Covid-19 Impacts on Elderly with Disability

Priya S Dev^{1*}, J.O. Jeryda Gnanajane Eljo²

¹Ph.D. Research Scholar, Department of Social Work, Bharathidasan University, Kajamalai Campus, Tiruchirappalli ²Associate Professor, Department of Social Work, Bharathidasan University, Kajamalai Campus, Tiruchirappalli

Abstract

Covid 19 pandemic created a high mortality risk among the elderly population, and it also affected more in the case of elderly with disabilities and elderly people those who have pre-existing comorbidities. The studies conducted worldwide have ingeminate the high risk for medical aid and increased cases of death rates in the national level in various countries that are dealing with Covid 19 pandemic. One of the shocking news is that 86% of all death among the elderly population have been reported in two countries, namely Colombia and Chile. In the case of Peru, 70 percent of the death which was reported due to Covid 19 was among elderly people. In this study, the author highlights the impacts of Covid 19 among the elderly with a disability, especially concentrating on their mental health aspects. The world is made up of work pressure, stressful life situations, and family responsibilities creating difficulties in taking care of elderly people with disabilities. During the Covid 19 pandemic, elderly people with disabilities faced a lot of changes in their life situations, especially the care and support they received and problems associated with the satisfaction of basic needs. The elderly with disability represent a chosen cluster of high-hazard issues for the growing Covid-19 with a greater chance of impairment. So, among older people with disabilities, mental health issues are also higher than in other age groups. Early prediction and personalized care and management must be provided to the elderly with disabilities.

Keywords: Covid-19, Elderly with Disability, Mental Health, Pandemic.

Introduction

The entire universe has faced a serious Covid-19 malady since November 2019. The Nonavailability of vaccination makes the infection to spread rapidly within the country and between countries. A recent study has highlighted the adverse impact of Covid-19 on the mental state with depressive and anxious symptomatology from moderate to severe among old age people [1]. In this situation, one of the most crucial aspects is that there is lack of consideration towards older person opinion, their viewpoints, and their needs and wants, even though they are the most vulnerable and highly affected with the covid-19 pandemic. This pandemic is inflicting much pain and suffering for older persons across the world. Besides, there is a lack of concern among people regarding the sufferings of older persons during the pandemic situation, and there are enormous challenges faced by older persons due to the necessity to be there at home, failure to contact relatives, family members, friends and those who are close to them. It also results in taking a temporary break in job and other related activities; as a result, they will be more tensed and depressed in their personal life. It is consequently vital that we create possibilities to foster healthy aging during this pandemic.

In the time of April 26th, 2020, the Corona virus has already taken 193,710 lives of the

elderly population. There for societies need to take care of the old age population by undertaking multiple roles like caregivers, volunteers, and community leaders. By and large, women tend to shoulder the burden of caring for older persons as their primary or secondary caregivers. We need to acknowledge the vital contribution of older persons to the crisis response, as well as physicians and caregivers. The State, Public and Private sector industries, International Organizations, communities, friends, and family - got to intensify efforts to support older persons. Furthermore, older persons who live alone realize themselves unprotected because of the shortage of social support within the given situation. Out of a total of 86% of the older person population, roughly 29% of older persons are residing in urban areas. One million older adults are facing financial issues and are troubled by monetary insecurities, nonavailability of essential groceries, unavailability of technology, and lack of socialization resources [2]. A study estimates that 6% of older persons live alone in an Asian country. Further, 10%–20% of them are enduring mental desolation and loneliness.

Older Persons: At-risk Population

Aging comes with innumerable psychosocial and environmental weaknesses. Frailty in older adults brings with it the risk of assorted infections and reduces the nature of the response. Additionally, older persons have multiple comorbidities and redoubled hospitalizations that increase the prospect of getting the infection throughout the spread of a virulent disease. During a comparison of Covid19-induced respiratory disease among young aged and older patients,[3] found that the progression of ill health and risk of death is 3 times higher among older people. In another review, one of the challenges in the Covid19 the nonspecific pandemic was organ involvement among older persons as several have died. Besides, older people may need psychological support and specific interventions for sensory deficits. Several of them are institutionalized, exposing them to the chance of overcrowding, poor hygiene, and lack of adequate oversight. Correct testing is additionally hampered because of neglect, which will increase the chance of them being asymptomatic carriers.

