

Life Loss and Disability from Traffic Accidents

It is imperative we all act now

Lamk Al-Lamki

فقدان الحياة والإعاقة الناتجة عن حوادث الطرق
علينا أن نعمل جميعا الآن

لمك اللمكي

IN THIS ISSUE OF THE JOURNAL, A PATIENT describes her experiences in an Omani hospital and her encounter with the health care teams, after a road traffic accident.¹ Every road traffic crash like hers or so many others should raise the question of whether we are doing enough for our community to prevent road traffic crashes, reduce the injuries and death that result from these accidents, and reduce the long term negative impact on the victims and their families. Have you ever answered the mobile phone while driving? Have you ever neglected to fasten your seatbelt? Have you read your email in your phone or sent an SMS while driving or waiting at a traffic light? Have you ever accelerated to go through a yellow light? Have you exceeded 120 km an hour on the highway? If you have answered “yes” to any of these questions, you are a part of the problem!

According to the Royal Oman Police (ROP) website, there were 119 road traffic accidents in just the first week of this year resulting in 13 deaths and 141 injured, and those statistics are not unusual.² In the first 11 months of 2009, there were 369 traffic accidents simply as a result of dangerous overtaking alone, resulting in 156 deaths and 881 injuries.³ In the first 10 months of 2009, a total of 810 people died and 8,325 were injured on the road. The Oman Tribune newspaper, in quoting these figures from the ROP, pointed out that this “means more than 20 people were killed and injured on the roads everyday” in Oman.

To further highlight the current interest in this problem, there was recently a two-day workshop

on Road Safety Research, organised jointly by The Research Council (TRC) and the ROP in Muscat.⁴ The TRC plans to invite research proposals on road safety and give scholarships to postgraduate students willing to participate in this research effort. At the workshop, TRC invited experts from various parts of the world to discuss the optimal research topics that can be suggested to researchers in Oman. His Majesty Sultan Qaboos Bin Said’s words were received with all seriousness by TRC. During his Royal Tour last year, His Majesty said: “What is happening on our roads should be of everybody’s concern. Misuse of vehicles of different categories by different people causing many deaths is an irritating and worrisome phenomenon.” When a breadwinner loses his life or ability to earn, the burden on the family is beyond the easy understanding of those who are either comfortably well off or have never been affected by the road traffic crash disease. The orphans and the widows are the real victims of this burden. Oman ranks 5th in the list of countries with the highest road accident rates in the world according to WHO statistics as quoted by Oman Tribune on 24th Feb 2010.⁵ It is disturbing that the number of road traffic casualties in Oman is rising, while it is falling in many developed countries such as Great Britain.⁶ In Britain, total casualties fell by 3% between 2004 and 2005, and they have been declining ever since, while pedestrian deaths are at a 40-year low.⁶ Norway, Sweden and Australia have all halved or better than halved their road deaths between 1970 and 2000, and seen further

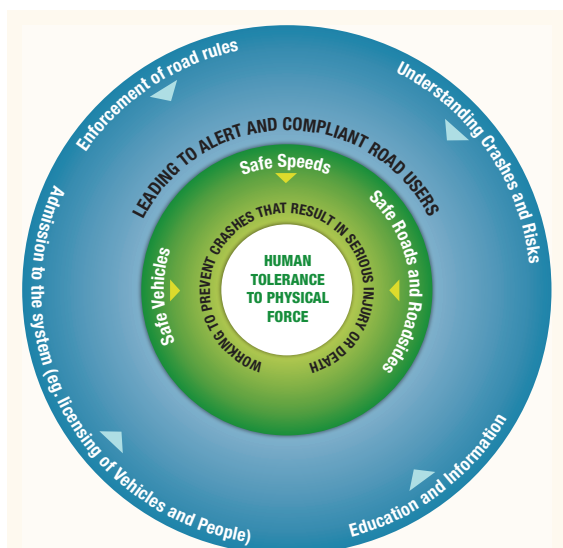


Figure 1: The Safe Systems Approach - The strategy of "Safe Crash" to ensure tolerance of human body is not exceeded by the force of the crash.²²

decline since then.⁷ In comparison, Oman had 681 road deaths in 2006, 798 in 2007, 951 in 2008 and estimated between 1000 and 1100 in 2009 with approximately 50,000 injured in 2009. Most of the developed countries with these declining death rates have been using the Haddon's Matrix since William Haddon developed it in 1970. Haddon's Matrix analyses injury by looking at certain factors which when simplified are "Host or Road User Factors, Vector or Vehicle Factors, Physical or Road Factors, and Socio-economic Environmental Factors" in the horizontal axis of the matrix and "Pre-Event (Crash), during Event and Post-event" in the vertical axis.⁸ It should be appreciated that currently the ROP is taking a lot of steps to reduce traffic fatalities, but we still need much more. The fatality rate in Oman has now reached 30 per 100,000 people and 127 per 100,000 vehicles and 111 per 100,000 licensed drivers, compared to 14 and 17 and 21 respectively for the USA.⁹ We definitely need more initiatives from the ROP, from non-governmental organizations (NGOs) and from all of us individual drivers who can play a dramatic role in reducing the death rate if we make more individual and concerted efforts. To do this we need more road safety education for the public. We need more road safety education in the media both on TV and radio programmes than currently. We need them in both Arabic and English because many of the accidents that occur in Oman are caused by people who do not speak Arabic. Better

