

An initiative for the prevention of traffic accidents in a highly complex emergency hospital

Uma iniciativa para prevenção de acidentes de trânsito de um hospital de urgência de alta complexidade

Una iniciativa para la prevención de accidentes de tráfico en un hospital de urgencias de alta complejidad

Amanda Lohanny Sousa Campos¹, Carlos Matheus Pierson Colares², Danilo Pereira Lima³, Rhuan Rosa Alves⁴, Marina Rodrigues Novais⁵, Geovana Sôffa Rézio⁶, Lorena Morena Rosa Melchior⁷

How to cite: Campos ALS, Colares CMP, Lima DP, Alves RR, Novais MR, Rézio GS, Melchior LMR. An initiative for the prevention of traffic accidents in a highly complex emergency hospital. REVISA. 2020; 9(4): 846-53. Doi: <https://doi.org/10.36239/revisa.v9.n4.p846a853>

REVISA

1. Goiás State Department of Health, Multiprofessional Residency Program, Emergency and Trauma Concentration Area. Goiania, Goiás, Brazil. <https://orcid.org/0000-0002-6744-2896>

2. Goiás State Department of Health, Multiprofessional Residency Program, Emergency and Trauma Concentration Area. Goiania, Goiás, Brazil. <https://orcid.org/0000-0001-7663-8770>

3. Goiás State Department of Health, Multiprofessional Residency Program, Emergency and Trauma Concentration Area. Goiania, Goiás, Brazil. <https://orcid.org/0000-0002-9968-5147>

4. Pontifícia Universidade Católica de Goiás. Goiania, Goiás, Brazil. <https://orcid.org/0000-0002-8267>

5. Goiás State Department of Health, Multiprofessional Residency Program, Emergency and Trauma Concentration Area. Goiania, Goiás, Brazil. <https://orcid.org/0000-0002-6577-191X>

6. Goiás State Department of Health, Multiprofessional Residency Program, Emergency and Trauma Concentration Area. Goiania, Goiás, Brazil. <https://orcid.org/0000-0002-2647-2669>

7. Goiás State Department of Health, Multiprofessional Residency Program, Emergency and Trauma Concentration Area. Goiania, Goiás, Brazil. <https://orcid.org/0000-0002-6744-2896>

Received: 10/07/2020
Accepted: 24/09/2020

RESUMO

Objetivo: Apresentar uma iniciativa de um hospital de urgência de alta complexidade, em ações de prevenção, educação e conscientização sobre os acidentes de trânsito. **Método:** Trata-se de um estudo descritivo, do tipo relato de experiência, a partir da vivência de residentes na participação de ações de conscientização de motoristas do estado de Goiás. **Resultados:** O programa institucional intitulado "Prevenção de Acidentes e Reeducação no Trânsito (PARE)", engloba três ações distintas que têm o mesmo objetivo, de prevenir e promover reeducação no trânsito, a fim de diminuir o quantitativo de acidentes e índices de morbimortalidade relacionada ao trânsito. As três ações compreendidas pelo o PARE Paciente, PARE Rodovias e PARE Cidade, são iniciativas, que juntas já abordaram mais de 50 mil motoristas. **Conclusão:** Os benefícios das intervenções do programa é orientar a população os riscos a que está exposta no trânsito e reforçar o comportamento seguro. **Descritores:** Acidentes de Trânsito; Prevenção de Acidentes; Equipe de Assistência ao Paciente.

ABSTRACT

Objective: To present an initiative of a highly complex emergency hospital, in prevention, education and awareness actions about traffic accidents. **Method:** This is a descriptive study, an experience report, based on the experience of residents participating in actions to raise awareness among drivers in the state of Goiás. **Results:** The institutional program entitled "Accident Prevention and Traffic Re-education (PARE)", encompasses three distinct actions that have the same objective, to prevent and promote re-education in traffic, in order to reduce the number of accidents and traffic-related morbidity and mortality rates. The three actions comprised by PARE Paciente, PARE Rodovias and PARE Cidade, are initiatives, which together have approached more than 50 thousand drivers. **Conclusion:** The benefits of the program's interventions are to guide the population to the risks to which they are exposed in traffic and to reinforce safe behavior. **Descriptors:** Accidents, Traffic; AccidentPrevention; Patient Care Team.