As we get older, our chance of extreme transmission from Covid-19 will increase. Those who are at the age of sixty or older may have a higher chance of getting affected. These are all different elements that could increase the chance for extreme transmission, inclusive of having underlying clinical situations.

Age and Ageism; Its Vulnerability

The Syndrome like Severe Acute Respiratory Syndrome (SARS) CoV-2 is more than infectious with an associate degree of redoubled human-human transmission [3]. Throughout the primary wave of the occurrence in China, 20% of deaths were higher than the older persons having 60 and above [4].

The Chinese Centre for Disease Management found out that the mortality among 60–69 years previously was around 3.6 percent, which will increase to 18% among persons above eighty years of age [3]. Particularly, social distancing that is practiced throughout the pandemic situations. This will lead to additional problems among the institutionalized older persons. The social distancing and measures for hygiene will not be adequate in those places.

Covid-19 and Older Persons

The Coronavirus pandemic has crippled the population in all dimensions, especially the financial system, and affected the day-to-day life of billions. Started in Wuhan, China, and within a month, it is declared as a 'public health emergency of global concern'. After that, it is declared as an epidemic, and more than 3 million people are getting affected, and around 1.5 lakh people are deceased due to this pandemic, thereafter a countrywide locked down announced to prevent the further spread [5]. In many places, the declaration of lockdown came in a sudden way, so that it resulted in increasing psycho-social problems. Fear, worry, and strain are regular responses to perceived or actual threats, especially during instances while we are confronted with uncertainty or the unknown. So, it's far regular comprehensible that humans and are experiencing worry within the context of the Covid-19 pandemic.

Added to the concern of contracting the virus in an epidemic together with Covid-19 are the extensive adjustments to our everyday lives as our actions are supposed to impact the efforts to control and bring down the spread of the virus. Faced with new realities of operating from home, transient unemployment, home-training of children, and absence of bodily touch with own circle of relatives, individuals, buddies, and colleagues, it is crucial to take care of the mental health, in addition to our physical health.

The Covid-19 Pandemic Impact on Older Persons Globally

The consequence of the coronavirus outbreak is affected in a variety of ways in worldwide population. The older population are at a vital risk of developing severe health problems. The novel Coronavirus disease (Covid-19) caused by SARS-CoV-2 has unfolded quickly. By April twenty-sixth, 2020, 193.710 deaths worldwide had been reported by the World Health Organization (WHO), and Covid-19 had emerged as a large-scale pandemic. Proof suggests that advanced age is the most vital predictor for increasing the mortality rate [6].

Pandemics have a vital psycho-social impact. Ill health, anxiety, panic, adjustment disorders, depression, chronic stress, and sleep disorder are the key offshoots. Information and uncertainty lead to frenzy. Among them, older persons are particularly vulnerable. Up to now,

there is only one paper focusing on older persons' mental states during these times. It mentions the social isolation of older persons as a "serious public health concern" because of their bio-psycho-social vulnerabilities. Social distancing, although a serious strategy to fight Covid 19, is additionally a serious reason behind loneliness (significantly in settings like nursing care or old-age homes), which is associated with risk for depression, anxiety disorders, and suicide. Social connectedness is significant throughout the general public health breakdown. Therefore, once "ageism" becomes an element for branding this marginalized This results in neglect and population. therapeutic nihilism. Older persons do not seem to be comfortable with android phones or the media language, making it difficult for them to understand and take necessary precautions for a virulent disease.

Cognitive impairment and issues like wandering, irritability, and psychotic symptoms will worsen the panic and make it more troublesome for them to follow the precautions of distancing and hand hygiene. While detailing this fact, people with mental health disorders (including older persons) are additionally vulnerable and are at risk of exacerbation during such a crisis. Discrimination and lack of healthcare utilization are different factors conducive to poor care throughout the Covid-19 occurrence. The substantial stress generated by "information overload" may cause psychosis and healthcare-related mistrust, which could lead them to avoid quarantine, having direct public health consequences [7].

Mental health is the cornerstone of public health, therefore, within geriatric care. It becomes important to take care of the mental health of older persons. Lessons learned from earlier pandemics like severe, acute respiratory syndrome have established that regular telecom sessions, healthy contact with family, relevant and updated data, caring for the final medical and psychological desires, and respecting the worth and dignity of older persons are vital parts of mental healthcare within geriatric care.

