

CLINICAL CHARACTERISTICS AND RISK FACTORS FOR MORTALITY DURING THE 'FIRST WAVE' OF COVID-19 IN REYNOSA, TAMAULIPAS

Vargas-García, L. G.¹, Díaz-Cisneros, F. E.¹, Gutiérrez-Sierra A.², Rosales-Martínez, J.³, Lara-Duck, M. F.^{2*}, Mayek-Pérez, N.⁴

¹ Unidad de Medicina Familiar no. 40. Instituto Mexicano del Seguro Social. Reynosa, México.

² Universidad México Americana del Norte. Reynosa, México.

³ Hospital General Regional 270, Instituto Mexicano del Seguro Social, Reynosa, México.

⁴ UAM Reynosa – Rodhe, Universidad Autónoma de Tamaulipas, Reynosa, México.

* E-mail: manlioflaraduck1997@gmail.com

Background. The COVID-19 pandemic has impacted public health in Mexico. As of February 2020, there have been at least four "waves" of contagion that resulted in 5.82 million positive cases and more than 325 thousand deaths. At the beginning of the COVID-19 pandemic, hospital and population-based information was available, frequently with non-specific symptoms. Little was known about the risk factors for mortality in specific conditions. We described the clinical characteristics of patients with COVID-19 in Reynosa, Tamaulipas during 2020 and identified the risk factors for mortality.

Methods. The COVID-19 cases registered from March to November 2020 in Reynosa were divided into survivors and non-survivors. The study had a retrospective cohort design. Data was obtained from the platform of the Respiratory Disease Surveillance System (SISVER), belonging to the National Epidemiological Surveillance System (SINAVE) of the Mexican Ministry of Health (<https://sinave.gob.mx/>). The variables considered were the age and gender of each patient. Twenty-five symptoms were included (fever, cough, headache, myalgia, arthralgia, among others); the outcome variable was the detection of COVID-19. Associated comorbidities were diabetes, obesity, hypertension, among others. The outcome variable was mortality. Data were analyzed using χ^2 tests, Mann-Whitney tests, principal component analysis, and the Cox regression model.

Results. The highest number of COVID-19 cases and deaths was observed in July, in men between 36-40 years old. The most frequent symptoms (37-51%) were headache, fever, cough, myalgia, and arthralgia. Clinical characteristics between survivors and non-survivors were significant ($P<0.05$) in all cases, except for age (21-40 years), COVID-19 contact, and history of asthma. Age, gender (men), and diabetes, hypertension, heart disease, COPD, and chronic kidney disease (CKD) were associated with risk of death from COVID-19 ($P<0.05$). The highest fatality rates were observed with patients over 80 years of age, ICU admission, or need for intubation ($P<0.0001$).

Conclusions. The most frequent symptoms in positive COVID-19 patients in Reynosa during 2020 were headache, fever, cough, myalgia, and arthralgia. Age, gender and diabetes, hypertension, heart disease, COPD, and CKD increase mortality. The factors with the highest risk of death were age over 80 years, admitted to the ICU or intubated.