RESUMEN

Objetivo: Presentar una iniciativa de un hospital de urgencias de alta complejidad, en acciones de prevención, educación y sensibilización sobre accidentes de tráfico. **Método:** Se trata de un estudio descriptivo, un relato de experiencia, basado en la experiencia de los vecinos que participan en acciones de sensibilización de los conductores del estado de Goiás. **Resultados:** El programa institucional titulado "Prevención de accidentes y reeducación vial (PARE)", engloba tres acciones diferenciadas que tienen el mismo objetivo, prevenir y promover la reeducación en el tránsito, con el fin de reducir el número de accidentes y las tasas de morbilidad y mortalidad relacionadas con el tránsito. Las tres acciones integradas por PARE Paciente, PARE Rodovias y PARE Cidade, son iniciativas, que en conjunto se han acercado a más de 50 mil conductores. **Conclusión:** Los beneficios de las intervenciones del programa son orientar a la población hacia los riesgos a los que está expuesta en el tránsito y reforzar comportamientos seguros. **Descritores:** Accidentes de Tránsito; Prevención de Accidentes; Grupo de Atención al Paciente.

Introduction

Traffic accidents (TA) correspond to an important portion of the population's morbidity and mortality worldwide and are configured as a Public Health problem. It leads to an important social and economic implications for society, affecting mostly the young and economically active population.¹⁻²

Around the world, approximately 1.2 million people die each year as a result of TA on the highways, being pointed out as the second cause of death, of people from five to 29 years old and the third of 30 to 44 years old.³ Estimates point to an increasing trend in these numbers, which should increase by 40% by the year 2030, if effective preventive measures are not adopted, especially in developing countries.⁴

In Brazil, the TA caused, in the period from 2010 to 2015, more than one million hospitalizations and about 200 thousand deaths, with an increasing emphasis on motorcyclists, who represented more than 40% of those affected.¹ The motorcycle brings greater risk due to the greater vulnerability by direct exposure to the impact, therefore, subject to multiple trauma and of greater severity.⁵

Recent studies have shown a considerable loss of productivity in individuals involved in TA, mainly related to activities of daily living, resulting from the consequences of injuries caused by trauma. Some risk factors were still statistically listed as direct causes of lost productivity.⁶

The presence of a negative relationship between intergroups in traffic, such as lack of education, ethics and respect on the part of the group of car drivers in their relationships in traffic.⁸ Recent studies highlight behavioral factors as more strongly associated with a greater chance of occurrence accidents, emphasizing the prevention potential of these.⁸⁻⁹

This reality indicates the need for interventions that improve traffic relations and reduce the rates of accidents and morbidity and mortality in traffic. The World Health Organization proclaimed in 2010 that the decade between the years 2011-2020 is the decade of actions for road safety.⁹ The objective of this action is to set as a goal a 50% reduction in traffic accidents, and one of its five pillars for the realization of this objective is the development of programs that improve the behavior of individuals in traffic, which includes education and awareness training programs.¹⁰

In this regard, intervention programs based on awareness and education are consistent with the recommendations of international bodies, with the demands identified by the literature and with the perceptions of drivers themselves in traffic. Awareness and education programs can use different methods and target different audiences, including interventions in educational institutions, from the basic cycle to graduation¹¹⁻¹²; use of digital platforms and technologies¹³; and holding lectures, courses and traffic campaigns aimed at the community in general.¹⁴

In this context, the program entitled Accident Prevention and Traffic Re-education (PARE) was developed and conducted at the State Emergency Hospital of the Northwest Region of Goiânia Governador Otávio Lage de Siqueira (HUGOL), and reported here, because it is of a character innovative in highly complex hospital units. The program's objective is to develop prevention, awareness and education strategies, covering the community and patients who are victims of traffic accidents admitted to the hospital. These hospital service

users represent a significant number of cases treated at the unit, making the topic of traffic accidents important for the awareness of society.

Thus, this experience report aims to present an initiative of a highly complex emergency hospital, in prevention, education and awareness about traffic accidents.

