Cyberchondria and its Impact on Self-Medication and Self Care in COVID-19 Pandemic – A Cross Sectional Study

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Corona Virus Disease 2019 (COVID-19) has brought several impacts on the health of people. The infodemic which accompanied the pandemic can lead to cyberchondria, fear and anxiety accompanying excessive online search of COVID-19 related information. Most of the people try to avoid getting infected with this virus by taking adequate protective measures. Hence the aim of this study was to analyze the impact of COVID-19 related cyberchondria on self-medication and self care. An online cross-sectional semi-structured questionnaire based study was done and a total of 323 responses were obtained. Participants were segregated into two clusters based on the cyberchondria severity score which included four constructs using k-means cluster analysis considering the score obtained in each construct. The impact of cyberchondria on self care and self care among medical practitioners between the clusters were analyzed using independent t-test. Qualitative data were analyzed using descriptive statistics. This study found that 35% of the participants were categorized in the cluster with high cyberchondria score. A marked proportion of the participants who have taken self-medication for COVID-19 prophylaxis belonged to this cluster. A statistically significant difference was observed in the mean of the scores used to assess self care between the clusters (p = 0.003) whereas no significant difference was observed among registered medical practitioners (p=0.222). Anxiety related with excessive online COVID-19 information seeking behaviour had effects in terms of enhanced self care and self-medication in the respondents. Hence it is important to use internet wisely for self well being.

Keywords: Anxiety; COVID-19; Cyberchondria; Infodemic; Self-medication; Self-care.
disease especially in the earlier stage. As a result people including health-care providers were trying their best to gain more knowledge about the disease from various health information sources. Rapid and innovative advances in digital media had paved a way for seeking up to the minute health-related information on COVID-19 in online platform1.

Within a New York minute, a prodigious amount of COVID-19 related web-based information became accessible at one’s fingertips on trending issues such as daily statistics, symptoms, COVID-19 appropriate behaviours, preventive measures and available as well as budding treatment options1. Hence the pandemic has been accompanied by an “infodemic” - plethora of information including false or misleading ones in digital and physical environments during a disease outbreak3,4.

At a time when the internet is flooded with information about COVID-19, it would probably add up to the people’s anxiety and fear bringing about confusion and risk-taking behaviour. When people are unaware about what they need to do to safeguard their health and the health of others around them, an infodemic can amplify or lengthen outbreaks3,4.

At a glance this could attribute to significant impact on the individuals especially when the world is in a complete lockdown leaving them stranded at home with the digital media being the only source of contact with the external environment. Excessive and repetitive internet usage to seek COVID-19 related information could envisage a problem termed cyberchondria, an unexplained online-search-related anxiety. Hence it may not be a good idea to search for health-related information from any random website5,6.

On the flip side, the vast amount of online information about COVID-19 also aids in health education, which could result in increased self care measures including self-medication. Excessive online information searching can lead to unwanted worry and anxiety, to the point that people become obsessive about self-care.

Hence this study aimed to analyze the impact of anxiety related with online COVID-19 information search on self-care measures including self-medication.

MATERIALS AND METHODS

This study was conducted as an online semi-structured questionnaire based cross sectional study during June and July 2020. The participants were recruited by convenience sampling (non-randomized) method. A self selected survey through creating an e-survey link was publicized via social media platforms and the individuals were left to choose to participate in the survey. The questionnaire was made available both in English and local vernacular language (Tamil). Information about the purpose of the survey, no other known disadvantages of participation except spending their valuable time and data confidentiality were described clearly in the survey form. A total of 323 responses were obtained till 31st July 2020 and the link was closed. The response was limited to one for a participant.

The questionnaire used in this study was developed from literature and adaptations from previous studies. Before starting the study, pilot – testing and subsequent necessary modifications were done. The scale used to measure severity of cyberchondria in COVID-19 was developed from the adaptations of cyberchondria severity scale-15, English-translated German questionnaire. The scale used in this study employed only four constructs, i.e., compulsion, distress, excessiveness and reassurance. Each question had five options in likert scale (Never, Rarely, Sometimes, Frequently, and Always), and they were scored from 1 to 5.

The questions regarding self-medication were adopted from previous studies taking into account the newly proposed medicines having prophylactic role8,9. The questions for self care were generated from the notifications and advertisements of World Health Organization (WHO) and Ministry of Health and Family Welfare (MoHFW), India websites. To assess the self care among medical practitioners, this study devised additional 11 questions exclusively for the registered medical practitioners including dentists in India. A score of one was awarded to every ‘yes’ response. The total score was then calculated separately.

Statistical analysis

The data collected through the link were downloaded in excel sheets and analyzed using
SPSS software version 23. Basic demographic details were analyzed using descriptive statistics and expressed as percentages. The participants were segregated into two clusters based on the cyberchondria severity score obtained using k-means cluster analysis considering the score obtained in each construct. To assess the impact of cyberchondria on self care and self care among medical practitioners, the scores obtained were compared between the two clusters using independent t-test. A p value of <0.05 was considered as statistically significant.