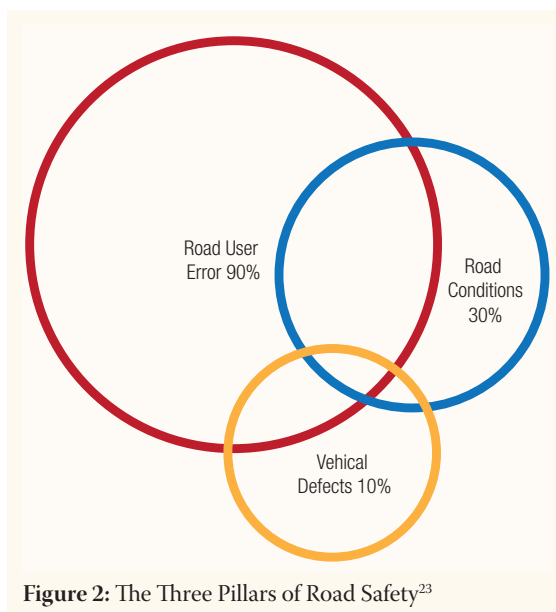


Figure 2: The Three Pillars of Road Safety²³

road safety education in Oman is not only needed for adults but also for pre-license age groups, and this should be a priority in conjunction with speed management. We need to work harder at changing driver behaviour and attitudes towards the risks associated with high speed.

The world's first road traffic death involving a motor vehicle is alleged to have occurred on 31st of August 1896.¹⁰ The coroner at that time is reported to have said, "This must never happen again." We need to ensure that Oman goes on record as working towards seeing that that coroner's words come true here.

It is very disheartening to drive on the roads of Oman and see children, unsecured by seat belts, freely moving about in cars and even jumping up and down. We see mothers driving with their baby sitting on their lap. The baby is a good shield for the mother in case of an accident, but is that what the mother really wants? We need more vigorous education of such parents. We need to work at eliminating such practices mainly through education, but when necessary, appropriate penalties.

Another major problem we are having in Oman is talking on the telephone while driving. This is a cause of numerous accidents. Worse than talking on the phone is sending text messages (SMS & MMS) while driving. A study carried at Monash University Accident Research Center in Melbourne, Australia, has shown that text messaging results in more than double the risk of crashing than talking

on the cell phone.¹¹ They recommend more effective road safety measures to prevent and mitigate the adverse effects of the cell phone.

Road safety is currently one of the top priority subjects that are discussed in different countries and by various world organisations, and so should it be also in Oman. On 10 March 2010, the UN General Assembly is scheduled to discuss a new resolution on road safety.¹² This Resolution is sponsored by the government of the Russian Federation, and it is based on the “Moscow Declaration” which was declared at the First Global Ministerial Conference on Road Safety held in Russia on 19–20 November 2009.¹³ At that Conference, there were as many as 1,500 participants, including senior ministers of several countries and representatives of UN Agencies. The participants declared 2011 to 2020 as a “A Decade of Action for Road Safety” It became clear at that Global Conference that the statistics for road traffic crashes are much worse than initially thought. And indeed, it further confirmed the much higher incidence of deaths and injuries from road traffic accidents in developing and poor countries. The key components of the initiative for the Decade would include governmental technical assistance; road traffic education; road safety curriculum development; helmets for kids; safe routes to school; research and evaluation and setting up non-profit helmet assembly plants that employ the physically disabled.¹⁴

The Moscow Declaration that resulted from that meeting in November 2009 acknowledged the roles played by the WHO, the World Bank, and the United Nations Road Safety Collaboration.¹⁵ They also acknowledged that road traffic injuries are major public health problem leading to more than 1.2 million deaths a year and as many as 50 million injuries or disabilities a year, and confirmed road traffic crashes as the leading cause of death among children and young adult between age 5 and 29. The Moscow Declaration also showed concern that more than 90% of road traffic accidents occur in low-income and middle-income countries. The annual cost of these deaths and injuries run to over US \$65 billion. The Declaration was convinced that by year 2020, without appropriate action, road traffic deaths will become one of the leading causes of death in low-income and middle-income countries.

