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Impact of COVID-19 on the elderly

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Abstract

While in most developed countries an adult of age 65 years and above is considered an elderly, in Nepal, the age limit is 60 years. There will be two billion people in old age category worldwide by 2050. This rise in number of ageing group presents many challenges; one such challenge was faced during the Corona Virus Disease 2019 (COVID- 19) pandemic. The aim of this narrative review is to assess the impact of COVID-19 on different aspects of life of the elderly. The impact of COVID-19 on the health of the elderly is greater compared to other age groups. Studies from around the world have showed that the risk of severity for COVID-19 is higher among the elderly. Many elderlies who got infected or died were healthcare personnel working in the frontline. Measures like physical distancing, movement restriction and home quarantine, all contributed to the increase in social isolation, especially for the elderly. This in turn could cause problems with their physical, mental, and cognitive health. Additionally, in lack of a steady source of income and insufficiency of savings, many face financial crises. Despite efforts to help the old people, they have been enduring the harsh outcomes of the pandemic. To support and respect elderly, their dignified life, clear policy interventions and proper implementations are a must.

Keywords: COVID-19, elderly, impact, pandemic

Introduction

Definition of elderly or old person varies around the world.^{1,2} While in most developed countries an adult of age 65 years and above is considered an elderly,¹ in Nepal a person aged 60 years and above is considered an old person.² With increasing life expectancy,³ the population of elderly is rapidly growing globally.⁴ This presents many challenges, one of which was faced during the Corona Virus Disease 2019 (COVID-19) pandemic. The discourse around COVID-19 among elderly is perceived to be due to decreased immunity and co-existence of co-morbidities. The aim of this review is to assess the impact of COVID-19 on different aspects of life of the elderly.

Method

For writing this narrative review, Google, Google Scholar, PubMed and online news portals were searched by using various combination of the following terminologies; “Elderly”, “Old people”, “Senior citizen”, “Impact”, “COVID-19”, “Corona Pandemic”, “Help”, “Immunity”, “Severity”, “Social”, “Financial” and “Mortality”.

Finding and Discussion

Morbidity and mortality in elderly due to COVID-19

Global scenario: The COVID-19 pandemic has left no age group unscathed. However, its impact on the health of the elderly seems to be greater compared to other age groups.⁵ Initial study from China,⁶ and data from Italy,⁷ showed that the risk of severity of COVID-19 was higher among the elderly. This was later corroborated by figures from around the world.⁸ Center for Disease Control (CDC), China analyzed all COVID-19 cases reported through February 11, 2020, which included 72,314 patient records.⁶ The results showed that, severity of COVID-19 infection was higher among people aged 60 years and more.⁶ The case fatality rate was 3.6%, 8%

and 14.8% in populations aged 60 to 69 years, 70 to 79 years, 80 years and above respectively.⁶ Likewise, a research from Italy illustrated that among the 7587 people that died due to the disease, almost 84% were aged more than 70 years.⁷ During the peak of the epidemic in Italy, there was a rapid rise in the number of critical cases but scarcity of hospital beds and equipments.⁹ In this scenario many elderly could not get proper treatment, because they were categorized lower in the priority list versus their younger counterparts, according to criteria of maximizing benefits in terms of the number of lives saved and the number of life years saved.⁹ Another report from United States of America (USA) indicated that COVID-19 fatality was maximum in people aged 85 years or more (10% to 27%), followed by those aged 65–84 years (3% to 11%), and persons aged 55–64 years (1% to 3%). On the other hand, those aged 20–54 years had mortality rate of less than one percent and there were no deaths among teenagers.¹⁰

However, reports have shown that there is unequal distribution of the severity of the disease among the different countries around the world. The severity and fatality is relatively low in many developing countries. Despite having high number of infected people, the fatality is lower in India compared to other parts of the world.¹¹ Moreover, more than fifty percent of the dead were aged 60 years or above among which 14 % were above 75 years.¹² Similarly in Nepal, the mortality rate due to COVID-19 is comparatively very low.¹³ In Nepal, among the 45 people who had died till 25th July, 2020, nine were elderly.¹⁴