Method

This is a descriptive study, based on the experience of residents participating in an institutional program entitled "Accident Prevention and Traffic Re-education (PARE)", developed by the Emergency Hospital of the Northwest Region of Goiânia Governador Otávio Lage de Siqueira (HUGOL).

PARE encompasses three distinct actions, with a common objective, to prevent and promote re-education in traffic, in order to reduce the number of accidents and traffic-related morbidity and mortality rates. The three actions understood are the "PARE Patient"; "PARE Highways" and "PARE City".

This program is an initiative of the institution that started in 2016, and from 2018 onwards it works in partnership with the multiprofessional residency program in health, by residents in the areas of nursing, physiotherapy and psychology.

As this is an experience report, the present study was submitted to and approved by the institution's Research Ethics Committee for the consent of the dissemination of the results of this experience, being guided by the regulatory guidelines and standards obeying all determinations (Resolution 466/2012, National Health Council) for this type of research.

Results

The institution's interventions to promote safer traffic and reduce the impact of accidents on the population's life is an initiative of a multiprofessional accident prevention action, which takes place through the "PARE Patient"; "PARE Highways" and "PARE City".

PARE Patient

The institution's interventions to promote safer traffic and reduce the impact of accidents on the population's life is an initiative of a multiprofessional accident prevention action, which takes place through the "PARE Patient"; "PARE Highways and Cities" and "PARE City".

PARE Paciente is one of the pillars of the accident prevention and rehabilitation program, aimed at hospitalized patients who have suffered some type of accident. These are addressed through an active search in their medical records of patients who are in a clinical possibility to participate and are invited. Upon acceptance, the approach consists of filling in a semi-structured questionnaire, developed by the institution, in order to collect sociodemographic data and data related to the accident and hospitalization. After completing the form, the patient is invited to watch a free circulation video that aims to raise awareness about the risky behaviors in traffic and that increase the chances of accidents occurring. After the presentation of the video, a moment is opened for the patient to report and discuss his impressions, doubts and opinions.

STOP Highways and Cities

The PARE Highways and Cities and PARE City programs promoted 19 actions from February 2016 to May 2020, which resulted in a total of more than 40,935 drivers being coached. The PARE City program was responsible for guiding 17,511 and the PARE Highways and Cities for 23,469 drivers. Of the emergency calls made at the hospital, until December 2019, 26,882 calls were dedicated to victims of traffic accidents.

PARE Highways and Cities is the second pillar of the traffic prevention and education program, aimed at drivers of automobile vehicles and passengers passing through the highway. The program is carried out on pre-defined dates and agreed with the Goiás State Highway Police, the Goiás State Traffic Department (DETRAN-GO) and the Goiás State Military Fire Department.

At first, the team is grouped and guided, composed of hospital employees, and multiprofessional residents. Teams are positioned at strategic locations on highways, usually at police barriers. The program consists of the distribution of folders to drivers and passengers, whose message aims at raising awareness, awareness and education in traffic. The folders are made and supplied by private health institutions, partners in the execution of the program and also by DETRAN-GO.

The program also includes positioning on the edge of the demonstration track of vehicle carcasses that were involved in road accidents, such as preparing the approach team with makeup simulating injuries caused by traumas related to traffic accidents and bandaging, aiming at the awareness of drivers and passengers who routinely travel on the highway.

PARE City is the third pillar of the traffic prevention and education program for the community in general. The program is carried out on pre-defined dates and agreed with the Municipal Traffic Department (SMT), the Goiás State Department of Traffic (DETRAN-GO), the Military Police and the Military Fire Brigade. In a first moment, the team is grouped composed of hospital employees, invited by the hospital management. The teams are positioned in strategic locations with the support of the Military Police and Fire Department. Just like on the highways, the PARE City pillar consists of the distribution of folders to drivers, whose message aims at raising awareness, awareness and education in traffic, aimed mainly at adhering to traffic laws, such as the practice of defensive driving. The folders are made and supplied by private health institutions, partners in the execution of the program.

Discussion

The behavioral factors highlighted by the literature strongly related to the occurrence of Traffic Accident (TA), such as a history of traffic violations, use of a cell phone while driving, drinking alcohol or using a psychotropic substance associated with driving and reckless driving⁷⁻⁸, are elements addressed in different ways in the institutional program PARE (Figure 1). This type of intervention is supported by effectiveness in the recommendations made by international bodies⁹ and the data presented show the wide scope that actions of this modality can reach.