The Conference invited the UN General

Assembly also to declare the decade 2011-2020 as “Decade of Action for Road Safety” with a goal to stabilise and then reduce the forecast of global road deaths by 2020. They declared an 11-point resolution that covered all the necessary points related to road traffic accidents from encouragement of collaboration, to improving national data collection, and strengthening of the provision of free hospitals and hospital trauma care.¹⁵ The Declaration also suggested adopting a standard definition of “road death” as, “a person killed immediately or dying within 30 days as a result of road traffic crash,” to facilitate data collection and international cooperation.

The Moscow Declaration stimulated the formation of several NGOs as well as inspiring many individuals and organisations to act to reduce road crash deaths and injuries. They asked the international donor community to provide additional funding in support of global, regional, and country road safety particularly in low and middle-income countries. Michael Bloomberg committed US \$125 Million to reduce deaths and injuries on world roads.¹⁶ In conjunction with this First Global Ministerial Conference on Road Safety, the Asia Injury Prevention Foundation (AIPF) also launched a global helmet vaccine initiative in Moscow.¹⁴ Seven multilateral development banks (MDBs) issued a statement in November 2009 outlining a broad package of measures that each would implement in order to reduce the alarming rise in number of fatalities and casualties in developing countries. The participating MDBs included the African Development Bank, the Asia Development Bank, the European Bank for Reconstruction and Development, the Islamic Development Bank and the World Bank. They are committed to taking leading role in addressing this problem. They stressed the need for a systematic and multi-sectorial response to improving road infrastructure, vehicles and positively influencing road-users as well as enhancing post-crash services. In other words, they are determined to address all the elements of road safety [Figure 1] with their shared approach. If nothing is done, road traffic accidents will become the third highest cause of death worldwide by the end of this decade.

All nations need to be more active in road safety, particularly the low-income and the middle-income nations. All nations need to implement the basic

Three Pillars of Road Safety, namely Infrastructure, Safe Vehicles, and Road User Behaviour [Figure 2].¹⁷ In addition, as the framework for the decade of action declared, there are two additional pillars, namely Road Safety Management and the Post-Crash Care. Thus there are Five Pillars that need to be given much more attention to save lives.

In Oman, by far the commonest cause of road deaths is excessive speed which caused 57% of all deaths in 2007; overtaking comes next followed by drivers' neglect and then improper acts by drivers and vehicle condition. Thus 4 out of top 5 causes of death in Oman are road user error, and they constituted 89% of the causes of road deaths in 2007. This does not include other road user related factors such as tiredness and alcohol, which constitute a total of only 2% of causes of road deaths in Oman.

We need to do much more in Oman. TRC and ROP have already started doing something for Oman and kudos to them. At the recent workshop, they discussed to varying degrees all the Five Pillars of Road Safety.⁴ The main objectives of that workshop were to create public and media awareness regarding the objectives of TRC research programmes on road safety. The international experts who attended exchanged knowledge, views, ideas, and research experience on road safety. The workshop discussed the documentation of social and economic cost; legislation and social policy and programmes; social and human behavioural causes of RTA; the social impact of traffic incidents and the role of the family; the effectiveness of awareness programmes; legal and compliance issues; analysis of crashes and trauma care. At the workshop, it was preferred to replace the word "accident" with the current terms in vogue: "collision" and "crash". The Workshop dissected the post-crash services in Oman and pointed out major discrepancies in the care that exist in the different regions of Oman. This naturally has a major impact on the health outcomes of Omani victims of road crashes. The pathways of care and the disparities of emergency care in different regions of Oman need to be urgently standardised. We all need to take His Majesty's words on road traffic accidents and injuries more seriously.

Globally, more than half of the total accidents involve drivers aged 15–44 years, and 73% of them are males, according to the World's Worst Drivers.¹⁸ The WHO reports that currently the number of deaths is approximately 1.4 million, which means

that more than 3,000 people die on the world's road everyday.¹⁹ In addition, 400,000 young people under the age of 25 are killed on road traffic crash every year, namely 1,049 youngsters everyday. Most of these traffic deaths occur in low and middle income countries, particularly among pedestrian cyclists, motorcyclists and those using public transportation according to WHO archives.²⁰

Hazen, from the School of Public Health in Alabama, USA, has written that road traffic injuries are leading cause of morbidity, disability and mortality in less developed countries, quoting the figure of >85% of the 1.2 million deaths in 2006 (new figures now show up to 1.4 million deaths per annum) with 10 times that figure in injuries.²¹ He points out that road traffic injuries will rank third of all major causes of morbidity and mortality globally by 2020. He also indicates that often many of these are preventable, and the technology and the knowledge to achieve success do exist. In this review article, he highlights the problem and the contributing factors as well as the possible actions to be taken, especially the interventions that have proven effective in industrialised nations, many of which have not yet been adopted in less developed countries.²¹