RESULTS

Out of the 323 participants who responded to the questionnaire circulated through e-platform, 114 (35.3%) were male and 209 (64.7%) were female. The basic demographic details of the study participants are represented in Table 1.

Cyberchondria Severity Scale

The cyberchondria severity scale adapted in this study had 12 items classified into four constructs namely excessiveness, compulsion, distress and reassurance. The participants were classified into two clusters based on their responses using k-means cluster analysis. The software fitted 113 (35%) participants into cluster with high score and 210 (65%) into cluster with low scores. The mean and standard deviation of the score of each construct are presented in Table 2. A statistically significant difference in the mean scores of all the constructs was observed between the two clusters.

Self-medication for COVID-19 prophylaxis

Out of the 323 participants, 128 (39.6%) had taken self-medication for COVID-19 prophylaxis. Among the 128 self-medication participants, 26 (12.8%) had taken self-medication for other illnesses too in the past and 26 (12.8%) were from medical background. Regarding the impact of cyberchondria on self-medication, 47 (36.7%) out of 128 belonged to the cluster with high cyberchondria severity score and 81 (63.3%) belonged to the cluster with low cyberchondria severity score as illustrated in Figure 1. The pattern of usage of various drugs for COVID-19

Table 1. Basic demographic details

| Details                           | Number of participants n=323 (%) |
|-----------------------------------|----------------------------------|
| Age                              |                                  |
| 18-20 years                       | 77 (23.8)                        |
| 21-30 years                       | 115 (35.6)                       |
| 31-40 years                       | 75 (23.2)                        |
| 41-50 years                       | 32 (9.9)                         |
| 51-60 years                       | 17 (5.3)                         |
| >60 years                         | 7 (2.2)                          |
| Educational background            |                                  |
| Higher Secondary                  | 10 (3.1)                         |
| Arts/Science                      | 179 (55.4)                       |
| Professional – Engineering        | 67 (20.7)                        |
| Professional – Medical            | 63 (19.5)                        |
| Paramedical                       | 4 (1.2)                          |
| Employment status                 |                                  |
| Employed                          | 150 (46.4)                       |
| Unemployed                        | 14 (4.3)                         |
| Home maker                        | 29 (9)                           |
| Student                           | 130 (40.2)                       |
| Residence                         |                                  |
| Urban                             | 236 (73.1)                       |
| Rural                             | 87 (26.9)                        |
| Time spent in internet usage per day |                              |
| ≤5 hours                          | 174 (53.9)                       |
| >5 hours                          | 149 (46.1)                       |
| History of self-medication in the past |                             |
| Yes                               | 56 (17.3)                        |
| No                                | 267 (82.7)                       |
| COVID-19 Positive status of friends/relatives |             |
| Yes                               | 80 (24.8)                        |
| No                                | 243 (75.2)                       |
prophylaxis is represented in Figure 2. The reason for self-medication in this pandemic and the source of information/advice for self medication are mentioned in Table 3.

Out of the 128 participants who have taken self-medication, 88 (68.8%) had used internet to find the details of the drugs taken by them, 87 (68%) were aware that consuming these drugs could cause adverse effects and 11(8.6%) had suffered from minor adverse effects including gastritis, allergic reactions etc.

**Impact of Cyberchondria on Self care (Protective Behaviour)**

A statistically significant difference was observed in the mean of the score used to evaluate the self care between the clusters with high (14.42 ± 3.256) and low (13.19 ± 3.632) cyberchondria severity score with p = 0.003 (p <0.05 considered as statistically significant, Data expressed in mean ± SD). The descriptive analysis of questions used to analyze self care among general population is tabulated in Table 4. The impact of cyberchondria on hand washing frequency is depicted in Figure 3.

The questions devised to assess the self care among medical practitioners were scored accordingly and analyzed. The mean (± SD) of this score in the clusters with high and low cyberchondria scores were found to be 9.81 (± 1.328) and 9.26 (± 1.585) respectively. On comparison between the clusters using independent sample t test no statistically significant difference was observed (p=0.222). Table 5 shows the descriptive analysis of self care questions exclusive for medical practitioners.

**DISCUSSION**

In this era of digitalization, seeking information including health related ones on
e-platform have become universal. Seeking actionable information for self-protection, including identification of symptoms and home remedies could increase the awareness and preventive behaviour of the individual. As a double edged sword it can also add up to the fear and anxiety.

This study analyzed the anxiety related with the online COVID-19 information seeking behaviour using k-means cluster analysis, since the cyberchondria severity scale is yet to be validated in India with standard cut-off scores. The prevalence of COVID-19 related cyberchondria was found to be 35% which was less than the prevalence of general cyberchondria (56%) reported by a similar study done in Chennai\textsuperscript{10}.

