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Need and Possibilities for Seat Belt Use Promotion in Bashkortostan, Russia

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Abstract

Bashkortostan is a republic in the Russian Federation with a population of 4.1 million. As with other health behaviors, the prevalence of seat belt use is low, which may account in part for the very high rate of motor-vehicle-related mortality in this republic. The authors discuss the need and potential for translating seat belt promotion programming from other Russian regions and other countries to Bashkortostan. The authors conclude that current policies developed in other countries could work well in the republic, if they are enforced. Meanwhile, initiatives such as the Sakhalin Road Safety Partnership offer great potential for translation in Bashkortostan as well as in other regions with similarly low seat belt use prevalence.

Keywords

seat belts; health promotion; Bashkortostan; Russia

Setting, Behaviors, and Attitudes Regarding Traffic Safety

Russia is experiencing extremely high and rising mortality rates from road traffic injuries among adults and children (World Health Organization, 2004a). For example, it is estimated that approximately 10 Russian children die and an additional 100 get injured in traffic accidents each day (Morozov, 2007). Among 42 countries in the World Health Organization European Region, the Russian Federation shows the highest prevalence of mortality among those that experience road traffic injuries (World Health Organization, 2007). For example, whereas the 2007 death rate per vehicle injury in children and young adults in Russia was 17 per 100,000, it was only approximately 6 per 100,000 in the United Kingdom. Bashkortostan is a republic in the Russian Federation spanning 143,600 km² (0.8% of the Russian territory) with a population of 4.1 million (2.7% of the Russian population), and representing dozens of ethnicities (Shakurov, 1996). In 2007, there were 5,546 traffic accidents in the republic, which resulted in 6,800 injuries and 730 deaths according to one source (Borodin, 2008), a very high rate.

In Bashkortostan and throughout Russia, awareness of and funding for public health issues, such as road safety, as well as political commitment to improvements in the health of the population, are generally inadequate (Global Road Safety Partnership, 2007; Tragakes & Lessof, 2003). The high traffic accident, injury, and related mortality rates in Russia have been attributed to an obsolete transportation infrastructure, use of old vehicles without modern safety systems, an increase in the number of vehicles on the road, drunk driving, speeding, the absence of special emergency medical care for road accident victims, and alarmingly low rates of seat belt use (Iakunin, 2007, Morozov, 2007). Estimates suggest that currently only 15 to 20% of the Russian population uses seat belts while traveling in motor vehicles (Morozov, 2007).

A recent pilot study with high school and university students ($N = 200$) conducted in the capital city of Ufa, Bashkortostan, documented very low seat belt use rates overall, but somewhat higher use in rural compared to urban areas (38% versus 24%, respectively; Khusnutdinova & Gorbatkova, 2008). Among the high school students surveyed (ages 15 through 17), almost half reported that it was necessary to use seat belts while traveling in vehicles; however, a much smaller percentage reported always using them (18% reported use in urban areas and 38% reported use in rural areas). In the university subsample (ages 17 through 22), two thirds of the students reported that it was necessary to use seat belts, 31% reported that they always buckled up in urban areas, and 38% reported that they used seat belts in rural areas. These rates are much lower than those reported in the United States, Canada, and Western Europe, and lower than in many other developed and developing countries (Ali Aba Hussein & El-Zobeir, 2007; Beck, Shults, Mack, & Ryan, 2007; Cunill, Gras, Planes, Oliveras, & Sullman, 2004; Derrig, Segui-Gomez, Abtahi, & Liu, 2002; Ekman, Welanders, Svanstrom, & Schelp, 2001; Steptoe et al., 2002). Increasing seat belt use is one safety goal with implications for reducing motor vehicle crash injuries. Evidence from other regions indicates that substantial increases in use rates can be achieved.

Effectiveness of Seat Belt Use

Seat belts involve both a technology and a behavior. The impressive effectiveness of seat belt use technology in reducing crash injuries has been well documented in a wide range of laboratory and population studies (Evans, 2004). However, the actual effectiveness is much lower than the theoretical effectiveness because use rates are much less than 100% in all populations. Seat belts provide protection by keeping the occupant in the vehicle and reducing the injury effects that are due to the primary crash event and also the secondary effects of striking fixed structures in response to a crash. Increasing the rate of seat belt use is a major public health challenge (World Health Organization, 2004b). The accelerating growth in both vehicle availability and use and crash rates in Bashkortostan and Russia as a whole underscores the need to implement effective prevention programs. Because seat belt use rates are very low in Russia compared to other countries, exploring the translation potential of effective programs, as well as developing novel seat belt use promotion efforts, is necessary.

Translation Issues Regarding the Promotion of Seat Belt Use in Bashkortostan

The urgent need for increasing seat belt use throughout Russia has been noted in the literature (Iakunin, 2007; Lutkovskii, 2005). Although there is evidence that the systematic translation of evidence-based research findings into practice is critical to improving public health (Sussman, Valente, Rohrbach, Skara, & Pentz, 2006), the effective translation of safety solutions from one country or domain to another depends on a number of factors, including (a) the complexity and timeliness of available technology; (b) behavioral practices; and (c) compatibility with existing standards, policies, and practices (Bonnie, Fulco, & Liverman, 1999; Simons-Morton & Winston, 2006). Seat belts are generally available on most vehicles,

simple to use, and highly effective when used properly (Evans, 2004). In the United States and most Western European countries, technology improvements, policy, and education efforts over the past 20 years have resulted in high population use rates (Shults, Elder, Sleet, Thompson, & Nichols, 2004; World Health Organization, 2004b).

