Lived Experiences of Older Adults in the **COVID-19 Pandemic in a Teaching Hospital in** Ghana

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Abstract

Aim: The study sought to assess the impact or lived experiences of COVID-19 pandemic on older adults in the midst of the COVID-19 pandemic in a Teaching Hospital in Ghana.

Methods: The study employed an explorative qualitative research design where older adults were purposively identified and recruited to partake in in-depth interviews from April to June 2021. They were located in the hospital environment where they came for review or physician attention. 10 out of 20 of these population were successfully used as saturation was reached and data was analyzed thematically.

Result: The results of the study showed that a considerable number of older adults who receive care from the Hospital were knowledgeable of COVID-19 and demonstrated a positive attitude towards it by being sensitive to the appropriate preventive measures. Almost all the participants had heard of COVID-19, knew what it was, its mode of transmission and knew of the fact that asymptomatic persons could spread or transmit the disease and its prevention. They also believed that following proper handwashing with soap under running water, maintaining social distance, wearing of nose masks, using of hand sanitizers, avoiding crowded places, and consuming balanced diets as well as Vitamin C to boost the immune system are helpful. And, most of them received help from their partners, family, children, friends, healthcare professionals, and the media.

Conclusion: COVID 19 has brought a new dimension to how people relate and interact with each other. Literature documents that older adults were at risk of the disease and fatality rate of the disease was high. This created anxiety and it was evident that this anxiety was handled differently.

Keywords

coping strategies, COVID-19, experiences, pandemic, teaching hospital

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Introduction

The emergence and periodic spread of the coronavirus (COVID-19) disease from Wuhan City, Hubei Province of China has become a global health concern killing many people all over the world (Chen et al., 2020; Guan et al., 2020). The rapid spread of the disease has killed more older adults than it claimed the lives of the youth (Burke et al., 2020). The COVID-19 was identified as a novel and contagious viral infection reported to cause symptoms similar to

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that of severe acute respiratory syndrome coronavirus (SARS-CoV) (Wang, et al., 2020). The commonest symptoms of COVID-19 include fever, cough, acute respiratory distress, reduced or normal white blood cells, fatigue, and failure to resolve over 3–5 days of antibiotic use (Lake, 2020).

Background

The World Health Organization (WHO) declared the COVID-19 outbreak a pandemic on March 12, 2020 as a result of the global spread (WHO, 2020a). By April 26th 2020, 193.710 deaths had been recorded and most of these deaths were from individuals with advanced age (WHO, 2020b). Older adults suffered more fatal cases in Europe specifying that over 95% of this fatality rate happened to people aged 60 and above years. Another report also stated that the fatality rate may have gone higher as people who died out of COVID-19 were not recorded as part of the aged population who died amidst the treatment of the disease (United Nations, 2020).

Older adults' daily routines such as the care and support they received, ability to stay socially connected and how they are perceived are changing due to COVID-19 (WHO, 2020a). The document added that people are being challenged by their need to spend more time at home, lack of physical contact with other family members, friends and colleagues, temporary cessation of employment and other activities; and anxiety and fear of illness and death. WHO and its allies are continuously providing guidance and advice on the COVID-19 pandemic for older people and their households, health and social care workers, local authorities, and community groups. Measures to deal with this issue have included but not limited to physical distancing and stigma, long-term care services for older adults. There are strategies focusing on older adults in the overall socio-economic and humanitarian responses to COVID-19 is evident in knowledge and data, sharing good practices, and expanding participation (United Nations, 2020).

The knowledge, attitudes, and strategies in coping is very essential in dealing with the consequences especially among the aged who have a weak immune system and therefore suffer the most effects Montecino-Rodriguez et al., (2013). The public's knowledge is important in the control of epidemics Lu et al. (2020), and understanding of the experiences - knowledge, attitudes toward COVID-19, and anxiety coping strategies among older adults is lacking in Ghana despite the awareness that COVID-19 has claimed lives.

Aim: The aim of this study was to explore the impact or lived experiences of the older adults in the COVID-19 pandemic in a Teaching Hospital in Ghana.

Methods and Materials

An exploratory qualitative research design where sampling was purposive and convenient was used in this study. This study was conducted in one of the teaching hospital in Ghana with a total bed capacity of 400. It serves as a training site for medical students, nurses with all pedigree of disciplines in health care. The Hospital provides Outpatient and In-patient services in general, specialized, diagnostic and rehabilitation services.

