

# Chapter 9

## COVID-19 AND OLDER ADULTS

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### INTRODUCTION

World Health Organization (WHO) Classified as; 0-18 years: adolescent, 18-65: young, 65-74 years old: young-old, 75-84: middle-aged, 85 and over: very old. Over 65 years old; the incidence of chronic diseases increases, even if there is no concomitant chronic disease, functional losses are observed and the immune system is weakened (1).

The risk groups defined by the CDC severe COVID-19 are; over 65 years, those living in long-term nursing homes, chronic liver, chronic lung disease, diabetes, serious heart disease, kidney disease and requiring dialysis, morbidly obese and immunocompromised people (due to transplantation, HIV, smoking, cancer treatment, etc.) (2).

According to the World Bank 2019 population data, the world population is around 7 billion 674 million. The two countries with the highest population aged ≥65 years in the world are Japan (28%) and Italy (23%). For other countries, elderly population ratios are 8% in Turkey, 21% in Germany, 20% in France, 19% in Spain, 16% in the USA, 14% in South Korea, 11% in China and Iran. 6% (3).

The Turkish Statistical Institute (TUIK) for 2019 datas have shown that; the elderly population aged 65 and over constitutes 9.1% of the population in Turkey (4). Therefore, it is recommended to stay at home in order to protect this population, which is in the risk group for the COVID-19 outbreak.

According to the reports created on the data received from the WHO, the age group with the highest death rate of the epidemic is 80 and over. Mortality rate increases with age, over 80 years old; 14.8%, age 70-79; 8.0%, age 60-69; 3.6%, age 50-59; 1.3%, age 40-49; 0.4% (5).

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Data from the Centers for Disease Prevention and Control show that the risk of dying from COVID-19 for those over the age of 85 is 630 times higher than for those aged 18-29 (6).

It is stated that individuals with older age and chronic diseases are more risky groups. In addition, it has been reported that the risk of death is higher in these individuals, more than 80% of the deaths occur over the age of 65, and most of the fatal cases to date are the elderly and patients with high comorbidities. The need for hospitalization and intensive care unit is also higher in this group compared to other individuals (7).

CDC data showed that; although people over the age of 65 make up 17% of the total population in the United States, 31% of COVID-19 infection, 45% of hospitalizations, 53% of intensive care unit admissions and reported that it constituted 80% of the deaths caused by this infection. This suggests that elderly people, especially those with chronic disease, are at high risk of COVID-19 and have worse outcomes compared to the general population (8).

## **MAIN TEXT**

One of the main problems with the elderly; It becomes difficult to know that the virus is in that person because symptoms such as fever, cough and runny nose may not be seen in all elderly patients. Infectious diseases such as corona virus infection in the elderly may present with atypical findings. Therefore, the disease tends to progress more during this time. Sometimes instead of fever and cough, symptoms such as confusion, increased respiratory rate, urinary or stool incontinence, recurrent falls, feeling tired can sometimes be the first sign of infection, so these symptoms should not be ignored in elderly patients. The person actually comes to the hospital with major problems, especially breathing, and after that point, the treatment becomes difficult.

In the study of Chen et al., examined 99 patients hospitalized with the diagnosis of COVID-19, they showed that older men are more likely to be infected and rapidly progress to acute respiratory distress syndrome (ARDS), which poses a life-threatening condition (9).

The most common comorbidities with COVID-19 are hypertension and diabetes. In a study in which a meta-analysis of comorbidities was performed, it was shown that approximately 17% of the patients had hypertension, 8% had diabetes, 5% had cardiovascular diseases and 2% had respiratory system disease.

It has been shown that the disease progresses more severely in people with hypertension, diabetes and cardiovascular disease comorbidities (10).

Among patients with advanced age and comorbidities, COVID-19 is often severe. In the outbreak at several long-term care facilities in US, the average age of the 101 affected facility residents was 83, with 94% of them having an underlying chronic illness. In these cases, hospitalization and mortality rates were reported as 55 and 34%, respectively.

In a report from the Chinese Center for Disease Control and Prevention that examined nearly 44,500 confirmed cases, 87% of patients were between the ages of 30 and 79. Similarly, a modeling study based on data from mainland China found that the rate of hospitalization for COVID-19 increased with age, with 1.1% for those aged 20 to 29, 4% for those aged 50 to 59, and 18% for those over 80. Aging has also been found to be associated with increased mortality. In the same report, the case fatality rates for those aged 70 to 79 years and those aged 80 and over were 8 and 15%, respectively, in contrast to the 2.3% mortality rate in the overall cohort. Similar findings were reported from Italy, and the case fatality rates were found to be 12 and 20% among those aged 70-79 years and those aged 80 and over, respectively (11,12).