Basically, what we need to do in Oman is what the ROP and TRC have started to do, but we all have to participate and we have to be much more vigorous. We have to address all the Five Pillars mentioned above and follow the activities of the UN Road Safety Collaboration, which are a part of the Decade of Action for Road Safety. Oman has to join the Decade of Action for Road Safety! We have to be advocates for road safety at the highest governmental levels, increase awareness of risk factors and run activities such as the Road Safety Week and Annual Remembrance Day of Prayers for victims of road traffic and support the NGO initiatives. We need to adopt the Safe System Approach [Figure 1] and the Road Safety Strategy "Towards Zero".²² We also need to provide guidance to the public for good practice such as seatbelts for front and back passengers; mandatory car seats and secure booster seats for children, and other vital actions.²³ We have to be more vigorous in the provision of general road safety education through bilingual audio and visual media as discussed above. Relevant research, cost-effective intervention and knowledge management must be combined with

the will and determination to develop the Science and Art of better Road Safety. We should all see the necessity and urgency of participating passionately and zealously in this effort.

References

1. Freeman H. Smashed to Pieces - A patient's view of a road traffic accident. *SQU Med J* 2010; 10: 135-7.
2. 119 road accidents in a week. From <http://www.rop.gov.om/english/newsdetails.asp?catid=4&newsid=1845> Accessed February 2010.
3. Overtaking causes 369 accidents in 11 months. From <http://www.rop.gov.om/english/newsdetails.asp?catid=4&newsid=1836> Accessed February 2010.
4. Oman Tribune. Editorial: On the right path. From http://www.omantribune.com/index.php?page=editorial_details&id=1496&heading Accessed February 2010.
5. Oman Tribune. Supplement 24th February 2010. From www.omantribune.com Accessed February 2010.
6. Department of Transportation, Oman. Transport statistics. From www.dft.gov.uk/pgr/statistics Accessed February 2010.
7. Gururaj G. From http://www.nimhans.kar.nic.in/epidemiology/epidem_who.htm Accessed February 2010.
8. Haddon's Matrix. From http://en.wikipedia.org/wiki/Haddon_Matrix Accessed February 2010.
9. US Bureau of Transportation Statistics. From www.bts.gov Accessed February 2010.
10. WHO Features 2004: Road safety: a public health issue. From http://www.who.int/features/2004/road_safety/en/ Accessed February 2010.
11. Hosking SG, Young KL, Regan MA. The effects of text messaging on young drivers. *Chin J Traumatol* 2009; 12:259-62.
12. UN General Assembly discussion on road safety. From http://www.who.int/mediacentre/events/meetings/2010/road_safety_20100302/en/index.html Accessed February 2010.
13. First Global Ministerial Conference on Road Safety, 19–20 November 2009. From http://www.who.int/roadsafety/ministerial_conference/en/index.html Accessed February 2010.
14. Launch of the Global Helmet Vaccine Initiative. First Global Ministerial Conference on Road Safety, Moscow, November 2009. From http://www.asiainjury.org/main/updates-newsreader/items/Launch_of_the_Global_Helmet_Vaccine_Initiative_18_November_in_Moscow.html Accessed February 2010.
15. First Global Ministerial Conference on Road Safety: Time for Action. Moscow Declaration 2009. From http://www.who.int/roadsafety/ministerial_conference/declaration_en.pdf Accessed February 2010.
16. Michael Bloomberg commits \$125 million to reduce deaths and injuries on World's Road. From http://www.who.int/roadsafety/ministerial_conference/announcement_bloomberg.pdf Accessed February 2010.
17. The Three Pillars of Road Safety. European Road Safety Charter. From <http://www.erscharter.eu/signatories/page/13557> Accessed February 2010.
18. The World's Worst Drivers. Car accident statistics from around the world - <http://www.articlesbase.com/cars-articles/the-worlds-worst-drivers-car-accident-statistics-from-around-the-world-609862.html> Accessed February 2010.
19. Violence and Injury Prevention and Disability (VIP). From http://www.who.int/violence_injury_prevention/road_traffic/en/ Accessed February 2010.
20. Road traffic accident statistics. From <http://roadtrafficaccidents.net/> Accessed February 2010.
21. Hazen A, Ehiri JE. Road traffic injuries: hidden epidemic in less developed countries. *J Natl Med Assoc* 2006; 98:73-82.
22. Safe Systems Approach. From <http://www.roadsafe.com/news/article.aspx?article=814> Accessed February 2010.
23. Davey J. Carrs-Q Fleet Safety Seminar. From http://www.carrsq.qut.edu.au/documents/work_related_road_safety_seminar_presentation.pdf Accessed February 2010.