The older adult population were individuals who visited the Hospital, who were 60 and above years old and were willing to be part of the study. Recruitment involved every older adult who came to the facility at the time of data collection for review services or for the attention of a physician, not a COVID-19 case and could read and write and data was allowed to be collected at the Out Patient Department (OPD) only. Exclusion criteria was those who were too ill, frail and not in lucid state. A total of 20 aged were earmarked for the study considering the number that come to the hospital for care. Out of the 20 only 10 were successfully used for the study due to data saturation. The researchers explained every detail of the study to these eligible who showed interest in the study. The data collection tool was based on what was found in literature and on the objectives of the study. For content trustworthiness, the tool was given to resource persons inclined with epidemiology, aged issues, and peers to validate. The guide was also subjected to a pre-test among two older adults who visit the Hospital due to proximity and time to identify ambiguities and irregularities for corrections and to ensure clarity. The duration for data collection was 3 months, that is, April to June 2021. And data collection commenced as soon as the first participant agreed to be part of the study by both verbal and signing of a consent form. Five pertinent questions guided data collection; (a) what is COVID-19 and how is it transmitted, (b) knowledge on signs, symptoms, and complications, (c) who are at risk and why? (d) experiences during the pandemic (locked down), and (e) how they coped during that time? Each interview lasted between 15 and 25minutes and they were done in the English language. Data was recorded using a recorder. The researchers took detailed notes on each session which included non-verbal reactions, gestures, and behavioral responses that occurred during the interview but could not be captured in the audio recordings.

Data Analysis

Data analysis occurred alongside data collection. This enabled researchers to explore emerging issues in successive interviews. Every interview was carefully listened too and transcribed verbatim by two researchers. The Transcribed data was read through several times for familiarization, the two researchers also made notes and wrote down their impressions of the transcripts. Thematic analysis was used to analyze the data and the text was read through thoroughly several times, line by line, and the team finally came out with 5 themes, and 3 sub-themes.

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Ethical Consideration

The study did not cause any physical harm since it was a simple and non-invasive procedure. Participation was voluntary therefore, all participants were told they could opt out of the study if they so wished. On the spot verbal and written consent was obtained from each participant. An introductory letter from the School of Nursing and Midwifery, University of Cape Coast sent to the hospital research unit for permission. A gatekeeper letter was received from the unit and the researchers used to collect data at the designated area (Out Patient Department). Adequate information about the study was made available to participants to enable them to participate voluntarily. Data obtained from the participants was handled with anonymity and confidentiality.

Results

Theme 1: Socio-Demographic Characteristics of the Participants

Out of the total of 10 aged persons interviewed, 6 of them were 60–69 years of age whiles 4 were above 70 years of age. A total of 6 males and 4 females were interviewed for the study. On the educational level of the participants, 2 completed basic (Standard 7), 6 of them completed secondary (A level) education, while 2 are degree holders.

Field data 2021

Theme 2: Knowledge on Covid-19

Knowledge of COVID-19, its transmission, and prevention. Almost all the participants have heard of the disease either in the late months of 2019 or early months of 2020 and almost all participants had knowledge of it being a viral disease and where it actually started from. A participant stated; "I heard of COVID-19 in January 2020 (P1); that it had affected many foreign countries even though I had not yet seen or heard of a confirmed case in Ghana. I heard it is a viral infection and it was killing mostly the older adults" (P3). Some participants specifically stated the country where they knew the pandemic started. "I heard of COVID-19 in December 2019 and also heard it is a viral airborne disease that started in China" (P7). Another added; "I heard of COVID-19 in December 2019, that it is a pandemic that started in China. It spreads easily and so we were told to cover our noses and mouths" (P9).

Also, almost all the participants had knowledge of how the disease spreads or its transmission. A participant stated; "COVID-19 spreads through air droplets or coming into close contact with an infected person or object" (P2). Another stated; "It spreads through air droplets from an infected person who coughs" (P10).

A participant added that fluid from an infected person can lead to a spread or transmission of the disease; "It

spreads through the air and coming into contact with fluids from an infected person" (P7). Another stated it is an airborne disease; "I heard it is an airborne disease. And that if you shake hands with infected people without washing or sanitizing your hands, you will be infected" (P8).

All participants believed that following the COVID-19 safety protocols are ways to prevent the disease from spreading. A participant stated; "COVID-19 can be prevented through the washing of hands with soap under running water, wearing of face masks, use of alcohol-based hand sanitizers, practicing social distancing, avoiding crowded places, boosting the immune system with balanced diets, Vitamin C and zinc intake" (P9). "COVID-19 can be prevented by adhering to all the safety protocols" (P5), another added.

