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Working conditions of microbus drivers in Mexico City as a risk factor in road safety

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Abstract

There are approximately 45,000 legally registered microbus drivers in Mexico City. Being legally registered means that they fulfill in due time all the obligations and observe the regulations derived from their vehicle and their concession. However, for working and social security purposes they are informal operators and live in precarious conditions, as they are not in receipt of benefits and do not have a fixed salary or health insurance. This means that their job and the risks and demands involved in it are translated into long days of work, fatigue, professional illnesses and stressful conditions which lead to aggressive behaviors and constitute a risk factor in road safety. In 2012 alone, 4,712 accidents were recorded in this group. Thus, based on the premise that working and health conditions determine road safety, an exploratory descriptive study was conducted from a quantitative research approach. Such study consisted of 500 supervised interviews with drivers, to explore socioeconomic, work and health variables, including some aspects of road safety and driving styles. The exposure-effect ratio in road accidents was then analyzed. Among the main results of this research, a correlation of 0.77 was identified between road accidents and drivers working for over 8 hours per day; 0.78 for drivers working more than 5 days per week; and 0.73 between the number of tickets and working days of more than 8 hours. Road accidents are explained by these high percentages.

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1. Introduction

According to estimates of the World Health Organization (WHO, 2013), 1.24 million people die worldwide each year as a consequence of road accidents; and up to 50 million people sustain injuries. Given these figures, in 2004 for the first time in its history, the WHO chose road safety as the main topic for the World Health Day and declared road accidents a pandemic (WHO, 2004). In Mexico City, the National Institute for Statistics, Geography and Computer Science (*Instituto Nacional de Estadística Geografía e Informática*, INEGI) recorded 745,975 accidents for 2012, and the Technical Secretariat of the National Council for the Prevention of Accidents (Cervantes Trejo, Rosas Osuna, & González García, 2013) estimated that road accidents had an approximate cost of 11.5 billion Dollars, representing 1.7% of the country's Gross Domestic Product. Thus, the Mexican Road Safety Initiative was implemented in Mexico (IMESEVI) as a multi-sector program where the efforts of the National Center for the Prevention of Accidents (CENAPRA), the Department of Health, the Pan American Health Organization (PAHO), the governments of all Mexican states and the society could be combined with the purpose of reducing the number of injuries, disabilities and deaths derived from road accidents. However, this program has shown poor results. Based on six risk factors -pedestrians, the use of seat belts, child seats and helmets in the case of motorcycles, speed and alcohol consumption when driving- the program is targeted to the general population, so it rarely reaches microbus drivers. In Mexico, minibuses are vehicles with a capacity of 15 to 45 people and are used for nearly 65 percent of the total bus trips in Mexico City. Said program is not specially addressed or adapted for these drivers in Mexico City. This is why this study was based on the premise that working conditions for drivers are a risk factor in road safety, and analyzed the corresponding socio-historical process in order to design appropriate strategies that may contribute to reducing morbimortality, as there is evidence (Berrones Sanz & Rosales Flores, 2011) that public transport workers in Mexico City are severely affected by their socio-historical determination, that is, by the way in which the relation between the mode of production and the group of workers developed. Throughout the years, market structures have been built based on insufficient and dated regulations and experienced monthly rises in fuel prices that do not grow at the same pace as transport fares. This situation forced drivers to reduce their costs, and this was in turn reflected in the organization and division of work, leading to poor working conditions and an economic burden directly affecting working conditions, in the form of long hours of work and lack of healthcare and social security.

An analysis of the socio-historical context and evolution of public transportation in the Federal District makes it possible to visualize the gradual deterioration of working conditions as described by authors such as Tse, Rhona, & Mearns, (2006) who argue that the problems drivers faced as a consequence of their work are the same today. For such an analysis, several stages have been identified (Figure 1), the first of which covers the economic boom of public transportation during the first half of the 20th century, where drivers had unions and post-revolutionary groups. This fact, combined with rapid urban growth, generated more journeys than the number of existing vehicles, that is, there was overdemand for public transport services, so drivers had a good reputation and good working conditions -which at the time were relative privileges-; their fares were high, so they could work few hours each day; and there were few road accidents, so no public health issues were raised in this sector.

However, the preponderance of public transport forced authorities to regulate fares and transportation services, as an economic strategy for the benefit of society. By 1981, all concessions were eliminated and the decentralized company Urban Transport Ruta-100 (*Autotransportes Urbanos de Pasajeros Ruta-100*) was created as the sole bus company authorized to provide such services in the Federal District. Ruta-100 operated between 1981 and 1995, and during this time it had a fleet of up to 7500 vehicles servicing 207 routes. Regarding the working conditions of Ruta-100 drivers, Tovalin Ahumada & Lazcano Ramirez (1991) stated that, although physical effort was moderate, this work involved a heavy mental burden and constant exposure to noise, vibrations, heat and toxic elements in the environment; all the foregoing generates professional diseases which mainly translate into musculoskeletal and sight problems such as phosphenes, conditions mentioned in various studies around the world (Albright, Winkleby, & Ragland, 1992; Bongers, de Winter, & Kompier, 1993; Duffy & McGoldrick, 1990). However, Ruta-100 workers, around 20,000, enjoyed some benefits and social welfare, had a union, health services, days off within their working week, holidays and even professional growth opportunities, since a driver could be promoted to route supervisor, so this group of workers had, in general, good working conditions.

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