Pathophysiology: Different reasons have been implicated for the severity in the disease among the elderly. One of those causes is associated with the changes in the respiratory system, which make older age group more vulnerable to the infection.¹⁵⁻¹⁷ The respiratory transformation include: decrease in the clearance of particles from the small airway¹⁷, reduction in the quantity of cilia in the airways,¹⁵ and decrease in size of upper

respiratory tract; all of which are associated with increasing age.¹⁶ Similarly another reason may be the modification in the immune system, which causes a decrease in their capacity to fight various diseases.¹⁸ One of the factors that promote immunity is physical activity.¹⁹ WHO has recommended elderly to perform certain level of physical activity in order to maintain good health status.²⁰ However, increased age is usually associated with sedentary lifestyle,²¹ so a decrease in physical activity in old people may also play a role in increased risk of diseases in elderly. Additionally, presence of co-morbidities like hypertension, diabetes, chronic obstructive pulmonary diseases are associated with older people seems to increase the risk for severity of COVID-19 disease.²² Those who have chronic kidney disease, have cancer or those who live in long term care facilities have increased risk of death.²²

Elderly as front-line workers: According to CDC, USA, more than 100,000 health care personnel in America had tested positive for the COVID-19, and 560 had died till third week of July, 2020.²³ Many of them were in their 6th decade of life and had gotten infected while managing people suffering from COVID-19.²⁴ In Italy, more than 17,000 workers were infected with COVID-19.²⁵ A study which included 100 doctors that died in Italy showed that the median age of death was around 69 years.²⁶ In India, 104 doctors and 10 nurses have succumbed to COVID-19.²⁷ While the average age of death among doctors is 56.3 years that among nurses is 49.6 years.²⁷ Even though there is lack of documented evidence, it is feared that this may be true in many countries around the world.

Social isolation and hardship due to COVID-19

Social isolation: Social isolation is 'a state in which the individual lacks a sense of belonging socially, lacks engagement with others, has a minimal number of social contacts and they are deficient in fulfilling and quality relationships'.²⁸ Social isolation among

the elderly is a serious public health concern. Measures taken, to control the spread of COVID-19 like physical distancing, movement restriction and home quarantine for the suspects, all contributed to the increase in social isolation for all ages, especially for the elderly. Moreover, governments have advised old people to stay at home and avoid contact with other people as much as possible, in order to prevent getting infected themselves.^{29,30} As a result, they are unable to meet their family and friends. This will not only emotionally deprive the elderly, but also cause significant impact on their daily lives. Some older people may be incapable of supporting themselves in isolation and may be dependent on family for doing their daily chores. Similarly in many countries, long-term care facilities have banned or limited visits by family and friends, as a strategy to minimize the risk of spreading the virus.³¹⁻³³ This has again deprived elderly from having a sense of belonging and has caused emotional distress and feeling of loneliness. The feeling of social isolation can cause problems with physical, mental and cognitive health of individuals.³⁴ It can lead to symptoms of depression, decreased quality of sleep, cognitive decline, decreased functioning of the cardiovascular system and impaired immunity at every stage of life.³⁵ To add to this, in case of elderly, social isolation seems to increase the mortality due to all causes.³⁶ Hence during the COVID-19 pandemic many old people suffered hugely due to the loneliness and seclusion.

Financial hardship: The compulsory measures taken to protect people against COVID-19 pandemic has severely impacted economic activity globally and in 2020 it is projected that the economy will contract to a level worse than the 2008–09 financial crisis.³⁷ As a result of this, many people have lost their jobs,³⁸ some face losses in business and share investments,³⁹ and others have had difficulty in receiving pensions. For those who don't get a pension, the problem is even worse. With the extended lockdown, they have spent most of their savings on daily necessities like groceries and medicines. In lack of a steady

source of income and insufficiency of savings, many face financial crises.

A study by National Council on Aging (NCOA), estimated that the economic crisis created by the COVID-19 pandemic will lead between 1.4 and 2.1 million elderly in America into poverty, and among them, those with the least wealth will be worst hit.⁴⁰ In India, elderly constitute about 9 percent of the population and 50 percent of them are very poor.⁴¹ This current pandemic is likely to push them into financial crisis. In Nepal, 18.7 percent of the total population is already living below the poverty line.⁴² Rapid assessments of socio economic impact of covid-19 in Nepal by UN showed that elderly were among the vulnerable group that would be disproportionately affected by the pandemic.⁴²

Maintaining the dignity of elderly in time of COVID-19

Despite the various problems faced by elderly, efforts have been made to help them in this time of need. United Nations released a policy document in order to deal with the impact of COVID-19 on the elderly. It focuses mainly in four areas:⁴³

- i. Making sure that dignity and the right of elderly is considered while making difficult health-care decisions;
- ii. Strengthening social inclusion and solidarity during physical distancing;
- iii. Focusing on older people while planning socio-economic and humanitarian response to COVID-19
- iv. Expand participation by older persons, share good practices and harness knowledge and data. The implementation of these strategies will help decrease the burden of the pandemic that the old people are facing.