Theme 3: Knowledge of Signs, Symptoms, and Complications of COVID-19

All participants had the knowledge that not all infected with COVID-19 shows symptoms. "No. Not everyone shows symptoms" (P5). Another participant stated that some are asymptomatic; "Not everyone shows symptoms, some people are asymptomatic" (P9). A participant added that others are asymptomatic because we have different body constitutions; "Not everyone infected with the virus shows symptoms because we have different body constitutions. Others are asymptomatic" (P7).

Also, all participants believed that COVID-19 mostly affects the lungs. "COVID-19 mostly affects the lungs. I am not sure there is any treatment for it" (P9), 2 participants stated and another added; "The lungs are mostly affected and there is no treatment for it", we only have to follow the safety protocols to prevent it" (P7).

Other participants did not even know if COVID-19 had a treatment regimen. *The lungs are mostly affected. I have no idea of how COVID-19 is treated*" (P6).

A participant stated that COVID-19 is treated by taking in foods that boost the immune system. He stated; "The lungs are mostly affected. COVID-19 is treated by taking in foods that boost the immune system" (P8).

All participants had knowledge of the signs and symptoms of COVID-19. "Some symptoms of COVID-19 include shortness of breath, sneezing and fever" (P1), "Some symptoms include difficulty in breathing, cough and fever" (P7), "Some symptoms are fever, sore throat, coughing, headache, runny nose, loss of sense of smell and taste" (P9). A participant also stated; "Coughing, loss of sense of smell, sore throat, and sneezing are some of the symptoms of COVID-19" (P10).

A participant stated that a complication of COVID-19 is mostly death; "The complication of COVID-19 is mostly death" (P9). "I think a complication is blindness because I

heard someone who was infected with the virus nearly lost his sight and also loss of memory" (P8); hearing that person being infected with COVID-19 really scared him. Another added; "Complications of COVID-19 include lung fibrosis, and bronchial diseases" (P7). While one participant had no knowledge of the complications of COVID-19, another also believed that erectile dysfunction in males is a complication of COVID-19. She stated; "Erectile dysfunction in males and death are complications of COVID-19" (P6).

A participant believed that infertility, lung fibrosis, pneumonia and collapse of the lungs are some of the complications of COVID-19; "I heard the complications of COVID-19 include infertility even though I don't know how. Others include lung fibrosis, pneumonia, the collapse of the lungs" (P2).

Theme 4: Attitudes Towards Covid-19

Sub-theme 1: Positive attitude. All participants stated that older adults are at a higher risk of getting infected. A participant stated; "The aged people are at a higher risk of getting infected with the COVID-19 because they have a weakened immune system" (P9). Two of the participants added that the aged are at a higher risk of getting infected because of their weak immune system as well as those with underlying conditions such as hypertension, diabetes among others; "Older adults are at a higher risk because we are not strong, those with hypertension, diabetes and sickle cell disease are at a higher risk" (P7). Another added; "The older adults and those with underlying conditions such as hypertension and diabetes mellitus are mostly at risk" (P6).

All participants showed positive attitude towards COVID-19. "My family and I procured hand sanitizers, soaps and also decided to put on nose masks so we do not infect each other. We did not allow visitors into our house except family members", another stated. "I had to adhere to the safety protocols (social distancing, hand washing wearing of nose masks)" (P7).

Sub-theme 2: Negative attitudes. None of the participants showed a negative attitude towards COVID-19. Even the participant who was not prepared for the outbreak was ready to do everything necessary to prevent an infection. "I was not prepared at all, because all of a sudden a virus appeared but I adhered to some of the safety protocol such as hand washing, healthy eating and wearing of nose mask", she stated. Another participant stated; "I was so scared for myself and my wife so we decided not to go out" (P7). Another participant who was hypertensive also added; "I was shocked and wished I were not in the older adults age category" (P5).

Theme 5: COVID-19 Anxiety and Coping Strategies among participants

COVID-19 anxiety. Participants reported of being anxious when asked of how they reacted to the news of COVID-19 affecting and killing mostly older adults. According to them,

they were anxious, shocked and frightened. Others reported of not being able to go out for fear of getting infected. A participant reported of praying to God all the time out of anxiety and knowing there was no treatment for the virus; "I was frightened and really adhered to the safety protocols and I prayed fervently to God because I heard there was no treatment" (P2). Another participant added; "I was so scared and anxious as well" (P3). And another added; "I was very scared for myself and my wife..." (P7).