Figure 1- Illustrative folder with program guidelines.



The profile of the patient who suffers a traffic accident, attended at this institution, is in line with that of other studies presenting, where the prevalence of victims is male, the active young population and motorcycle accidents.¹ The greater vulnerability of the young population is attributed to their social and cultural behaviors, such as less use of protective equipment, greater consumption of alcoholic beverages, drunk driving, speeding and less training and skill in driving vehicles¹⁻¹⁷⁻¹⁸, factors these related to the greater chances of accidents occurring, and sensitive to intervention via awareness and re-education.⁷⁻⁸ These findings allow confirmation that the program has addressed the population that can most benefit from the proposed intervention.

The importance of studying transport accidents is highlighted in order to clarify to the community the risks to which they are exposed and act as an opportunity to highlight the relevance of safe behavior in traffic, in addition to providing subsidies for assistance after this traumatic event and to build prevention campaigns against these accidents.¹⁴⁻¹⁵ When identifying the factors associated with the risk of injuries and deaths of victims of trauma in traffic events, it is warned that the reduction of injuries and deaths in these events can only occur if permanent campaigns and programs aimed at traffic safety, adequate use of protective equipment in motor vehicles (seat belts and airbags) and motorcycles (helmets with closed visors, gloves and knee pads), as well as interventions on the behavior of drivers in traffic are developed.¹⁵

The program's interventions were well articulated and integrated with governmental and non-governmental sectors, in order to promote the safe and sustainable displacement of the population, as a form of investment in the promotion of safe environments within the perspective of human mobility and quality of life. In addition, multiprofessional work is used in communication and continuing and systematized education actions, as the program occurs programmatically inside and outside the hospital environment (Figure 2).¹⁻¹⁶

In addition, in line with the Decade of Action for Traffic Safety (DAST) promoted and launched by the United Nations General Assembly for the period from 2011 to 2020, interventions in the three pillars of the PARE program are based on the attempt to reduce morbidity and mortality, both for light and serious victims, establishing measures that can reduce the occurrence of deaths, loss of functionality and loss of productivity.²⁰

Figure 2- Objective approach with sensitization, awareness and education with drivers in traffic.



Conclusion

Programs that are well articulated and integrated with governmental and non-governmental sectors, in which they use multidisciplinary work in communication and health education and accident prevention actions, have positive effects on the target population. Actions to reduce morbidity and mortality in traffic accidents are significant initiatives. It is believed that the present study may contribute to the expansion of discussions on the repercussions of accidents, as well as serve as a subsidy for the elaboration and implementation of new programs in the scope of health prevention and rehabilitation.

The change in behavior on the part of drivers, consequently the reduction of traffic accidents depends on multiple factors, including social responsibility. Leading in this report by a highly complex hospital, it is essential to comply with all epidemiological data and recommendations proposed by the literature, in addition to having support from the entire multidisciplinary team, establishing effective, low-cost measures that can reduce morbidity and mortality in the city and in the cities. highways.

Acknowledgment

This study was not funded.

References

1. Carmo EA, Nery AA, Rocha RM, et al. Repercussões dos Acidentes de Trânsito: Uma Revisão Integrativa. *Rev. pesqui. cuid. fundam.* (Online) 2019. 11(3): 732-8.
2. Magalhães AF, Lopes CM, Koifman RJ, Muniz PT. Prevalence of self-reported traffic accidents in Rio Branco, Northern Brazil. *Rev*

Saude Publ. 2011; 45(4): 738-44.

3. Organização Mundial de Saúde (OMS). Faces behind figures: voices of road traffic crash victims and their families. Genebra: OMS; 2007.

4. Mathers C, Loncar D. Update projections of global mortality and burden of disease, 2002-2030: data sources, methods and results. Geneva: WHO; 2002.

5. Golias ARC, Caetano R. Acidentes entre motocicletas: análise dos casos ocorridos no estado do Paraná entre julho de 2010 e junho de 2011. Ciênc saúde coletiva. 2013; 18(5):1235-46.