Studies have documented that traffic injury prevention and control efforts are most effective when they are multifaceted and combine appropriate engineering of seat belts, policy, enforcement, use of incentives, and health promotion education (Mace et al., 2001). Without question, once modern seat belts are available on all vehicles, the enactment of mandatory seat belt use policies is the most effective possible initiative. Less than three decades ago, only 14% of the motor vehicle occupants in the United States wore seat belts. Since then, seat belt use has been required in all states, contributing to the increase in national use rates to 79% (National Highway Traffic Safety Administration, 2003). Primary seat belt use laws, where a driver can be stopped and ticketed for not using a seat belt, are highly effective with drivers of all ages (Shults, Nichols, Dinh-Zarr, Sleet, & Elder, 2004) including young drivers (Carpenter & Stehr, 2007). Secondary use laws, where ticketing for seat belt nonuse occurs only when a vehicle is stopped for other reasons, are less effective and more difficult to enforce (Beck et al., 2007; Shults, Nichols, et al., 2004). Generally, enforcement increases use rates (Shults, Elder, et al., 2004; Solomon, Nissen, & Preusser, 1999), particularly in combination with public information campaigns (Poole, Kumpfer, & Pett, 2001; Wells, Malenfant, Williams, & Van Houten, 2000). Incentive programs, implemented in many countries, mainly at worksites and schools (e.g., exchangeable tokens, privileges, lotteries, promotional items), also have consistently been shown to increase use rates (Hagenzieker, Bijleveld, & Davidse, 1997).

In Russia and Bashkortostan, the behavior of regularly using seat belts is not well established and existing standards, policies, and practices are not yet sufficient to create and enforce a culture of seat belt use. For example, throughout Russia, data on seat belt use at the time of the accident is not routinely collected (United Nations Economic Commission for Europe, 2005). Meanwhile, since 1989, vehicles, including passenger cars, have been legally required to have seat belts fitted and there is federal legislation making seat belt use mandatory when the vehicle is properly equipped (United Nations Economic Commission for Europe, 2005). Given the general availability of modern seat belts on vehicles in Russia, the greatest improvements in use rates can be expected from improvements in policy enforcement, with additional increases, particularly in targeted populations, from incentive and public health promotion programs, and compliance to seat belt use needs to be monitored at periodic intervals. Although enforcement has been problematic (Morozov, 2007), as of January 1, 2008, the federal government has mandated a fivefold increase in fines related to seat belt nonuse (e.g., from 100 to 500 Russian rubles; 110km, 2008). Russian seat belt promotion programs currently do not use incentives (United Nations Economic Commission for Europe, 2005). Increased use of seat belts, however, could become linked to decreased auto insurance rates as well as increased federal transportation funds (Mohl, 2005). No targeted incentive or promotion programs aimed at increasing seat belt use have ever been implemented in Bashkortostan.

Nonetheless, in December 2005, the federal government did approve a \$2 billion road safety package and a 2006–2012 road safety program comprising tougher laws and increased enforcement, as well as education and mass media campaigns (Global Road Safety Partnership, 2007). The same year, a seat belt promotion campaign was launched on Sakhalin Island, Russia (where seat belt use rates were low and similar to those in Bashkortostan), by the Sakhalin Road Safety Partnership, comprised of local government, the private sector, and academic affiliates (Global Road Safety Partnership, 2007). In combination with the change in policy, the campaign may have contributed to marked increases in seat belt use rates after one month. Specifically, these rates increased from 3.8% to 19.9% in urban areas and from 26.8% to 55.8% in rural areas.

An important component of this campaign included an initial public opinion survey for the assessment of determinants of seat belt nonuse, which later allowed the project team to tailor the campaign messages according to prevalent beliefs and assumptions. Other elements of that initiative included the professional development of campaign materials based on focus group feedback, a high-profile media-based awareness campaign, a school-based education campaign, and a high-profile Road Victims Remembrance Day event. Considering that the available technology, behavioral practices, and existing seat belt standards and regulations on Sakhalin Island are very similar to those in Bashkortostan, it is highly likely that the partnership approaches and components are easily translatable.

Although lessons from other countries show that traffic safety promotion initiatives are most effective in the presence of mandatory use laws, use of incentives, and vigorous enforcement, there is evidence that they can be successful even without substantial funding or enforcement of regulations. A multicomponent seat belt use program in Greece was conducted in the absence of law enforcement and resulted in a 6% increase in compliance and an estimated 50 averted deaths and 1,500 averted injuries over 9 months (Petridou et al., 1999). It included televised and radio messages; Internet postings; video material provided to road traffic police, school teachers, and hospital administrators; and painting and poster competitions. Another example is a recent elementary school-based intervention in Arkansas, which revealed that low-cost but highly visible delivery methods, use of peer-developed materials, and repetitive messages produced positive changes in seat belt restraint use and traffic safety knowledge (Aitken, Mullins, Lancaster, & Miller, 2007). Many of these programming components could feasibly be translated and applied in a Russian setting, given proper initiative. Also, in the absence of sufficient public health funding, physicians could play a significant role in decreasing traffic-related injuries by speaking out on this issue and serving as consultants to policy makers, schools, and education programs (American Academy of Pediatrics Committee on Injury, Violence, and Poison Prevention, American Academy of Pediatrics Council on School Health, & Agran, 2007; Mace et al., 2001).

Conclusion

As evidenced by the alarmingly high traffic-related morbidity and mortality in Bashkortostan and throughout Russia, there is a great and urgent need for cross-regional and cross-national translation of effective traffic safety initiatives, including the promotion of seat belt use. The literature has shown that such initiatives could be effective even in the absence of major sources of funding or law enforcement. Given the potential for improvement in the policy environment, promotion of seat belt use is warranted through public health and medical care settings, as well as through partnerships with local stakeholders.

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