drivers and passengers of motor vehicles in the Central Province of Sri Lanka.
2. To ascertain the reasons when seat belts are not used.

Methodology

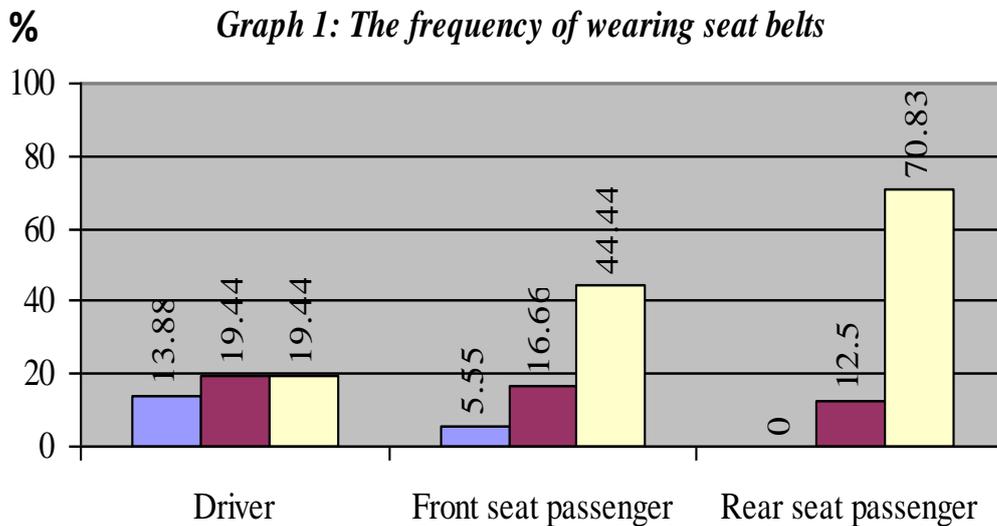
Data was collected by administering questionnaires to 100 randomly selected drivers and passengers in the Central Province after a brief introduction about the study. They were asked to fill the questionnaires within 10-20 minutes. Data were analyzed using MS-Excel XP.

Results

Out of the total sample only 6% of vehicles did not have seat belts. Those that did not have seat belts were excluded. Each person was asked to indicate their frequency of wearing seat belts as a driver, front seat passenger and rear seat passenger. As a driver, front seat and rear seat passenger, 39%, 61%, and 83% respectively, rarely or never wore seat belts. Only 14% always wear seat belts as a driver and 6% as a front seat passenger, compared to 64% who never wear seat belts as a driver or front seat passenger. As a rear seat passenger, no one always wore and 71% never wear seat belts in the rear seat.

Table 1: The frequency of wearing seat belts

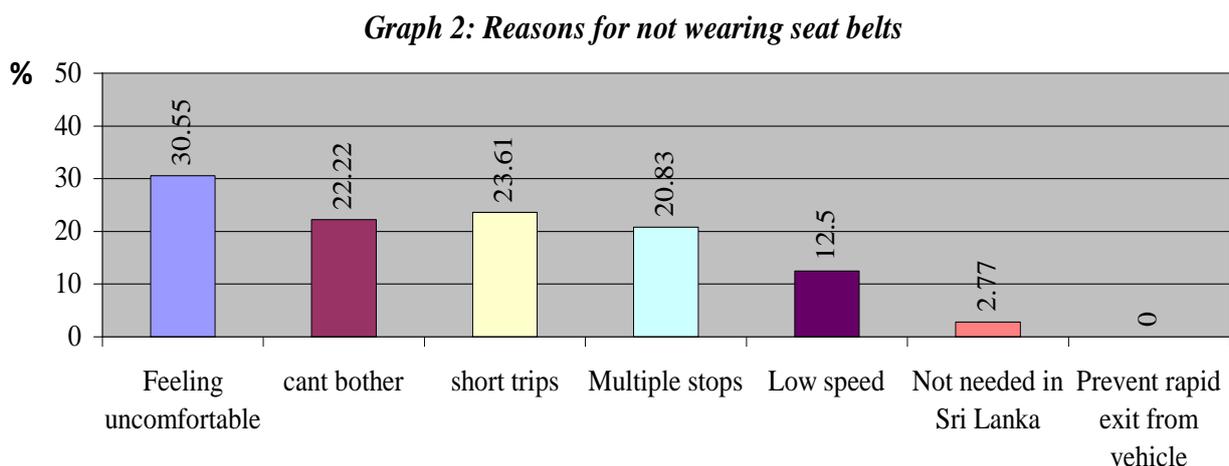
| | Driver | Passenger in front seat | Rear seat passenger |
|-------------|---------|-------------------------|---------------------|
| Always wear | 13.88 % | 5.55 % | 0 % |
| Rarely | 19.44 % | 16.66 % | 12.5 % |
| Never | 19.44 % | 44.44 % | 70.83 % |