6. Cardoso JP, Mota ELA, Rios PAA, Ferreira LN. Fatores associados à perda de produtividade em pessoas envolvidas em acidentes de trânsito: um estudo prospectivo. Rev Bras Epidemiol. 2020; 23: E200015.

7. Giacomozzi, AI, Bousfield ABS, Fiorott JG, Leandro M, Silveira A, Silva BL. Social representations of traffic violence and related psychosocial aspect. Saúde e Pesqui. 2020 jan-mar; 13(1): 193-204.

8. Ribeiro, L, Pimentel, JL, Ribeiro, H, Benedito, M, Ribeiro, KL. Análise das causas dos acidentes automobilísticos nas rodovias federais da Bahia entre 2014 e 2017. Revista de Medicina.2020; 99(1), 27-34.

9. Rios, PAA, et al. Fatores associados a acidentes de trânsito entre condutores de veículos: achados de um estudo de base populacional. Ciênc saúde coletiva. 2020; 25(3): 943-55.

10. World Health Organization. Decade of action for road safety 2011-2020: saving millions of lives. Geneva: WHO; 2010.

11. Freitas, CKAC, Rodrigues MA, Parreira PMSD, Santos ACFS, Lima SVMA, Fontes VS, et al . Educational Program for the Promotion of Knowledge, Attitudes and Preventive Practices for Children in Relation to Traffic Accidents: Experimental Study. Rev paul pediatr. 2019. 37(4): 458-64. Doi: <https://doi.org/10.1590/1984-0462/;2019;37;4;00012> .

12. Júnior CJS, Pimentel RG, Calheiros PWBS, Silva JP. Extensão universitária em educação para o trânsito: educando para a convivência segura e para cidadania. Rev Ciênc Ext. 2019; 15(3): 101-12.

13. Ferreira, C, Vieira, K, Santana, M, Pimentel, C. Transit Kämpfer: uma proposta de jogo digital para educação no trânsito. Anais do Workshop de Informática na Escola. 2019; 25(1):1269.

14. Lira, FB, Ulle, CMS, Mattos, M. Acidentes motociclísticos e ações educativas no trânsito em município do Estado do Mato Grosso. Enferm Foco. 2019; 10(3): 141-6.

15. Andrade LM, Lima MA, Silva CHC, et al. Acidentes de motocicleta: características das vítimas e dos acidentes em hospital de Fortaleza - CE, Brasil. Rev Rene. 2009; 10(4):52-9.

16. Coutinho TP, Carvalho AGC, Araújo MGR, et al. Perfil das lesões das vítimas de acidentes de motocicletas atendidas em hospital público. R brasci Saúde 2019; 23(3):309-20.

17. Malta DC, Silva MMA, Albuquerque GM, Lima CMD, Cavalcante T, Jaime PC, Silva Júnior JB. A implementação das prioridades da

Política Nacional de Promoção da Saúde, um balanço, 2006 a 2014. *Cienc saúde coletiva*. 2014; 19(11): 4301-12. Doi: <https://doi.org/10.1590/1413-812320141911.07732014> .

18. Malta DC, Andrade SSCA, Gomes N, Silva MMA, Moraes Neto OL, Reis AAC, Nardi ACF. Lesões no trânsito e uso de equipamento de proteção na população brasileira, segundo estudo de base populacional. *Cien Saúde Colet*. 2016; 21(2): 399-409. Doi: <https://doi.org/10.1590/1413-81232015212.23742015>

19. Abreu AMM, Jomar RT, Thomaz RGF, Guimaraes RM, Lima JMB, Figueiro RFS. Impacto da Lei seca na mortalidade por acidentes de trânsito. *Rev Enferm UERJ*. 2012; 20(1): 21-6.

20. Andrade FR, Antunes JLF. Tendências do número de vítimas em acidentes de trânsito nas rodovias federais brasileiras antes e depois da Década de Ação pela Segurança no Trânsito. *Cad. Saúde Pública*. 2019; 35(8): e00250218. Doi: <https://doi.org/10.1590/0102-311x00250218>

Correspondent Author

Amanda Lohanny Sousa Campos.
14 Anhaguera Av. ZIP: 74463-350. St.
Santos Dumont. Goiania, Goias, Brazil
amandalohannysc@hotmail.com