This warrants sensitization at all levels for early detection of mental health issues and arrangement of acceptable interventions, particularly for the vulnerable old age population.

Gender Differences and Associated Problems in Aged Covid-19 Sufferers

In addition to a better susceptibility because of aging, epidemiological research discovered gender-specific variations in the prevalence and mortality in people after SARS-CoV and SARS-CoV2 disease, with men experiencing better mortality as compared with females. Interestingly, this gender difference in disease severity after pathogenic Covid-19 virus disease is greater stated with advancing age [8]. Indeed, it recently, confirmed that older people may easily get affected with severe issues and morbidity due to Covid-19. While women and men have identical susceptibility to Covid-19, male sufferers can be greater susceptible to death, indifferent to age [9].

Mental Health and Resilience during the Covid-19 Pandemic

As the Coronavirus (Covid-19) pandemic extends throughout the country, it is inflicting enormous fear, worry, and strain, all of that is regular reactions to the unsure scenario that everybody has found himself or herself in [10].

On an advantageous note, there are numerous matters that older people face themselves or with the help of caregivers, if needed, to maintain their mental health at this time. Maintaining social connections is likewise crucial. Some older persons can be assigned virtual tasks, and through that, they can engage themselves and others. Once again, the mental health and psycho-social help and different supports that might apply to these people should continue to be enhanced at this time [11].

Regarding older people and people with underlying health conditions, having been recognized as greater susceptible to Covid-19, and to be advised that they are very vulnerable, maybe extraordinarily horrified and worried. The mental effects for those populations can consist of tension and feeling tired or angry [12]. Its effects may be mainly hard for older individuals who may be experiencing cognitive decline or dementia. Besides, few older persons can also be more socially remote and experience loneliness that may lead to mental health issues. WHO takes the effect of the disaster on humans' mental health very critically and is tracking the scenario collectively with countrywide authorities whilst presenting, recording, and providing press releases to governments and the general public.

Mental Health and Well-being; Its Impact

The doubtfulness and anxiety of the coronavirus may affect older persons if they are more prone to vulnerabilities. The worry of dying is added to the existential worry of leaving their loved ones. The long-standing consequence of the quarantine predominantly leads to loneliness and psycho-social problems. Preliminary studies to date have proven an increase in the development of depressive disorders, Post Traumatic Stress Disorder (PTSD), and associated adjust-mental problems at the old age population [13]. Older people with low immunity levels may easily get affected by the Covid-19 pandemic. In reports related to older persons, it is noted that the signs and symptoms of the psychiatric disorder have been found in them at some stage in the Covid-19 pandemic [14]. This ends in underdetection of signs and symptoms, defective remedy, and increased incidence of them being asymptomatic providers. All those elements may have a universally destructive impact on public health because the aged can be vulnerable to the 'hidden pockets' of spreading the disease. Many of the older persons are residing alone, wherein basic residing services are everyday trouble because of the loss of shift alternatives and insufficient home assistance at some stage of the pandemic situation. [15]. Many older people may increase problems due to the absence of inmates due to social distancing. This can prevent autonomy and selfdignity, which might be crucial in resilience for any age group.

The Mental Health Center suggests increased reviews of abuse and neglect faced by older persons during the pandemic situations. This may adversely affect the well-being of older people, and it controls their mobility, always shows dependency, and have destructive consequences on their self-reliance and mental health.

Methods & Materials

Aim of the Study

The major aim of the study is to analyses and showcase the impacts of Covid-19 among the Elderly with Disabilities.

The elderly with disability represent a chosen cluster of high-hazard issues for the growing Covid-19 with a greater chance of impairment. So, the study highlights 1.8. the psycho-social and health issues due to Covid 19 among older people with disabilities are higher than in other age groups. This study helps to provide the importance of Early prediction and personalized care and management among the elderly with disabilities.

Materials and Methods

The articles published in the leading social science journals are being reviewed in this study. The study is mainly focusing on the impacts of Covid-19 on the Elderly with Disabilities. The article selection is strictly restricted to the studies published in English and is available in full text.

The studies conducted in different countries were included, and PubMed, Research gate, Mendely, Web of Science and Science Direct are the electronic databases used for the study. The studies published from 2010 to 2020 were selected for review. For the review purpose, the authors selected most of the latest reviews related to Covid-19.