The reasons for not wearing seat belts are feeling uncomfortable (31%), can't be bothered or a nuisance (22%), short trips (24%), multiple stops (21%), low speed (12.5%), and not needed in Sri Lanka (3%). No one stated the reason that it prevents rapid exit from the vehicle

Table 2: Reasons for not wearing seat belts

| | |
|---------------------------------|---------|
| Feeling uncomfortable | 30.55 % |
| Can't bother / Nuisance | 22.22 % |
| Short trips | 23.61 % |
| Multiple stops | 20.83 % |
| Low speed | 12.5 % |
| Not needed in Sri Lanka | 2.77 % |
| Prevent rapid exit from vehicle | 0 % |



Discussion

Failure to wear a seat belt contributes to more fatalities than any other single traffic safety-related behavior. Seat belts are the most effective safety devices in vehicles today, estimated to save 9,500 lives each year in USA. In 1996, more than 60 percent of the occupants killed in fatal crashes were unrestrained.³

In a serious collision, severe forces are transmitted. This is clear when we see the resulting damage to the vehicles involved. In

order to minimize the effects of collision forces on vehicle occupants, automotive engineers design seat belts to hold individuals securely in their seats, allowing them to "ride down" the crash, and preventing major impact with the vehicle interior⁴.

Seat belts are designed to fit across strong portions of the human anatomy that can withstand the forces of a collision. The lap belt goes across the bony pelvic girdle, while the shoulder belt goes over the rib cage. When lap

and shoulder belts are used properly, they spread the collision forces over these strong areas of the body's skeleton. Seat belts, then, offer excellent protection in motor vehicle crashes, especially in high-speed frontal impacts, which are some of the most severe collisions.¹

According to our study conducted when the wearing of seat belts was optional, 19% of drivers, 44% of front seat passengers and 71% of rear seat passengers never wear seat belts. This is an unacceptably high figure. When the reasons for rarely or never wearing seat belts were elicited, more than half (53%) said they did not wear due to it being uncomfortable or a nuisance. However, modern safety belts can be made so comfortable that you may wonder if they really work. Most of them give when you move - a device locks them in place only when the car stops suddenly. You can put a little bit of slack in most belts simply by pulling on the shoulder strap. 44% said that it was due to short trips and multiple stops. However, this is the best time to wear a safety belt, as a study done in Oklahoma State University showed 80% of traffic fatalities occur within 25 miles of home and under 40 miles an hour⁵. Furthermore, even though you are only going a short distance another car may still hit you.

12.5% felt that it was not needed due to slow speed. However, even if you are driving slowly and carefully that will not prevent a fast moving or heavy vehicle from crashing into you. It is interesting that even though 97% felt seat belts were needed in Sri Lanka (a mere 3% said that it was not needed in Sri Lanka), the non usage is very high.

No one felt that it prevented a rapid exit from the vehicle in case of an emergency. This is good since the best place to be during an accident is in your car. If you're thrown out of the car, you're 25 times more likely to die. And if you need to get out of the car in a hurry - as in the extremely tiny percent of accidents involving fire or submergence - you can get out a lot faster if you haven't been knocked unconscious inside your car.

In Sri Lanka, the cost for an unbelted crash victim results from the loss of working hours and from the cost to the health care system as health care is provided free of charge. Therefore if serious injuries and fatalities can be reduced by seat belt usage, it will be indirectly very cost effective in a developing country like ours.

An air bag increases the effectiveness of a safety belt by 40 percent. But air bags were never meant to be used in place of safety belts. In fact, they are called a Supplementary Restraint System (SRS) as they are supplementary to seats belts, without which, the deployment of the air bag together with the forward movement of the driver/ passenger, can cause injuries, which may be severe.

Conclusion

Even though 97% are aware of the value of using seat belts in vehicles, they do not use them for multiple reasons, which are not justified. With the introduction of the seat belt law more drivers and front seat passengers may wear seat belts out of fear of being fined. However we believe that compliance of the law, augmented by awareness campaigns on safety measures of vehicles, are required. Then, and only then, will occupants of motor vehicles understand the necessity of being properly restrained at all the times.

References

1. Source: [National Highway Traffic Safety Administration](http://www.progressive.com/vehicle-resources/driving-safety-main.aspx/safetyequipment), 2005
2. Source: Sri Lanka Police Department web site, 2011 <http://www.police.lk/index.php/traffic-statistics/111>
3. Source: Car-Accidents.com web site, <http://www.caraccidents.com>
4. Source: The Canadian Association Of Road Safety Professionals web site, <http://www.carsp.ca>
5. Source: Oklohama State University Web site, [http://ehs.okstate.edu/MODULES/ index.htm](http://ehs.okstate.edu/MODULES/index.htm)