In USA, a recent 'CARES Act' has been enacted with a aim to urgently alleviate the financial losses faced by Americans including the elderly.³⁹ These include unemployment

benefits and payments of up to \$1,200 to individuals.³⁹ Likewise, the Canadian government announced the 'Covid-19 Economic Response Plan' according to which, elderly will get additional benefits.⁴⁴ A payment of 300 US dollars will be added to the Old Age Security pension (OAS) that they are already receiving along with an extra 200 dollars for senior citizens who get the Guaranteed Income Supplement (GIS).⁴⁴ In India, the finance ministry announced a support of 1000 rupees per month for elderly and widows, to help them financially during the lockdown.⁴⁵ Some states like Uttar Pradesh, Haryana, Chandigarh and Punjab announced relief packages for senior citizens, which would include home delivery of fruits, vegetables and other essential items.⁴¹ Similarly, Kerala government initially utilized the police force to checkup on the elderly.⁴⁶ Later on they also declared a provision of cooked food for the needy, which would be provided through community kitchens. Likewise, many charitable organizations and youth clubs have helped by providing free groceries to elderly or by lending a hand in their daily chores, while maintaining physical distancing measure. A youth group in Singapore created a mobile which pairs old people, who require assistance in getting groceries, with people in their neighborhood who can help.⁴⁷ Similarly, an initiative was started in New York, where Young generation were teaching the senior citizens about using technology in order to help them stay in touch with their families as well be able to do online shopping for necessities.⁴⁸ Likewise a group of volunteers across France and Belgium, started the 'The One Letter, One Smile' initiative where interested people can write a letter, and send it to elderly who live in retirement homes. This helps them feel less isolated.⁴⁹ In the same way, youth in Malawi have been helping the elderly by distributing materials of basic needs and personal protective equipments.⁵⁰

These activities need to be continued as a way forward with the aim to make the elderly feel secure against any risk to their wellbeing and dignity that may occur in the future.

Conclusion

The available evidences indicate that elderly people are at higher risk of serious illness and death from COVID-19, due to decreased immunity, co-morbidities, and lack of proper treatment. They face social isolation, which affects both their physical and mental health. Moreover, they also suffer economic hardship. Governments need to prioritize the needs of the elderly when planning for such disasters. Social support and solidarity between the generations, contesting discrimination against older people, protecting their right to health care and access to correct information are crucial.