Search Strategy

The strategy used to find out the articles is mainly to search electronic databases such as. PubMed, Research gate, Mendeley, Web of Science, Science Direct, and Cochrane database of systematic reviews.

Results

Review and Studies Generated

The preliminary search had a result of 1259 published papers in the search engine. And then, the researcher divided the publications based on the year of publication. 122 articles were found in the category "published between 2010-2022". Out of the selected articles, thirty articles with a major emphasis on Menstrual Hygiene Management among adolescent girls. (Ref.Fig.1) were selected for review.

Impact of Covid 19 Pandemic among the Elderly with Disability

The health of everyone during this pandemic has been a misplaced recognition for human lives. Besides this chaos, several people are there with our households to combat it together. In one of the famous quotes - "prevention is better than cure," is the answer in hand and is mainly critical for older individuals of our society. The aged have an extra risk of Covid-19, and people with pre-current issues are all also at a great risk of vulnerability. This pandemic poses an extra task in looking after them, and with the on-going lockdown, it turns into a greater risk for the older persons who stay alone. Wherever we are, we can assist them and reassure them that they are now no longer by themselves. Here are some methods to aid them and help them to feel that they are secure:

Social Engagement can Show Up with Social Distance

Older persons could be lacking out on their walks, chats, classes, and night tea talks for the duration of this time. This will be a large hassle for them, as it is far from each day's routine. Teach them to interact through social media and, set up online social groups, and chat classes and provide awareness regarding the classes related to exercises or even religious lessons for them.

Build Physical Immunity with Mental Health

The pandemic may be one of the major causes related to mental health issues among many of older persons, and the older persons who stay alone will worry more than those who are staying with their family members or caregivers. Talk to them and connect to them to check if they are fine. Their mental well-being is what is going to maintain them going during this time.

Also, older persons would possibly find it tough to contact their medical doctors for everyday check-ups. Get them in contact with physicians online or lead them to talk to medical doctors so that they may be positive in their health conditions.

Offer a Helping Hand

It is not always secure for everybody to step outside, and for older persons, it is a tough task. Offer them to get groceries, medicines, and vital items. Teach them how to do online shopping so that they do not need to depend on others for the same. It is good to make sure that they live independently and securely.

Practice the Use of Protection Measures

Make sure they are aware about what all measures need to take while going outside. Create awareness among them suitably about the signs and symptoms of the Covid-19 pandemic along with the prevention strategies and treatment procedures of the same. Speak to them clearly about the significance of the lockdown and social distancing.

Stay in Touch

The older persons who stay alone may face many problems during this lockdown. So, we must maintain well-timed updates for them and communicate to them about how they must face quarantine and social distancing. If they are far from their circle of relatives and friends and find it hard to maintain their households, monitor them accordingly. Those who want a caretaker can seek assistance from others during this time. These may be a few methods to support older persons during this pandemic, and this assistance may help them feel that they are a precious part of our lives and societies [18].

Caring for the Aged: Strategies and Ways Forward

Families and caregivers want to be holistically concerned with the care of the aged, and they also must take care of the mental health aspect of older persons. Stakeholders and policymakers in any stage want to take collective duties and responsibilities to Knowledge-Attitude-Practice (KAP) related to aged mental healthcare during the pandemic situation.

It is understood that older people with mental disorders are greater susceptible to the Covid-19 pandemic, and the results of Covid-19 cause them to give up their lives. The anxiety related to Covid-19 among older persons starts from misleading information through channels and social media. Recently, Rapid Serial Visual Processing (RSVPs) related to mental health confirmed that this might lead to unfavorable consequences in the mental health of the aged. Here it performed the evaluation and observed a correlation between each day's Covid-19 deaths in India and the subsequent keywords: "depression," "anxiety", "insomnia", and "suicide". The RSV facts had were collected on 25th of March to 16th Mav 2020, the Pearson correlation coefficient observed a big high-quality correlation among each day Covid-19 deaths and the RSVPs for "depression".

During this pandemic situation, older persons need to depend on social media for many purposes, and they want to know how to use it effectively. The aged and retired now and then want a supporting hand, and also, they regularly want to have people around them. When India announced a nationwide lockdown and social distancing older persons may be feeling extra burdened by themselves than usual.