Sub theme 3: Coping strategies among participants. In this study, participants had different ways of coping with the anxiety during the COVID-19 pandemic locked down. A participant stated; "The education on the virus helped me to cope" (P1). Another reported; "I made peace with my maker(God) because I even thought the world was coming to an end. I prayed a lot, hoping God would come to our rescue" (P8). And another participant added; "I was able to cope through prayers for God to help me deal with the virus, and to reduce the rate of spread" (P9), another one stated.

According to a participant, she did not have any coping mechanisms. "Initially, I did not have any coping mechanisms and this really broke me down emotionally" (P10).

With regards to participants receiving any support to deal with their anxiety, they reported of receiving help from their partners, family, children, friends, healthcare professionals and the media. "My family and the media helped me. The media scared me a lot though, but they also gave us information about the virus which helped to deal with the anxiety" (P3). A participant added; "My medical doctor helped me to cope because I am hypertensive. He emphasized on the need for me to adhere to the safety protocols" (P4). "May pastor and family helped me to cope" (P6). Others had to face their fears and deal with it. "I coped with the way I felt by learning to put away the fear and moving forward" (P5), he stated, a participant who had daughters who were nurses received help from them as well as his friends; "My three daughters who are all nurses, my doctors, my friends and the media helped me to cope" (P7).

Discussion

Knowledge of Covid-19 Among Aged Clients

There are limited studies concerning knowledge of COVID-19 among aged clients. With regards to when participants heard of COVID-19, almost all of them heard of the disease either in the late month of 2019 or early months of 2020 and they had knowledge of it being a viral disease and where it actually started from. SARS-CoV-2 virus is mostly spread between persons through respirational droplets from coughs and sneezes (Center for Disease Control and Prevention, 2020). Eric (2020) conducted a study to assess the knowledge, attitudes, anxiety, and coping strategies of students during the COVID-19 pandemic, 73.6% knew then that COVID-19 could spread through

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touching, sneezing, kissing, and food. With regards to this research, almost all the participants had knowledge of how the virus spreads or its mode of transmission. A participant had knowledge of the fact that fluid from an infected person can lead to a spread or transmission of the disease. For knowledge on how COVID-19 spreads or its transmission, none of the participants stated the virus could spread through coming into contact with objects such as copper, cardboard, plastics or stainless steel, or through formite as reported by another study (van-Doremalen et al., 2020). Eric (2020) shows that the virus can live on copper for 4–18 hours, on cardboard for 24–55 hours, on plastics for 72–100 hours, stainless steels for 72–90 hours, and in aerosol for 3 hours although the detection rates vary between surface materials types. Table 1 showed the characteristics of participants used in the study.

There is evidence that COVID-19 is mainly transmitted through social contact with symptomatic persons (Burke, et al., 2020) with mild to severe symptoms and through asymptomatic transmission (WHO, 2020). None of the participants also had knowledge of the fact that asymptomatic persons could spread or transmit the disease.

On prevention of COVID-19, all participants believed that following the safety protocols such as proper handwashing with soap under running water, maintaining social distance, wearing of nose masks, using of hand sanitizers, avoiding crowded places, and taking in balanced diets as well as Vitamin C to boost the immune system are ways to prevent the disease from spreading.

Knowledge on Signs, Symptoms and Complications of COVID-19

A COVID-19 patient may not show any symptoms or show flu-like symptoms, with fever, dry cough, tiredness, and shortness of breath (Center for Disease Control and Prevention, 2020). All participants had knowledge that not everyone infected with the COVID-19 shows symptoms.

The lungs are the most affected organs in this disease as the virus enters via the enzyme called angiotensin converting enzyme 2 (ACE2) which is mostly profuse in the type II alveolar cells of the lungs (Zhang, Penninger, et al., 2020). All participants believed that COVID-!9 mostly affects the lungs, and it had no cure but fortunately there are vaccines that limit the severity of symptoms. Immediate medical attention is advised when there are severe symptoms including persistent chest pain or pressure, difficulty of breathing, confusion, and bluish face or lips arises (Center for Disease Control and Prevention, 2020). These severe symptoms if not attended to can lead to death. Upper respiratory symptoms such as runny nose, sneezing or sore throat, vomiting, diarrhea, nausea, chest tightness, and palpitations. Have been witnessed in varying percentages (Wei et al., 2020). During March 2020, anosmia (loss of the sense of smell) was reported as part of the symptoms of COVID-19 in some cases (Hopkins, 2020).

