



Factors associated with the stigma-discrimination complex towards healthcare workers among university students during the coronavirus pandemic in Mexico

Factores asociados al complejo estigma-discriminación hacia trabajadores de la salud entre estudiantes universitarios durante la pandemia de coronavirus en México

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Abstract

Introduction: COVID-19-related stigma towards healthcare professionals negatively influences their job performance and well-being, however, this issue has not been sufficiently investigated. **Objective:** To determine the frequency and variables associated with COVID-19-related stigma toward health care workers in a university population in Mexico. **Materials and methods:** Cross-sectional study. An online questionnaire was sent to 1,054 students between 18 and 29 years of age. Demographic variables, religiosity, fear of COVID-19 and its association with COVID-19-related stigma-discrimination towards health workers (dependent variable) were analyzed. Bivariate analysis and a generalized linear model were performed to calculate adjusted prevalence ratios. **Results:** The proportion of high stigma-discrimination was 12.4% and was associated with high fear of COVID-19 RPa= 1.51 (95% CI 1.06 - 2.23). **Conclusion:** The findings highlight the importance of establishing programs to reduce COVID-19-related stigmatization towards healthcare professionals.

Keywords: Social stigma; risk factors; health personnel; students, COVID-19. (Source: DeCS, Bireme).

Resumen

Introducción: El estigma relacionado con la COVID-19 hacia los profesionales de la salud influye negativamente en su desempeño laboral y bienestar, sin embargo, este tema no ha sido suficientemente investigado. **Objetivo:** Determinar la frecuencia y las variables asociadas al estigma relacionado con el COVID-19 hacia los trabajadores de la salud en una población universitaria de México. **Materiales y métodos:** Estudio transversal. Se envió un cuestionario en línea a 1.054 estudiantes de entre 18 y 29 años. Se analizaron variables demográficas, religión, miedo al COVID-19 y su asociación con el estigma-discriminación hacia el personal de salud relacionado con la COVID-19 (variable dependiente). Se realizó un análisis bivariado y un modelo lineal generalizado para calcular las razones de prevalencia ajustadas. **Resultados:** La proporción de estigma-discriminación alto fue de 12,4% y se asoció con miedo alto a la COVID-19 RPa=1,51 (IC=95% 1,06-2,23). **Conclusión:** Los hallazgos destacan la importancia de establecer programas para reducir la estigmatización relacionada con COVID-19 hacia los profesionales de la salud.

Palabras clave: Estigma social; factores de riesgo; personal sanitario; estudiantes, COVID-19. (Fuente: DeCS, Bireme).

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Introduction

Infectious disease outbreaks are associated with negative psychological and social consequences comparable to their biological outcomes⁽¹⁾. Among these consequences, one of the most impactful is stigma-discrimination, as it affects health-related outcomes and is a barrier to accessing health services⁽²⁾. These negative social attitudes and behaviors affect various segments of society, such as patients, families, and healthcare providers⁽²⁾.

During the rapid spread of SARS-CoV-2 infection, it has been observed that health systems have faced a critical overload on human resources⁽⁴⁾, which are mainly due to psychological distress⁽⁴⁾ associated with the so-called stigma-discrimination complex (SDC)^(5,6).

Stigma is defined as a characteristic or trait attributed to someone or something and usually implies a negative connotation⁽⁷⁾. This trait represents a discrediting label that makes stigmatized people feel alienated from society, and labelling can turn into pigeonholing and stereotyping, leading to discrimination and loss of status⁽⁸⁾.

In the context of the COVID-19 pandemic, people are stigmatized because of a perceived link to the disease, shaping the concept of COVID-19-related stigma, particularly affecting health care workers (HCWs)⁽⁹⁾.

In infectious disease outbreaks, fear and misinformation are variables that explain stigmatization^(10,11). SDC interferes with the diagnosis and treatment process by disrupting communication, individual identity, and sense of free will⁽¹²⁾. People who feel stigmatized tend to avoid certain behaviors perceived to increase stigma, such as refusing to be tested for COVID-19, because a positive result may be the label, they consider stigmatizing⁽¹³⁾.

Stigma is a barrier to effective infectious disease prevention and control mechanisms and can affect the stigmatized group and a wide range of people around them with a particular impact on HCWs^(4,14). For example, perceived stigma discourages infected persons and affects health professionals themselves⁽¹⁵⁾ and can be an additional stressor⁽⁴⁾.

Complementarily, negative attitudes may affect care-seeking and increase the collateral damage of COVID-19⁽⁶⁾. More than 200 COVID-19-related attacks on

HCWs have been documented⁽¹⁶⁾. In these incidents, HCWs experienced social isolation, public insults or harassment, refusal to use public transport and eviction from the housing. These violent behaviors in the pandemic context towards HCWs shape a specific stigmatization process called Coronavirus Disease-Related Stigma-Discrimination-Complex-towards Health Care Workers (CDRSDHCW)^(17,18).

These stigmatization experiences negatively influence HCWs' performance, job satisfaction, self-efficacy and general well-being^(4,19). Besides, it is crucial to consider that SDC tends to persist over time, easier to consolidate than to eradicate^(1,20).