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Conflict of Interest

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Author Contribution

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Reference

1. Kowal P, Dowd JE. Definition of an older person. Proposed working definition of an older person in Africa for the MDS Project. Geneva: World Health Organization; 2001. DOI | [GoogleScholar](#) | [PDF](#) | [Weblink](#)
2. Nepal Law Commission. Senior citizens act, 2063 (2006). Nepal Law Commission [internet]. 2006 Nov 24. [Weblink](#)
3. Department of Economic and Social Affairs, United Nations. World population ageing 2019. United Nations [internet]. 2020 Feb 5. [Weblink](#)
4. World Health Organization. Ageing and health. World Health Organization [internet]. 2018 Feb 5; Fact sheets. [Weblink](#)
5. Liu K, Chen Y, Lin R, Han K. Clinical features of COVID-19 in elderly patients: a comparison with young and middle-aged patients. *Infect*. 2020;80(6):e14-8. DOI | [PubMed](#) | [GoogleScholar](#) | [PDF](#) | [Weblink](#)
6. Epidemiology Working Group for NCIP Epidemic Response, Chinese Center for Disease Control and Prevention. The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) in China [Article in Chinese]. *Zhonghua Liu Xing Bing Xue Za Zhi*. 2020;41(2):145-51. DOI | [PubMed](#) | [GoogleScholar](#) | [PDF](#)
7. Abbatecola AM, Antonelli-Incalzi R. COVID-19 spiraling of frailty in older Italian patients. *J Nutr Health Aging*. 2020;24(5):453-55. DOI | [PubMed](#) | [GoogleScholar](#) | [PDF](#)
8. Kluge HH. Older people are at highest risk from COVID-19, but all must act to prevent community spread. World Health Organization [internet]. 2020 Apr 2; Coronavirus disease (COVID-19) outbreak, Statement. [Weblink](#)
9. Beall A. The heart-wrenching choice of who lives and dies: Shortages of equipment, beds and staff means doctors have a dreadful decision to make in the midst of the current pandemic. British Broadcasting Corporation [internet]. 2020 Apr 29; Health. [Weblink](#)
10. Covid C, Team. Severe outcomes among patients with Coronavirus disease 2019 (COVID-19)—United States, February 12-March 16, 2020. *Morbidity and Mortality Weekly Report*. 2020;69(12):343-6. DOI | [Weblink](#)
11. Times of India. 10% of India's population above 60 accounts for 50% of Covid deaths. Times of India [internet]. 2020 Jun 3. [Weblink](#)
12. Kaul R. 85% Covid-19 deaths in 45-plus age bracket: Govt data. *Hindustan Times* [internet]. 2020 Jul 10; India News. [Weblink](#)
13. World Health Organization. WHO Nepal situation updates on COVID-19: Situation update #3. World Health Organization [internet]. 2020 Jul 29. [PDF](#) | [Weblink](#)
14. Paudel K. कोरोना भाइरस देखिएको ६ महिना, यी हुन् नेपालमा मृत्यु भएका ४५ संक्रमित [Six months of COVID-19, these are the 45 people who died in Nepal] [internet]. 2020 Jul 25. [Weblink](#)
15. Levitzky MG. Effects of aging on the respiratory system. *Physiologist*. 1984;27(2):102-7. [PubMed](#) | [GoogleScholar](#) | [PDF](#)
16. Martin S, Mathur R, Marshall I, Douglas NJ. The effect of age, sex, obesity and posture on upper airway size. *Eur Respir J*. 1997;10(9):2087-90. DOI | [PubMed](#) | [GoogleScholar](#) | [PDF](#)
17. Svartengren M, Falk R, Philipson K. Long-term clearance from small airways decreases with