Table 1. Background Characteristics of Participants.

Participant (P)	Age	Gender	Marital Status	Educational Level
PI	69	Female	Married	Degree
P2	70	Male	Married	Secondary
P3	62	Male	Married	Secondary
P4	68	Female	Widow	Degree
P5	75	Male	Married	Basic
P6	78	Female	Married	Basic
P7	67	Male	Married	Secondary
P8	61	Male	Married	Secondary
P9	62	Male	Married	Secondary
PI0	74	Female	Widow	Secondary

All participants had knowledge of some of the signs and symptoms of COVID-19.

In severe cases, the disease may develop complications such as pneumonia, multiple organ failure and death (Hui et al., 2020). Participants knew that a complication of COVID-19 is mostly death. One stated that COVID-19 causes erectile dysfunction in males as a complication. Another believed infertility, lung fibrosis, pneumonia, and collapse of the lungs to be some of the complications of the disease.

Attitudes Towards COVID-19 Among Aged Clients

The public's attitude towards a viral pandemic showed how well they are reacting to its occurrence. A positive attitude towards the pandemic shows how willing the public is to adhere to the necessary protocols to prevent the spread and contraction of the COVID-19. Attitude also influences their perception about the risk of infections.

With regards to individuals at risk of been infected with the COVID-19, all responded stated that the aged are at a higher risk of getting infected including themselves. Some of the participants added that the older adults are at a higher risk of getting infected because of weak immunity compared to their youthful age as well as those with underlying conditions such as hypertension, diabetes among others.

A negative attitude towards the pandemic shows how unwilling the public is to adhering to the necessary protocols to prevent the spread and contraction of the COVID-19. None of the participants showed a negative attitude towards COVID-19. Even the participant who was not that prepared to prevent an infection with the virus was ready to do everything necessary to prevent an infection.

Covid-19 anxiety coping strategies among aged Clients

Anxiety and mood disorders are the most common mental health problems in the general population globally (Prince, et al., 2007) and there are important connections between anxiety, depression and occurrence of viral diseases (Coughlin, 2012). During this pandemic, older adults have received stricter directives on social distancing, as they were the first group encouraged to stay home. Older adults who have experienced a prolonged period of isolation may encounter health effects that long outlast their time in quarantine. All these factors have contributed to increased anxiety among the aged in this COVID-19 pandemic. Since the start of the COVID-19 pandemic, the psychological and emotional impact is also evident. Its emergence and spread create a lot of concern for people leading to increased levels of anxiety (Roy, et al., 2020). This was evident in all the response from the participants who all reported of being scared, frightened, shocked, and anxious. According to (Roy, et al., 2020), individuals were worried for themselves and their families during the ongoing pandemic. People could have limited social contact and avoided mass meetings. Others had no option than to turn to their maker for intervention or breakdown emotionally.

With regards to individuals who helped participants to deal with their anxiety. Participants reported of receiving help from their partners, family, children, friends, healthcare professionals, and the media. Some had no option but to face their fears and deal with the news as they received it by obeying the protocols.

Limitation

- The design for this study was an exploratory qualitative research design which could be open to researcher and recall bias.
- The scope of the study did not permit generalization of findings to other geographical settings.

Conclusion

COVID-19 has brought a new dimension to how people relate and interact with each other. Literature documents that older adults were at risk of the disease and fatality rate of the disease is high. This created anxiety and it was evident that this anxiety was handled differently and positively. The way anxiety associated with the pandemic was handled was impressive. Most of the participants had support and guidance from their partners, children, friends, healthcare professionals, and the media while others too turned to their maker for intervention.

Nursing implication

This study has created an opportunity to identify the attitudes of older adults towards COVID-19 and what healthcare providers can put into policies to facilitate positive attitudes towards the COVID-19 pandemic.

