Acta Scientific Dental Sciences
Volume 2 Issue 3 March 2018
Commentary

History of the Epidemiologic Paradox

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Received: January 23, 2017; **Published:** February 07, 2018

A recent commentary in a journal has sparked a renewed interest in the term "epidemiologic paradox." Wikipedia refers to it as Hispanic paradox or Latino paradox because of "the epidemiological finding that Hispanic and Latino Americans tend to have health outcomes… that are comparable to… or better than those of their U.S. non-Hispanic White counterparts" [1]. The purpose of this review is to give a historical description of how the term evolved.

Teller and Clyburn were the first to use the term in discussing trends in infant mortality [2]. Most early reports of the paradox were found in "vital statistics" reports from cities, counties and even U.S. census national sources from the Southwestern United States. Because Hispanic identifiers were not reported at that time, early reports were based on tabulations of vital statistics data [3]. Almost thirty years later Forbes and Frisbie examined neonatal infant mortality rates in San Antonio and found that the paradox existed since at least 1940 [4]. Although the paradox existed in the majority of instances, it was not always absolute, and tended to vary from decade to decade.

Other life events and medical conditions have also been associated with the epidemiologic paradox among Hispanics in the United States. Heck and colleagues examined the relationship between childhood cancer by maternal birthplace [5]. Maternal acculturation and prenatal care [6], birthplace and acculturation in predicting low birth weight [7] as well as adverse birth outcomes [8], risk factors for low birth weight infants [9] and pregnancy outcomes [10] are all examples of the paradox. Gould and colleagues examined perinatal outcomes in two dissimilar immigrant populations and found a dual epidemiologic paradox [11]. Dentally, I was able to find a distinct epidemiologic paradox in Latino immigrants compared to native-born Latinos [12]. However, using the same index of oral health status, my colleague in Japan did not find the paradox [13].

Researchers in foreign countries have also observed the epidemiologic paradox in ethnic groups other than Latinos in the United States. In comparing the birth weight of newborns of immigrant and non-immigrant mothers in Valencia, Spain, Simó and Méndez clearly showed the paradox [14]. In a number of other studies, researchers found evidence of the paradox. Low birth weight outcomes were studied in Taiwan [15] and Brazil [16]. The health of U.S. immigrants from the former Soviet Union was examined by Mehta and Elo [17]. Patel and colleagues studied the paradox in multiple births in Asians [18]. El Reda and colleagues examined lower rates of preterm births in women of Arab ancestry [19].

Speculation about why the epidemiologic paradox exists are multifactorial in nature. Cultural differences are prominent and may explain differences between native-born and immigrant populations. All of these are intertwined with socioeconomic status and acculturation. Even dietary differences in the consumption of refined carbohydrates by native and immigrant groups may explain dental differences. Sometimes, political changes in localized areas, such as counties or cities may affect the provision of medical services for native-born or immigrant Hispanic groups. Even the accuracy of how vital statistics and demographic data are used may influence these differences [20].

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