Therefore, CDRSDHCW should be rigorously addressed by healthcare professionals, providers, and health authorities⁽²¹⁾. Having a valid and reliable instrument to measure CDRSDHCW⁽¹⁷⁾ could improve the identification of the phenomenon and associated variables and allow public health decision-makers to design informed and effective interventions. Despite the potential impact on the quality of life of HCWs, CDRSDHCW and its associated factors have not been sufficiently investigated⁽²²⁾.

This study aimed to determine the frequency and explore variables associated with stigma discrimination complex related to COVID-19 towards health care workers during the pandemic in a sample of emerging-age university adults in Mexico.

Materials and method

Study design and participants

A cross-sectional study was carried out. An online questionnaire was sent to students at the. A sample of at least 384 participants was expected since this sample size was calculated for low prevalences of the dependent variable of 10%, with a margin of error of 3%, or as high as 50%, with a margin of error of 5%, in both cases with a 95% confidence level⁽²³⁾. This number of participants would explore some associations with acceptable confidence intervals⁽²⁴⁾. Students between 18 and 29 years of age (emerging age) were included⁽²⁵⁾.

Measures

The research questionnaire included demographic variables (age, gender, marital status, education level, occupation, marital status and income level), religiosity, fear of coronavirus disease and stigma-

discrimination related to coronavirus disease towards HCWs.

Stigma-discrimination complex related to coronavirus disease towards health care workers

It was quantified with the Stigma-Discrimination Scale Related to Coronavirus Disease towards Health Care Workers. This tool is a five-item instrument with a dichotomous response pattern¹⁷, which resulted from a process of adaptation of the Tuberculosis Stigma Scale⁽²⁶⁾. The instrument presents a unidimensional structure with acceptable internal consistency, Kuder-Richardson coefficient of 0.67⁽¹⁷⁾. Each affirmative response is assigned one point; overall scores can be between 0 and 5. Scores between 0 and 2 were classified as low stigma-discrimination related to coronavirus disease, and scores between 3 and 5 were classified as high stigma-discrimination according to the research group's criteria. In the present study, the Kuder-Richardson test was 0.68.

Religiosity

Religiosity was quantified with the Francis 4-item short scale of attitude towards Christianity (Francis-4). This instrument consists of four items exploring attitude towards God, Jesus and prayer. The items offer five response options from completely disagree to completely agree, scored from zero to four, with overall scores between 0 and 16. This instrument has shown excellent dimensionality and internal consistency in previous studies⁽²⁷⁾. Global scores between 0 and 12 were rated as low religiosity and those between 13 and 16 as high religiosity, based on previous studies in Colombia⁽¹⁷⁾. In the present study, the scale showed a Cronbach's alpha of 0.97.

Fear of coronavirus disease

It was quantified with the five-item version of the Fear of COVID-5⁽²⁸⁾, adapted and validated by the research team in the general Colombian population original 7-item Fear of COVID-19 Scale⁽²⁹⁾. The Fear of COVID-5 has four response options that are scored from 0 to 3. The Spanish version of this instrument has shown adequate internal consistency, Cronbach's alpha of 0.75⁽³⁰⁾. In the present study, the scale showed a Cronbach's alpha of 0.78. The scale allows total scores between 0 and 15. Scores equal to or higher than four were categorized as high fear related

to COVID-19, like a similar study in a Colombian population⁽³¹⁾.

Procedure

An electronic questionnaire was sent via the institutional mail server. The invitation to participate in the study was sent to all persons linked to the university. The anonymous questionnaire took no more than ten minutes to complete. Data was collected between 3 July and 10 August 2020.

Data analysis

Frequencies and percentages for qualitative variables and measures of central tendency and dispersion for quantitative variables [mean (M), standard deviation (SD), median (Me) and interquartile range (IQR)] were described according to the distribution of the data. For the analysis, CDRSDCHCW was considered the dependent variable, while demographic variables, religiosity, and high fear of COVID-19 were considered independent variables. For variables associated with CDRSDCHCW, prevalence ratios (PR) with their 95% confidence intervals (95% CI) were calculated. Subsequently, significant variables in the bivariate analysis, those that met the Hosmer-Lemeshow criteria⁽³²⁾ and those with biological plausibility with the outcome, were entered into a generalized linear model with a binomial distribution and log link function to calculate adjusted PR (aPR)⁽³³⁾ explaining the association between covariates and CDRSDCHCW. The analysis was completed in Jamovi version 1.2.27.0.

Results

1,054 students participated (M=20.7; SD=2.2; Me=20; RIC=19-22). Categorical findings and population characteristics are presented in Table 1.

Scores for religiosity were observed between 0 and 16 (M=8.53; SD=5.45; Me=9; and RIC=4-12); for fear of coronavirus disease, they were between 0 and 15 (M=2.35; SD=2.51; Me=2; and RIC=0.25-3); for stigma-related discrimination between 0 and 5 (M=0.92; SD=1.26; Me=0; and RIC=0-1).

In this study, 12.4% (n=131) of participants scored for high stigma-discrimination. A statistically significant association was found between CDRSDCHCW and the high fear of COVID-19. See Table 2.