- age. *Eur Respir J.* 2005;26(4):609-15. DOI | [Pubmed](#) | [GoogleScholar](#) | [PDF](#) | [Weblink](#)
18. Weyand CM, Goronzy JJ. Aging of the immune system. Mechanisms and therapeutic targets. *Ann Am Thorac Soc.* 2016;13(Suppl 5):S422-8. DOI | [PubMed](#) | [GoogleScholar](#) | [PDF](#)
 19. Nieman DC, Wentz LM. The compelling link between physical activity and the body's defense system. *J Sport Health Sci.* 2019;8(3):201-17. DOI | [PubMed](#) | [GoogleScholar](#) | [PDF](#)
 20. World Health Organization. Physical activity and older adults: Recommended levels of physical activity for adults aged 65 and above. World Health Organization [internet]. 2011; Global Strategy on Diet, Physical Activity and Health. [Weblink](#)
 21. Milanović Z, Pantelić S, Trajković N, Sporiš G, Kostić R, James N. Age-related decrease in physical activity and functional fitness among elderly men and women. *Clin Interv Aging.* 2013;8:549-56. DOI | [PubMed](#) | [GoogleScholar](#) | [PDF](#)
 22. Guan Wj, Liang WH, Zhao Y, Liang HR, Chen ZS, Li YM, et al. Comorbidity and its impact on 1590 patients with Covid-19 in China: a nationwide analysis. *Eur Respir J.* 2020;55(5):2000547. DOI | [PubMed](#) | [GoogleScholar](#) | [PDF](#)
 23. Center for Disease Control and Prevention. Cases and deaths among healthcare personnel. CDC COVID Data Tracker. Center for Disease Control and Prevention [internet]; 2020 Jul. [Weblink](#)
 24. Babb K, Shammass B, Cha AE. Fallen on the front lines: Hundreds of health-care workers lost their lives battling the corona virus. *The Washington Post* [Internet]. 2020 Jun 17. [Weblink](#)
 25. Reuters. Nearly 17,000 Italian health workers infected with virus: study. *The Straits Time* [internet]. 2020 Apr 18. [Weblink](#)
 26. Fusaroli P, Balena S, Lisotti A. On the death of 100+ Italian doctors from COVID-19. *Infection.* 2020. DOI | [GoogleScholar](#) | [PDF](#) | [Weblink](#)
 27. Perappadan BS. Coronavirus | COVID-19 claims the lives of 104 doctors across the country. *The Hindu* [internet]. 2020 Jul 20; News: National. [Weblink](#)
 28. Nicholson NR Jr. Social isolation in older adults: an evolutionary concept analysis. *J Adv Nurs.* 2009;65(6):1342-52. DOI | [PubMed](#) | [GoogleScholar](#)
 29. Department of Health, Australian Government. Corona virus (COVID-19) advice for older people. Commonwealth of Australia, Department of Health [internet]. 2020 Sep 3. [Weblink](#)
 30. Center for Disease Control and Prevention, USA. Older adults. Center for Disease Control and Prevention [internet]. 2020 Aug 16; Your health. [Weblink](#)
 31. Alberta Health Services. Family support and visitation of patients & residents: novel Corona virus (COVID-19). Alberta Health Services [internet]. 2020 Aug 12. [Weblink](#)
 32. State Government of Victoria, Australia. Visiting care facilities. Department of Health and Human Services, State Government of Victoria, Australia [internet]. 2020 Jul 22. [Weblink](#)
 33. Karlawish J, Grabowski DC, Hoffman AK. Continued bans on nursing home visitors are unhealthy and unethical. *The Washington Post* [internet]. 2020 July 13; Opinion. [Weblink](#)
 34. Novotney A. The risks of social isolation. American Psychological Association [Internet]. 2019. [Weblink](#)
 35. Hawkey LC, Capitano JP. Perceived social isolation, evolutionary fitness, and health outcomes: a lifespan approach. *Philosophical Transactions B.* 2015;370(1669):20140114. DOI | [PubMed](#) | [GoogleScholar](#) | [PDF](#)
 36. Newall NE, Chipperfield JG, Bailis DS, Stewart TL. Consequences of loneliness on physical activity and mortality in older adults and the power of positive emotions. *Health Psychology.* 2013;32(8):921. [PubMed](#) | DOI | [GoogleScholar](#)
 37. International Monetary Fund. World economic outlook, April 2020: The great lockdown: Chapter 1: Global prospects and policies. International Monetary Fund [internet]; 2020 Apr. [Weblink](#)
 38. Derbyshire J. Elderly people are among the most physically and financially vulnerable to COVID-19, but their needs are too often ignored. *Help Age International* [internet]. 2020 May 14. [Weblink](#)
 39. Neuman T, Koma W. Retirement Insecurity in the Time of COVID-19: The next shoe to drop? *Kaiser Family Foundation* [internet]. 2020 Apr 24. [Weblink](#)
 40. Cohen MA, Tavares JL, Silberman S, Popham L. Economic Insecurity for Older Adults in the Presence of the COVID-19 Pandemic. *National Council on Aging* [internet]. 2020 Apr 16. [Weblink](#)
 41. Aravind I. Covid-19: Why social distancing is a big worry for senior citizens. *The Economic Times* [internet]. 2020 Mar 29. [Weblink](#)
 42. United Nations. Rapid assessments of socio-economic impact of covid-19 in Nepal

- Kathmandu. United Nation [internet]. 2020. [PDF](#)
43. United Nations. Policy Brief: The Impact of COVID-19 on older persons. United Nations [internet]. 2020. [PDF](#)
44. Pinkerton C. Federal government giving seniors one-time payment up to \$500 to help with COVID-19 costs. iPolitics [internet]. 2020 May 12; News. [Weblink](#)
45. India Today. Corona virus: FM Sitharaman announces package worth Rs 1, 70,000 crores for poor, daily wagers. India Today [internet]. 2020 Mar 26. [Weblink](#)
46. Raghunath A. Kerala police and other government agencies reaching out to the elderly amid lockdown. Deccan Herald [internet]. 2020 Mar 24. [Weblink](#)
47. Lock C. Covid-19 community heroes: youth code app to assist seniors with groceries. Strait Times [internet]. 2020 Jul 26. [Weblink](#)
48. Shirvell B. Teens are helping seniors stay connected during the Corona virus pandemic. Teen Vogue [internet]. 2020 Apr 1. [Weblink](#)
49. Euronews. Young people sending isolated elderly letters of hope and love amid coronavirus crisis. Euronews [internet]. 2020 Apr 6. [Weblink](#)
50. Mizere J. Malawi youths engage in helping elderly amid COVID-19 [internet]. Xinhua Net. 2020 Jul 21. [Weblink](#)