Declaration of Conflicting Interests

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References

- Burke, R. M., Midgley, C. M., Dratch, A., Fenstersheib, M., Haupt, T., Holshue, M., Ghinai, I., Jarashow, M. C., Lo, J., McPherson, T. D., Rudman, S., Scott, S., Hall, A. J., Fry, A. M., & Rolfes, M. A. (2020). Active monitoring of persons exposed to patients with confirmed COVID-19 United States, January–February 2020. MMWR. Morbidity and Mortality Weekly Report, 69(9), 245–246. https://doi.org/10.15585/mmwr.mm6909e1
- Center for Disease Control and Prevention (2020). *Coronavirus disease 2019 (COVID-19) symptoms*. https://www.cdc.gov/coronavirus/2019-ncov/symptomstesting/
- Chen, N., Zhou, M., Dong, X., Qu, J., Gong, F., Han, Y., Qiu, Y., Wang, J., Liu, Y., Wei, Y., Xia, J., Yu, T., Zhang, X., & Zhang, L. (2020). Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in Wuhan, China: a descriptive study. *The lancet*, 395(10223), 507–513.
- Coughlin, S. S. (2012). Anxiety and depression: Linkages with viral diseases. *Public Health Review*, *34*(2), 7. https://doi.org/10. 1007/BF03391675
- ERIC (2020). International Meeting, New Frontiers in CLL Research, 1st 3rd October, 2020, Virtual. *European Research Initiative on CLL*.
- Guan, W.-J., Ni, Z.-Y., Hu, Y., Liang, W.-H., Ou, C.-Q., He, J.-X., Liu, L., Shan, H., Lei, C.-L., Hui, D. S. C., Du, B., Li, L.-J., Zeng, G., Yuen, K.-Y., Chen, R.-C., Tang, C.-L., Wang, T., Chen, P.-Y., Xiang, J., Li, S.-Y., Wang, J.-L., Liang, Z.-J., Peng, Y.-X., Wei, Li., Liu, Y., Hu, Y.-H., Peng, P., Wang, J.-M., Liu, Ji.-Y., Chen, Z., Li, G., Zheng, Z.-J., Qiu, S.-Q., Luo, J., Ye, C.-J., Zhu, S.-Y., & Zhong, N.-S. (2020). Clinical characteristics of coronavirus disease 2019 in China. New England journal of medicine, 382(18), 1708–1720.
- Hopkins, C. (2020). Loss of sense of smell as marker of COVID-19 infection. Ear, nose and throat surgery body of United Kingdom.
- Hui, D. S. I., Azhar, E., Madani, T. A., Ntoumi, F., Kock, R., Dar, O., Ippolito, G., Mchugh, T. D., Memish, Z. A., Drosten, C., Zumla, A., & Petersen, E. (2020). The continuing 2019-nCoV epidemic threat of novel coronaviruses to global health—The latest 2019 novel coronavirus outbreak in Wuhan, China. *International Journal of Infectious Disease*, 91(1), 264–266. https://doi.org/10.1016/j.ijid.2020.01.009
- Lu, W., Wang, H., Lin, Y., & Li, L. (2020). Psychological status of medical workforce during the COVID-19 pandemic: A crosssectional study. *Psychiatry Research*, 288(112936).

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- Montecino-Rodriguez, E., Berent-Maoz, B., & Dorshkind, K. (2013). Causes, consequences, and reversal of immune system aging. *The Journal of Clinical Investigation*, *123*(3), 958–965. https://doi.org/10.1172/JCI64096.
- Roy, D., Tripathy, S., Kar, S. K., Sharma, N., Verma, S. K., & Kaushal, V. (2020). Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 Pandemic. *Asian Journal of Psychiatry*, 51(1), 102083–102087. https://doi.org/10.1016/j.ajp.2020. 102083
- van-Doremalen, N., Bushmaker, T., & Morris, D. H (2020). Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1. *The New England Journal of Medicine*, *382*(16), 1564–1567. https://doi.org/10.1056/nejmc2004973
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated

- factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Resources and Public Health*, *17*(5), 1729. https://doi.org/10.3390/ijerph17051729
- Wei, X. S., Wang, X., & Niu, Y. R. (2020). Clinical Characteristics of SARSCoV- infected pneumonia with diarrhea.
- World Health Organization (2020b). *Naming the coronavirus disease* (COVID-19) and the virus that causes it. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technicalguidance/
- World Health Organization (WHO) (2020a). *Q&A on coronaviruses*. https://www.who.int/news-room/q-a-detail/q-a-coronaviruses
- Zhang, H., Penninger, J. M., Li, Y., Zhong, N., & Slutsky, A. S. (2020a). Angiotensin-converting enzyme 2 as a SARS-CoV-2 receptor: molecular mechanisms and potential therapeutic. *Intensive Care Medicine*, 46(4), 586–590. https://doi.org/10.1007/s00134-020-05985-9