There are numerous reasons why the aged are relatively vulnerable and why they are facing overburden during the pandemic situation while compared with younger adults. It is because the low immunity power makes it tough to combat diseases, infections, and viruses. As a result, recoveries are normally slower and extra complicated.

Most people are concerned about their old loved ones and about preventing the spread of Covid-19; they try to maintain social distance from them. Then, the older persons may face tension because they stay alone, and one of the other problems they may feel associated with this situation is financial instability - no longer can they take public transport, so their ordinary health check-ups are delayed. They can also have unidentified or poorly controlled despair. For tens of thousands of aged people, Covid-19 has doubled their already-persisting issues. The chance for an extreme increase in the number of affected persons due to Covid-19 will increase with age; older adults may have the maximum chance of getting affected. So, the elderly with Covid-19 may also require hospitalization, extensive care, or a ventilator to assist them in breathing, or even their lives might be at risk. (Center for Disease Control and Prevention -16th Aug 20)



Figure 1. Source: Center for Disease Control and Prevention - 16th Aug, 20

Discussion

The on-going Covid-19 disaster and lockdown-associated rules and regulations have pressured a maximum number of older persons to stay in isolation, with the lifestyle of 69% of them affected adversely at some point in the current scenario [16]. An online survey was

performed in the first weeks of June on over 5000 aged respondents in the country. According to the document, 71% of aged respondents stated that instances of elder abuse have expanded at some point in the lockdown period. Among them, 58% claimed that interpersonal relationships became the primary thing chargeable for increasing the prevalence of elder abuse in households. The most strange way of elder abuse have been ascertained to be showing disrespectful mannerisms and abusing them verbally, implying treatment, disregard towards their needs, refusing the proper meals, refusing clinical guidance, cheating, bodily and emotional violence, and forcing them to be silent sufferers. It has been found that, because of the Coronavirus, a fearful environment has been created around older persons. Today, people hesitate to return to their very own aged circle of relatives.

Older persons are not convenient to deal with social rules and regulations; however, additionally, regulations by their own circle of relatives have been imposed through their very own respective households. Older persons are not capable of visiting their doctors and are not capable of engaging and presenting their issues before their pals or relatives. All this has affected the lifestyles of older persons, and it has also affected their health adversely. Today, the maximum number of older people are going through a completely stressful situation in their lives. During the Coronavirus threat, the affected aged want to be confident of all viable assistance and support. Their kids and their own circle of relatives need to be aware of how to treat them adequately.

Suggestions

Providing domestic assistance to older adults may help them to undertake the necessary prevention strategies during the pandemic situation [17].

Given below are the measures that may be appropriate to ensure the mental wellness of older people are:

- 1. Assure the preventive measures as suggested by WHO that is, social distancing, hand hygiene, and breathing hygiene, are good enough
- 2. Social relationship with their family member, friends, and loved ones is important for social integration.

- 3. Providing good emotional guidance is critical to the ones dwelling by themselves
- 4. Ensuring the older people's wants and desires in lockdown conditions.
- 5. Provide crystal clear clarification for the queries addressed by older people during the pandemic situation.
- 6. Partnerships with Public-personal aspects may assist them in getting admission for completing simple necessities at some point during the lockdown.
- Tele-centers for health care consultations may help them to get updated with Covid-19 related news. That decreases bodily health dangers and reduces worry.

Following are the initiatives that can be undertaken by Social Workers

- 1. Coordinating among multiple professionals who can work for common goals within a senior community.
- 2. Facilitating paperwork for senior citizens to access government schemes.
- 3. Counselling family members to promote active aging for the senior citizens in their families.
- 4. Provide individual, group, and community interventions for enhancing the elderly people through Casework, Group work, and Community Organization.
- 5. Ensure mobile services for the old age people to assess their medicines, pension, ration, etc.
- 6. Ensure whether person-centered health and well-being outcomes are achieved by the older persons through collaborating and engaging with appropriate formal and informal support systems and evaluate its effectiveness.

Digital display time is reduced, so we can save older persons from incorrect information and panic. They want to be up to date about the Covid-19 scenario and need to know the important measures in an applicable manner. Vivid facts and needless records are to be averted.

Those in daycare or old-age houses would unique possibly want care. Preventing overcrowding, encouraging bodily activity, improving their circle of relatives guide, and making sure nutrients are critical for their average wellness is important. Abuse may be expanded in such conditions and must be averted and recognized at the earliest. The wider populace and physicians alike are lamentably regularly disregarded among different priorities at some point of a pandemic.