Elderly patients with COVID-19 are more vulnerable to poor outcomes. In geriatric cases, 92 of our 100 patients have at least 1 other chronic disease. Comorbid disease aggravates the infection even more. Summary findings of 35 studies have shown that elderly patients have higher mortality rates than the younger (13).

Therefore, strict preventive measures, timely diagnosis, and aggressive therapeutic and non-therapeutic care should be considered in the elderly to reduce ARDS and its serious complications. Further prospective studies are needed to eliminate confounding variables and elucidate the predictive risk factors that contribute to patients' mortality and morbidity. It should be noted that the coronavirus is not only fatal for all the elderly, but most of those who lost their lives and those in intensive care are elderly. These two are different situations.

When evaluating the elderly, a holistic approach should not be avoided, and nutritional problems, malnutrition, mobility restrictions, sarcopenia, depression and other social problems should be considered. Drug-drug interactions should also be considered when treating patients for COVID-19 infection.

Since its approval in the US, nirmatrelvir/ritonavir has been used in adults over 65 years of age to treat COVID-19 in people with certain high-risk factors. High risk factors include over 65 years of age, obesity, diabetes and comorbidities such as heart disease, chronic lung, kidney, liver diseases, cancer, and weakened or impaired immune systems (14).

Getting vaccinated prevents serious illness, hospitalizations, and death. Unvaccinated persons should be vaccinated and continue to mask, until they are fully vaccinated. COVID-19 treatments and vaccines guidelines prepared by the CDC may change based on updated information.

The first thing to do is to protect the elderly from infection. Older adults and those who live with, visit or care for them should take preventive measures to protect themselves against COVID-19.

Even though the mortality rate of COVID-19 is higher in the elderly than in the young population, the elderly who survive COVID-19 may encounter various problems in the long term. More than 320 thousand people participated in the study; Mortality rates in the post-illness period for those who have had COVID-19 have been compared with those who have not had the disease. It was observed that the risk of death from all causes within a year was more than 3 times in those who had COVID-19 infection. however, the mortality rate for those aged 60 and over with COVID-19 has more than doubled in the long run (15).

Immobilization leaves more dramatic results in the elderly than in the young. The elderly discharged home should be mobilized as much as possible. In-bed exercises should be done in order to protect both muscle strength and joint movements in the elderly who cannot stand up.

A healthy, balanced diet should be the first choice after COVID-19. The elderly can be provided with the necessary macro and micronutrients, prebiotics, probiotics and symbiotics together to restore and maintain immune cell function. Malnutrition or poor diet may be common in the elderly after COVID-19. Involuntary weight loss and skeletal muscle wasting may occur in the elderly during infection. Malnutrition can delay the recovery after COVID-19. For this reason, adequate nutrition at home gains importance in the elderly who cannot be fed adequately in the acute period. Both macronutrients such as protein, carbohydrate and fat, and micronutrients such as vitamins and trace elements are frequently encountered in the elderly. A healthy, balanced diet should be the

first choice after COVID-19. There should be sufficient food intake and food variety. Dietitian assistance can be obtained. Nutritional support products may be preferred in the elderly whose oral intake is very low (16).

It is important to provide adequate social communication during the daytime. In their studies, it was revealed that loneliness, which causes a situation to cope with long-term stress, harms the immune system. In addition, it has been stated that the immunity of the excluded or lonely elderly is lower and they are more susceptible to infection or other diseases (17). During social isolation, weight problems, muscle and joint pain, and psychological effects can be observed in the elderly.

In the elderly with comorbid diseases; Pulmonary rehabilitation can be recommended during mild illness, especially in individuals with chronic lung problems and other diseases that cause immobility (neurological, systemic/metabolic, etc.).

## **CONCLUSION**

With old age, the immune system weakens and the vulnerability to infections increases. The presence of comorbid diseases also complicates infections. Among patients with advanced age and comorbidities, COVID-19 is often severe. Even though the mortality rate of COVID-19 is higher in the elderly than in the young population, Therefore, strict preventive measures, timely diagnosis, and aggressive therapeutic and non-therapeutic care should be considered in the elderly to reduce ARDS and its serious complications. The first thing to do is to protect the elderly from infection. Older adults and those who live with, visit or care for them should take preventive measures to protect themselves against COVID-19. Another important point; the elderly who survive COVID-19 may encounter various problems in the long term. Therefore, supportive treatment approaches are important post-illness period.

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