Table 1. Demographical characteristics of sample

Variable	n	%
Gender		
Female	852	80.8
Male	202	19.2
Stable couple (marital status)		
Yes (free union or married)	58	5.5
No (single, separated or widowed)	996	94.5
Have children		
Yes	60	5.7
No	994	94.3
Bachelor's degree		
Yes	1046	99.2
No	8	0.8
Employee		
Yes	156	14.8
No	898	85.2
Health worker		
Yes	171	16.2
No	883	83.8
Low income (Mexican classification)		
Yes	448	42.5
No	606	57.5
Low religiosity		
Yes	802	76.1
No	252	23.9
Elevated fear COVID-19		
Yes	254	24.0
No	801	76.0
Stigma towards health workers		
Yes	131	12.4
No	923	87.6

Table 2. Associate factors with high stigma-discrimination in adult emergent students in México

Item	PR (95% CI)
Female gender	1.32 (0.38-2.07)
Stable couple	0.97 (0.47-1.98)
Have children	0.94 (0.46-1.91)
Bachelor's degree	0.99 (0.16-6.16)
Employee	1.10 (0.71-1.70)
Health worker	1.04 (0.68-1.60)
Low income	1.29 (0.94-1.78)
Low religiosity	0.83 (0.58-1.18)
Elevated COVID fear	1.55 (1.11-2.17)

Discussion

In the present study, 12.6% of Mexican emerging-age students reported high CDRSDCHCW and associated high fear of COVID-19. The high frequency of CDRSDCHCW observed is similar to that found in other studies that have reported high levels of COVID-19-related stigma towards health professional^(11,30,34). These findings could be explained by the fact that SARS-CoV-2 is more contagious than other stigmatized diseases⁽³⁵⁾. The perception of a global pandemic experience combined with economic crisis scenarios¹ could also explain the high stigmatization level.

The development of stigma/discrimination is related to cultural, educational, religious, personal, economic, and environmental variables⁽³⁶⁾. Thus, in the present study, a statistically significant association was observed between high CDRSDCHCW and a high level of fear of COVID-19. These results are compared with similar studies where fear of contagion is a variable that generates prejudice, stereotypes, and discrimination^(11,30). Indeed, HCWs around the world, in both low- and middle-income countries, face SDC, mediated mainly by fear of infection⁽³⁴⁾. However, the association between CDRSDCHCW and other variables may take on a different connotation according to methodological issues. For example, in a sample of 91 COVID-19 survivors in India, perceived stigma was significantly higher in men than women; enacted stigma and internalized stigma were associated with a high education and occupation level⁽²⁰⁾. In this study, Dar et al. measured stigma using a stigma questionnaire adapted from the Ebola-related stigma questionnaire derived from the Berger HIV stigma scale⁽³⁷⁾. However, unlike our study, the stigma assessment in this sample did not target stigmatization experiences directed towards HCWs but was instead a general stigma measure, explaining the differences in associations with the present study.

Another predictor of the stigma that we included in this study was religiosity, although no statistical association with CDRSDCHCW was found. The influence of religiosity on COVID-19 management, especially in developing countries, may generate certain practices that are deleterious to established precautionary measures against the disease; furthermore, the belief that life and death are controlled by the "Almighty", which is also configured as a religious stigma that may impact precautionary measures against COVID-19⁽³⁸⁾. This observation

suggests that the relationship between stigma and religiosity is more complex and may be mediated by other types of variables not explored in this study.

The cross-sectional nature of this study limits the strength of the associations assessed, and it is not possible to make causal relationships between variables. On the other hand, social desirability bias may have limited participants' responses for fear of being stigmatized, although to reduce this, we tried to preserve maximum confidentiality. The results are not generalizable to the Mexican university population, as the convenience sample was restricted to a single university. The study's quantitative nature does not allow us to explore other manifestations of the stigmatization process related to COVID-19 so that qualitative studies would enrich the state of knowledge in this area.

Implications

CDRSDCHCW could disrupt patient identification and surveillance and generate considerable negative impacts on pandemic control and management⁽²⁾. Therefore, predicting the stigma-related consequences of COVID-19 is essential in planning prevention measures. Consistent with previous data⁴, this study's findings suggest that the CDRSDCHCW study can provide insight into the stigmatization process associated with emerging infectious diseases and the possible consequences of such stigmatization.

The Knowledge of the frequency and correlates of CDRSDCHCW provides valuable information for designing interventions to reduce social stigma towards HCWs^(9,37). In this perspective, an inclusive and rights-based policy approach to address COVID-19 should not only focus on eliminating the disease or interrupting transmission but also address stigma and intersecting vulnerabilities, as well as the conditions that promote or perpetuate stigma⁽³⁹⁾. Consequently, to be equitable and practical, the global response to COVID-19 requires that stigma becomes a higher priority on the public health agenda.

COVID-19-related stigmatization towards health workers among emerging-age adult university students in Mexico is considerable and is associated with a high level of fear of COVID-19. These results highlight the importance of establishing intervention programmes that address COVID-19-related stigma towards health professionals and their potential consequences.

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