Helpline facilities for older people are established in a diverse international locations, each for telephonic counseling in addition to meals or critical deliveries at domestic. The aged would possibly have specific necessities in of technology handling, phrases verbal exchange, and accessibility that want to be stored in thoughts. One of the important responsibilities which the caregiver or the family members need to undertake is that they have to fulfill the desires of the highly sensitive older people, those who have psychological, social, or neurological problems. Suicide prevention can be adopted by using the 'gatekeeper awareness' technique needs to be the pinnacle priority.

Conclusion

Self-reliance, apprehension, and self-esteem to be preserved for the older populace, in particular at some point during the quarantined Covid-19 scenario. The older persons are probably frail because of age; however, they may be sincerely no longer weak now. Their resilience may be noteworthy if correctly cared for. It is a crucial time that the pandemicassociated guidelines and laws in diverse international locations are made extra older persons-friendly. The WHO and the Centre for Disease Control and Prevention (CDC) have

up-to-date facts associated with geriatric care at some point in the Covid-19 pandemic. Besides the problems associated in older persons' bodily health burden, their psychological, as well as social desires are very much critical to be considered for the survival of their own well-being. We know that this is only the starting time of the pandemic situation, and the experts are predicting that within the postpandemic months, there will be a tremendous increase in mental health issues, and probably most of those who are going to get affected will be the old age population. Here what older people can do is they must be ready with the preparedness strategies to cope with this situation. While combining them into a whole, the unique Covid-19 outbreak can aid us in researching from their desire and understanding for a higher post-pandemic situation.

Conflict of Interest

For your kind reference, the First Author Ms. Priya. S. Dev is pursuing a Ph.D in the Department of Social Work, Bharathidasan University, Tiruchirappalli, and she has been awarded a Centrally Administered Doctoral Fellowship by the Indian Council of Social Science Research (ICSSR) for a period of Two years.

Acknowledgement

Priya.S.Dev, is a recipient of the Indian Council of Social Science Research Doctoral Fellowship. Her article is largely an outcome of her doctoral work sponsored by ICSSR. However, the responsibility for the facts stated, opinions expressed, and the conclusions drawn is entirely that of the author.

A special word of thanks to the Indian Council of Social Science Research (ICSSR) for the immense support and assistance.

References

[1]. Wang G, Jin X (2020) The progress of 2019 novel coronavirus event in China. *J Med Virol*. 10.1002/jmv.25705.

[2]. Cohen-Mansfield, J., Hazan, H., Lerman, Y. and Shalom, V. (2016). Correlates and predictors of loneliness in older adults: a review of quantitative results informed by qualitative insights. *International Psychogeriatrics*, 28, 557–576.

[3]. Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y et al. (2020) Early transmission dynamics in Wuhan, China, of novel coronavirus-infected pneumonia. *New Engl J Med.* 10.1056/NEJMoa2001316.

[4]. Wu Z, McGoogan JM. Characteristics of and Important Lessons from the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72 314 Cases from the Chinese Center for Disease Control and Prevention. JAMA 2020.

[5]. World Health Organization. coronavirus disease2019 (Covid-19) situation report—97. Geneva:World Health Organization; 2020.

[6]. World Health Organization. Modes of transmission of the virus causing Covid-19: implications for IPC precaution recommendations. Geneva: World Health Organization; 2020. pp. 10–12.

[7]. The Indian Express. (2020). older person man in coronavirus isolation ward commits suicide in Ariyalur General Hospital [Online]. Available at: https://www.newindianexpress.com/states/tamil-

nadu/2020/apr/10/older persons-man-in-corona virus-isolation-ward-commits-suicide-in-ariyalur-

general-hospital-2128486.html; last accessed 7 May 2020.

[8]. Palmieri L, Andrianou X, Barbariol P et al (2020) Characteristics of SARS-CoV-2 patients dying in Italy report based on available data on April 16th, 2020.

[9]. Jin, Z., Du, X., Xu, Y. et al. Structure of M-pro from SARS-CoV-2 and discovery of its inhibitors. *Nature* 582, 289–293 (2020).

