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Editorials

Latin America and chronic diseases: A perfect storm during the COVID-19 pandemic

In the COVID-19 scenario, the widespread poverty and inequality fuel the pandemic. These conditions prevail in Latin America (LA), where the situation is particularly worrying because of the characteristics of the health systems and the high frequency of chronic and metabolic diseases in the region.

In June 2020, LA became the world's latest COVID-19 hotspot and after almost one year of the pandemic, the number of cases in the region is still growing. In January 2021, USA was leading the world in the number of diagnosed cases and reported deaths, Brazil was second in both infection and deaths, and Mexico was third in deaths. Other Latin American countries contributing to the epidemiologic statistics at that time were Colombia, Argentina, Peru, and Chile [1].

Underlying comorbidities including hypertension, diabetes and cardiovascular disease are major factors predicting poor COVID-19 outcomes [2]. In this sense, the pre-pandemic prevalence of chronic and metabolic diseases in LA underscores concerning patterns that may be related to the high COVID-19 associated lethality rate in the region. In Brazil, for example, 928,000 deaths due to chronic disease are estimated by year; the high prevalence of overweight in the country is the main driving cause for this trend [3] and the same situation is observed in the entire region. In Mexico, the reported prevalence in 2016 of overweight/obesity in adults older than 20 years old was 75.2% whereas diabetes mellitus and hypertension reached 10.3% and 18.4% respectively [4]. In general, it is accepted that these trends of chronic conditions are related to obesity. According to the World Health Organization (WHO) in 2016, the prevalence of overweight/obesity in Latin American adults was 62.8% in men and 59.8% in women. Obesity, which is intimately related to chronic, low-grade inflammation is also associated to poverty and is a risk factor for nonalcoholic fatty liver disease (NAFLD) [5].

NAFLD is highly prevalent worldwide, but regional differences have been observed. The highest percentages of NAFLD are found in South America (31%). However, given the lack of data from most of the countries in this region, current estimates of the prevalence of this condition are far from the reality. Available studies indicate that the prevalence of NAFLD in Brazil is 35%, Chile 23%, Mexico 17% and Colombia 26% [6]. However, most of the studies were conducted more than a decade ago, so it is likely that the current prevalence of NAFLD is now higher in this region as a consequence of the obesity pandemic.

Regarding obesity and overweight in the setting of COVID-19, it has been suggested that they can increase the risk of death [7], although the information reported is still limited. Indeed, the first reports of cases did not show that these two conditions represent a risk in the outcome of infection [8]. According to WHO data, until 2016, the global prevalence of overweight and obesity in people 18 years of age or older was 39% and 13% respectively [9]. In countries such as China where the prevalence of obesity is 6.6% (more than 9 times lower than that in LA), this condition is not considered a risk factor for poor prognosis due to COVID-19 [10]. Therefore, obesity might play a more important role in Latin American countries than in the rest of the world regarding the risk of poor prognosis associated with COVID-19. In Mexico, for example, reports support that overweight and obesity in patients over 20 years age increase mortality and the need for intensive care in people with COVID-19 [11,12].

Taking into account the role of obesity in the development of liver disease, the analysis of the impact of these two conditions in distinct geographical regions in the context of COVID-19 is needed. In spite that liver dysfunction has been described in COVID-19 patients with severe forms of the disease, pre-existing liver conditions seem not to be a risk factor for the disease [13,14]. Globally, no specific pathophysiological mechanism has been elucidated for liver injury in COVID-19 patients. A few has been proposed as indirect involvement by systemic inflammation and direct infection of hepatocytes per se, but at the same time clinicians should consider as iatrogenic causes such as drugs and ventilation that may damage the liver. Although it is very common for hepatic enzymes and markers to be elevated during the infection, still no direct relationship with outcome has been made [15] and, we still lack conclusive evidence regarding potential differences relative to ethnicity in this sense. This might be important by taking into account that host genetics contribute to the onset of multiple chronic diseases [6]. Thus, the COVID-19 outcomes might vary among geographical regions. A recent study underscoring that COVID-19 associated symptoms and outcomes manifest differentially among patients in Brazil, Chile, Colombia, Mexico, Ecuador, Argentina and Bolivia supports this possibility [16]. In addition to demographic, environmental, economical, sanitary and cultural conditions that might be related to differences in COVID-19 outcomes; host genetics might also to contribute to the differential prevalence of comorbidities.

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Currently, LA is in the middle of two major public health threats: high rate of chronic diseases and COVID-19 pandemic. The detailed study of the impact of comorbidities and COVID-19 related outcomes is mandatory and guidelines for specific populations, particularly in LA are needed [17]. Altogether, these actions will allow the design of models to determine risk populations for infection and strategies to handle the pandemic at local levels.

Conflict of interest

No conflict of interests to declare.

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