

COVID 19 Infection and the Risk to the Elderly. A Narrative Review

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Abstract

Coronavirus disease 2019 (COVID-19) is a novel coronavirus named by the WHO as a pandemic disease as a result of its wide spread globally during the last few month. Elderly (> 60 year) patients with different comorbidities have a higher risk to contract the virus. The aim of this study is to review the recent studies regarding COVID 19 infection in elderly in terms of clinical features, risk mortality, isolation, and psychological effects that could affect their clinical management. A systematic narrative literature review of the clinical features, risks and consequences of the new COVID-19 on the elderly was carried out using online databases. Recent and related articles were retrieved mainly from Google Scholar and PubMed search. Elderly are more susceptible to develop severe forms of COVID-19 infection. The frailty in this geriatric group is attributable to their unique immune, physical and psycho-social vulnerabilities. This represent a significant risk for elderly during this COVID 19 virus pandemic.

Keywords: COVID-19; Elderly; 2019-nCoV; Clinical; Risks

Introduction

Coronavirus disease 2019 (COVID-19) is a virus from the same family of severe acute respiratory syndrome coronavirus. The COVID 19 virus fast spread all over the globe in a short time period led the World Health Organization (WHO) to consider it as a pandemic disease [1]. The route of transmission is mainly through respiratory droplets [2]. The case fatality rate of COVID-19 which is the number of deaths over confirmed cases, is estimated to be up to 3.4% globally [3]. The main cause of death related to COVID-19 infections is developing an acute respiratory distress syndrome (ARDS) and subsequent multi-organ failure. Severe lung injury was reported in all age groups, but elderly patients and in specific patients with other comorbidities are more at risk. Mortality in elderly patients is significantly higher than that of non-elderly patients (5.3% versus 1.4%) [4]. This narrative review will explore the recent and limited studies related to COVID 19 infection in this specific elderly group and the noted clinical features, mortality and the psychological effects of prolonged durations of social isolation.

Methods

A narrative review of literature focusing on the clinical picture, risks and consequences of the new COVID-19 infection among elderly (> 60 year). The review was based on a search carried out using the online databases. Six published articles were retrieved mainly from Google Scholar and PubMed searching engines utilizing the following keywords COVID-19, elderly, 2019-nCoV Clinical, risks and coronavirus. Publications were from January to June 2020 were included.

Discussion**Main clinical features among elderly**

Elderly patients are more susceptible to develop severe forms of COVID-19 illness and are more frequently admitted to the intensive care units (ICU) with higher mortality rates when compared to younger age groups [4]. In a study including 339 elderly patients, Wang, *et al.* reported that the most common symptoms on admission were fever (n = 311, 92%), cough, dyspnea, and fatigue, in consistent with the general symptoms of viral infection and pneumonia. Other symptoms as anorexia, myalgia, pharyngalgia, diarrhea, nausea, chest tightness, dizziness, headache were also reported [5,6].

Reported elderly percentage mortality with COVID 19 infection

Elderly are at a high risk of fatality due to the associated co-morbidities. They can progress to ARDS rapidly and in a short duration. A recent Chinese review about deceased elderly from COVID 19 infection reported that elderly previously suffering from co-morbidities are at an increased risk to die. Elderly suffering from hypertension represented 53.2% of diseased elderly and others with cerebrovascular disease represented 42.0% and diabetes 37.8% [7]. Another study looking into emergency department admissions found that old COVID-19 patients with co-morbidities as cardiovascular and pulmonary disease were more likely to require tracheal intubation and ventilation support with a high mortality rate than any other age group [8]. The Chinese Center for Disease Control and Prevention in a recent cohort study reported a fatality rate as high as 8% between 70 to 79 year old as compared to 2.3% for younger age groups [9]. Italy also reported high fatality rates between 70 to 79 year (12%) and 80 year or older (20%) [10]. In another report about COVID-19 infections from the United States in the period between February-March, 2020 (n = 4,226), 53% of the patients required an Intensive Care Unit (ICU) admission and 80% of reported COVID-19 deaths were among adults ≥ 65 year old. The highest percentage of severe outcomes were among patients aged ≥ 85 year. In contrast, no ICU admissions were required for COVID 19 infected patients ≤ 19 years. The risk for serious illness, ICU admission and death from COVID-19 viral infection is more among elderly [11].

Risk of isolating elderly

Isolating elderly may decrease the transmission of the virus to them and minimize its spread [12], but sole isolation at this old age can lead to serious public health concerns because of the elderly associated co-morbidities. Cardiovascular, autoimmune, neurocognitive, and mental health problems are known to co-exist among this old age group [13]. Santini and colleagues demonstrated in a recent study that social disconnection from elderly exposes them to anxiety and depression [14], particularly those with no close family or friends and those supported by voluntary services or social care. Online recent communication technologies as social networks could partially provide a sense of support and belonging [15]. They can deliver cognitive behavioral therapies and help to decrease loneliness and improve mental wellbeing [16].

Psychological effects among COVID 19 infected elderly

The frailty among geriatrics is mainly due to the physical, psycho-social vulnerabilities that associates the aging process. As COVID-19 was declared as a pandemic the fear and anxiety among elderly represented negative effects on their mental health as reported in a preliminary report from India among elderly residents in a mental health center. The stress and loneliness of a long quarantine can lead to psychological or psychiatric effects and disorders which lead to depression and stress [17,18].

Long term care facilities (LTC) for elderly should remain under strict infection control protocols and staffed. Families and caregivers should follow instructions of isolation during the pandemic but this will increase neglect. The supervision of LTC facilities should be a priority [19].

Conclusion

Elderly age group are more susceptible to develop the severe illness forms of COVID-19 viral infection. Mortality rates are higher among elderly than any other age group mainly as a result of the associated co-morbidities. Frailty in this age can be attributed to the unique physical and psycho-social vulnerabilities that associates the aging process and this represent a significant risk for elderly during this COVID 19 pandemic.

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