[10]. Meo SA, Alhowikan AM, al-Khlaiwi T, et al. Novel coronavirus 2019-CoV: prevalence, biological and clinical characteristics comparison with SARS-CoV and MERS-CoV. *Eur Rev Med Pharmacol Sci.* 2020; 24(4): 2012- 2019. [11]. Wu P, Fang Y, Guan Z, et al. The psychological impact of the SARS epidemic on hospital employees in China: exposure, risk perception, and altruistic acceptance of risk. *Can J Psychiatry*. 2009; 54(5): 302-311.

[12]. Flint, A.J., Bingham, K.S., and Iaboni, A.(2020). Effect of Covid-19 on the mental health care of older people in Canada. *International Psychogeriatrics*. DOI:

10.1017/S104161022000070.

[13]. Debanjan Banerjee (2020). The impact of the Covid-19 pandemic on elderly mental health. *Geriatric Psychiatry*. DOI: 10.1002/gps.5320.

[14]. Richard Armitage, Laura B Nellums (2020). Covid-19 and the consequences of isolating the elderly. *Lancet Public Health*. 2020 May;5(5): e256. doi: 10.1016/S2468-2667(20)30061-X.

[15]. Rukuye Aylaz, Ümmühan Aktürk, Behice Erci, Hatice Öztürk, Hakime Aslan (2012). *Arch Gerontol Geriatr*. 2012 Nov-Dec;55(3): 548-54. doi: 10.1016/j.archger.2012.03.006. Epub 2012 Apr 8.

[16]. Agewell Foundation, (2020). Covid 19 pandemic worsened the situation of elderly in India: Report. Updated: 13 Jun 2020, https://www.livemint.com/news/india/covid-19-pandemic-worsened-situation-of-elderly-in-india-

report-11592058368573.html.

[17]. Flint, A.J., Bingham, K.S., and Iaboni, A.
(2020). Effect of Covid-19 on the mental health care of older people in Canada. *International Psychogeriatrics*. DOI: 10.1017/S104161022000070
[18]. Hindustan Times. (2020). Covid fears: older person couple ends life in Amritsar [Online]. Available at:

https://www.hindustantimes.com/cities/covid-fearolder persons-couple-ends-life-in-amritsar/story-6jdldsvs4NIIvpPRo71HbJ.html; last accessed 5 May 2020.

[19]. The Tribune. (2020). Anxiety over Covid-19 leads to Phagwara woman's suicide [Online]. https://www.tribuneindia.com/news/punjab/anxiety-over-Covid-19-leads-to-phagwara-womans-suicide-66466; last accessed 7 May 2020.

[20]. Masters PS. The molecular biology of corona viruses. *Adv Virus Res.* 2006; 66: 193–292.

[21]. Kang S, Peng W, Zhu Y, et al. Recent progress in understanding 2019 novel coronavirus (SARS-CoV-2) associated with human respiratory disease: detection, mechanisms, and treatment. *Int J Antimicrob Agents*. 2020;55(5):105950. DOI: 10.1016/j.ijantimicag.2020.105950.

[22]. Gorbalenya AE, Baker SC, Baric RS, et al. The species severe acute respiratory syndromerelated coronavirus: classifying 2019-nCoV and naming it SARS-CoV-2. *Nat Microbiol*. 2020; 5:536–544.

[23]. Xu Y, Li X, Zhu B, et al. Characteristics of pediatric SARS-CoV-2 infection and potential evidence for persistent fecal viral shedding. *Nat Med.* 2020; 26: 502–505.

[24]. Hindson J. Covid-19: fecal-oral transmission? *Nat Rev Gastroenterol Hepatol.* 2020; 17: 259.

[25]. Nishiura H, Kobayashi T, Suzuki A, et al. Estimation of the asymptomatic ratio of novel coronavirus infections (Covid-19).

[26]. Libertini G, Corbi G, Cellurale M, et al. Agerelated dysfunctions: evidence and relationship with some risk factors and protective drugs. *Biochemistry* (*Mosc*). 2019; 84:1442–1450.

[27]. Lionakis N, Mendrinos D, Sanidas E, et al. Hypertension in the older persons. *World J Cardiol*. 2012; 4: 135–147.

[28]. Suastika K, Dwipayana P, Ratna Saraswati IM, et al. Relationship between age and metabolic disorders in the population of Bali. *J Clin Gerontol*. 2011; 2: 47–52.

[29]. Moher D, Liberati A, Tetzlaff J, et al. Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *PLoS Med.* 2009; 6: e1000097.