PDF version

Marzieh Araban,[1] Mahmood Karimy,[2] Hamid Koohestani,[2] Ali Montazeri[3] and Daniel Delaney[4]

[1]Department of Health Education and Promotion, Social Determinants of Health Research Center, Public Health School, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Islamic Republic of Iran. [2]Social Determinants of Health Research Center, Saveh University of Medical Sciences, Saveh, Islamic Republic of Iran. [3]Mental Health Research Group, Mother and Child Health Research Centre, Iranian Institute for Health Sciences Research, ACECR, Tehran, Islamic Republic of Iran.
[4]
Department of Psychology, University of Rhode Island, Kingston, Rhode Island, United States of America. (Correspondence to: Mahmood Karimy: karimymahmood@yahoo.com).

Abstract

Background: Coronavirus disease 2019 (COVID-19) is a worldwide public health emergency.

Aims: This study aimed to investigate the epidemiological and clinical characteristics of patients with COVID-19 in Saveh city, Islamic Republic of Iran in 2020.

Methods: In this descriptive analytical research, 3181 patients suspected of having COVID-19 who visited Saveh medical centres were investigated. Patients were confirmed with COVID-19 using polymerase chain reaction testing. Data on sociodemographic, epidemiological and clinical characteristics of the patients were collected using a validated form through interviews and medical records. The chi-squared, t and Fisher exact tests were used to assess differences in sociodemographic, epidemiological and clinical characteristics between patients with positive and negative polymerase chain reaction results. Logistic regression analysis was used to examine the association between independent variables and death from COVID-19.

Results: About half the patients (48.3%) had a history of chronic disease. Diabetes (16.2%), high blood pressure (14.8%) and cardiovascular disease (12.4%) were the most prevalent chronic diseases among patients who were confirmed positive for COVID-19. Risk factors for

death among confirmed COVID-19 patients were: intubation (odds ratio (OR) = 8.97; 95% confidence interval (CI): 5.15–15.63), age ≥ 80 years (OR = 5.81; 95% CI: 1.91–17.60), oxygen saturation 0.56 were retained on the questionnaire. To determine the content validity index, the relevance, clarity and simplicity of each item were reviewed and items with values > 0.79 were retained.

Case definitions

A definitive COVID-19 case was determined by a positive polymerase chain reaction (PCR) test. A suspected case was a patient with at least one of the following symptoms, which could not be attributed to another etiological agent: dry cough, chills, sore throat, shortness of breath and fever. A negative case of the disease was determined as a negative PCR result.

Data analysis

Data were analysed using SPSS, version 21. The chi-squared, independent sample t and Fisher exact tests were used to compare patients by PCR status and demographic characteristics. In addition, a logistic regression analysis was performed to determine the association between independent variables and death from COVID-19. Only those independent variables that showed significant associations with death ($P \leq 0.05$) in the univariable analysis were included in the multivariable logistic regression models.

Ethical concerns

Permission to conduct the research was obtained from the Saveh Medical Centres. This research was approved by the Ethics Committee of Saveh University of Medical Sciences (IR.SAVEHUMS.REC.1399.002).

Results

A total of 3181 patients were included in the study. Their mean age (standard deviation (SD)) was 52.6 (20.8) years. Based on the laboratory data (PCR result), 1422 (44.7%) patients were positive for COVID-19 and 1759 (55.3%) were negative. Of the 3181 patients, 310 (9.7%) died; of these patients, 192 (61.9%) were PCR-positive for COVID-19, while 118 (38.1%) were PCR-negative.

Patients who survived

Of the 2871 patients who survived, 1230 (42.8%) were PCR-positive for COVID-19. The mean (SD) age of these COVID-19-positive patients was 53.7 (18.9) years. The mean (SD) duration of hospitalization was 6.5 (8.5) days. Of the COVID-19-positive patients, 584 (47.5%) were men

and 943 (76.7%) reported a history of contact with COVID-19 patients. Half (50.3%) of all the patients who survived (either positive or negative) reported a history of contact with COVID-19 patients. There were significant differences between the PCR-positive and PCR-negative patients in age, smoking, substance addiction, history of contact with COVID-19 patients and duration of hospitalization (P