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Trauma Systems and Trauma Centers: South America



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Abstract

This paper looks at trauma systems and trauma centers with a special focus on South America countries. In some of them, there are hospitals which receive trauma patients and elements of the trauma system principles have been implemented. However, there are still no formalized national trauma systems. The concept of trauma centers is new in the majority of these countries. There are some problems with emergencies and trauma care in South America: overcrowded emergencies, no trauma system or national trauma registry, insufficient intensive care unit beds to support emergency demands, and the majority of private hospitals have few expertise dealing with trauma emergencies.

Several attempts have been set up to improve the situation. The Pan-American Trauma Society (PTS), amongst them, was created in 1986 with the mission of improving trauma care in the Americas by promoting an exchange of ideas and concepts and expanding the knowledge of trauma and acute care.[12] The major impediment to system and research development in developing nations is inadequate or nonexistent data. The PTS has been a pioneer in this field having developed a trauma registry implemented in countries such as Ecuador, Colombia, and Panama, by collecting data and many analytical reports from these countries.[13]

Keywords: trauma system, trauma care, Pan-American Trauma Society

South America (SA) is a continent with 12 countries and 3 dependencies located primarily in the southern hemisphere. It is the fourth largest continent in size and the fifth largest in population with more than 400 million inhabitants.[1] Most of the population lives near the continent's western or eastern coasts, while the interior is sparsely populated. There is an economic gap between the rich and poor in most SA countries. The richest 10% of the population receive over 40% of the nation's income in some countries, while the poorest 20% of the population receive 3% or less in others.

Homicide rates have increased slightly higher than population rates in SA. The World Health Organization (WHO) estimates there to be near 90,000 firearm deaths annually in Latin America; three times the world average. Violence is the leading cause of death among Latin Americans between the ages of 15 and 44. Colombia, Venezuela, and Brazil have among the highest homicide rates in the world.[2,3] Additionally, fatality road traffic rates remain higher in Latin America than in parts of Europe, with more than 18 road fatalities per 100,000 inhabitants (Table 1).[1,3,4] The proportion of motorcycle deaths in SA

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Table 1 - Violence and road traffic death rate per 100,000 inhabitants and world rank in SA countries.

Country	Population	Violence Rate	World rank	Road Traffic Rate	World rank
Brazil	204,519,000	30.53	13	24.13	42
Colombia	48,549,000	37.61	7	17.05	85
Argentina	43,132,000	7.62	69	13.11	105
Peru	31,153,000	6.43	79	16.86	87
Venezuela	30,620,000	47.04	3	41.06	3
Chile	18,006,000	3.88	101	11.11	124
Ecuador	16,279,000	20.12	22	30.68	19
Bolivia	10,520,000	15.23	30	21.16	62
Paraguay	7,003,000	16.71	26	27.76	24
Uruguay	3,310,000	5.80	82	18.41	78
Guyana	747,000	25.73	17	39.80	4
Suriname	560,000	5.40	88	18.25	80

has increased from 15% to 20% of the total road traffic deaths over the period between 2010 and 2013.

There are disparities in mortality rates and functional outcome for trauma patients around the world. The organization of the trauma care system in developed countries has displayed evidence of improvements for patient treatment. The fully implemented trauma system enhances community health through an organized system working with education, injury prevention, pre-hospital transport, acute care, and rehabilitation, which is integrated into the public health system. The Essential Trauma Care Project from WHO was published in 2004 with the goal of promoting low-cost improvements to assure optimal care of the injured patient.[5,6] It is an interesting initiative, because it is compact, easily assimilated, and applicable to low-income countries.

In SA countries, there are some hospitals, which receive many trauma patients. Elements of the trauma system principles have been implemented in certain regions; however, there are still no formalized national trauma systems. In 1995, a study, observing mortality patterns in trauma patients at urban hospital in Monterrey, Mexico, and Seattle, USA, indicated that priorities for trauma system improvement in urban Latin America should focus on more rapid pre-hospital transport and improvement in emergency room resuscitation.[7]

In 2001, the growing demand for emergency services, hospital admission, and rehabilitation led the Ministry of Health in Brazil to launch the Project for the Reduction of Traffic Accidents by integrating efforts of health services together with the transport sector.[8] Primary care clinics and emergency units are mainly public, whereas hospitals, outpatient clinics, diagnostic and therapeutic services are mainly private. Another initiative was the Policy for Emergency Care organizing the pre-hospital care system through the Mobile Emergency Care System (SAMU), a crucial service for the survival of victims and the reduction of sequelae.[8]

Other countries such as Colombia, Bolivia and Ecuador are in the initial phase of organizing trauma systems.[9-11] The concept of trauma centers is new in the majority of these countries, where there are hospitals dedicated to all fields of emergency. There are some problems with emergencies and trauma care in SA: overcrowded emergencies, no trauma system or national trauma registry, insufficient intensive care unit beds to support emer-

gency demands, and the majority of private hospitals have few expertise dealing with trauma emergencies.

The Pan-American Trauma Society (PTS) was created in 1986 with the mission of improving trauma care in the Americas by promoting an exchange of ideas and concepts and expanding the knowledge of trauma and acute care.[12] The major impediment to system and research development in developing nations is inadequate or nonexistent data. The PTS has been a pioneer in this field having developed a trauma registry implemented in countries such as Ecuador, Colombia, and Panama, by collecting data and many analytical reports from these countries.[13]

Conflict of Interest Disclosure Statement

The author has no conflicts of interest to disclose.

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