The COVID-19 related cyberchondria severity scale adapted in this study employed

| Reason for Self-medication | Number of participants n=128, (%) |
|---------------------------|----------------------------------|
| COVID-19 spread and mortality | 48 (37.5) |
| Fear of visiting hospitals | 24 (18.75) |
| Time saving | 10 (7.8) |
| Lack of easy access to hospitals | 10 (7.8) |
| Easy availability of drugs in local pharmacies | 8 (6.2) |
| Trust in online information | 10 (7.8) |
|Being familiar with the drugs | 49 (38.3) |
|Advice obtained from( Source) | |
| Medical shop person | 26 (20.3) |
| Other medical person (staff nurses etc.) | 34 (26.6) |
| Family members | 58 (45.3) |
| Friends | 21 (16.4) |
| TV, Newspaper | 14 (10.9) |
| Social Media | 12 (9.4) |
| Internet Medical websites | 15 (11.7) |

**Table 3. Reason and advice for Self-medication**

**Pattern of usage of self medication drugs for Covid-19 prophylaxis**

*One participant could have taken multiple drugs*
Table 4. Question wise analysis of Self care among general population

| No  | Question                                                                 | Yes n=323, (%) |
|-----|---------------------------------------------------------------------------|----------------|
| 1.  | Started wearing masks (N95/other masks) while going out                    | 295 (91.3)     |
| 2.  | Started wearing gloves while going to work/shopping                        | 135 (41.8)     |
| 3.  | Started disinfecting the vehicles they use                                 | 180 (55.7)     |
| 4.  | Started mopping their home & disinfecting the handles of doors/windows regularly | 260 (80.5)     |
| 5.  | Started cleaning their personal belongings (mobile phones/ specs/ purses) with sanitizer/ cleanser | 231 (71.5) |
| 6.  | Washed milk packets/water cans/ vegetables well before taking into home   | 261 (80.8)     |
| 7.  | Consciously avoided touching their face, eyes and nose frequently           | 273 (84.5)     |
| 8.  | Practiced home care preventive/ curative measures against COVID-19 which they got through online search/social media. | 222 (68.7)     |
| 9.  | Changed their diet to boost immune system to fight COVID-19 infection (eg take plenty of water, included lemon, amla, spices etc...) | 263 (81.4)     |
| 10. | Temporarily stopped going out for a walk/ jog in public places due to fear of COVID-19 | 250 (77.4)     |
| 11. | Practically avoided touching their face, eyes and nose frequently           | 261 (80.8)     |
| 12. | Practiced home care preventive/ curative measures against COVID-19 which they got through online search/social media. | 222 (68.7)     |
| 13. | Practiced home care preventive/ curative measures against COVID-19 which they got through online search/social media. | 222 (68.7)     |
| 14. | Practiced home care preventive/ curative measures against COVID-19 which they got through online search/social media. | 222 (68.7)     |
| 15. | Reduced using public transport                                            | 299 (92.6)     |
| 16. | Avoided going to shops/increased home delivery                             | 260 (80.5)     |
| 17. | Stopped visiting salon/beauty parlour                                      | 282 (87.3)     |
| 18. | Stayed at home & for study/work                                            | 279 (86.4)     |

Fig. 3. Impact on Cyberchondria on Frequency of Hand washing
Table 5. Question wise analysis of Self care among Registered Medical Practitioners

| Question                                                                 | Yes n=55 (%) |
|--------------------------------------------------------------------------|--------------|
| Mandated that all patients visiting the clinic should wear face mask and hand hygiene before entering the clinic | 55 (100)     |
| Started using face shield/goggles while seeing patients                  | 46 (83.6)    |
| Started using N95/FFP1/FFP2 masks while seeing patients                  | 51 (92.7)    |
| Started using gloves while seeing patients                               | 44 (80)      |
| Took a shower, changed the clothes and washed them separately while arriving home | 51 (92.7) |
| Isolated themselves at home/some other places                            | 36 (65.5)    |
| Insisted all paramedical staff to follow strict personal protective measures | 53 (96.4) |
| Mandated strict disinfection of the hospital/ clinic premises            | 51 (92.7)    |
| Restricted the number of attenders accompanying patients                 | 55 (100)     |
| Limited the practice time or practice places                             | 47 (85.5)    |
| Took a temporary break in practice                                       | 29 (52.8)    |

was estimated with the distress construct, a more subjective one and the second most affected in this study. These findings were partly in accordance with the study done among IT employees in Chennai in 2018, which reported that distress and compulsion were least affected. A cyberchondriac individual with fear and anxiety about the conditions they have read online tend to seek reassurance either by discussing it with others or by consulting doctors as represented in the reassurance construct. This can even occur with diseases that exist in mankind for a long period. So it is not surprising that the participants of this study have searched the web about the deadly novel disease emerged in the digital era. Excessive online search behaviour especially during the first wave when everything was uncertain and the whole world was at stance could have added more fear and anxiety about COVID-19 with no specific proven treatment or vaccine options available at that time

In order to avoid anxiety and distress, it is important to seek information only from trusted sources and minimize overloading the brain by watching, reading or listening to news about COVID-19 continuously. Besides, during pandemic, without any adequate social support and access to doctors as a result of lockdowns and self-isolation, people might struggle to cope with the constant news of the spread and effects of COVID-19 on news-media, social-media, internet which force them to take protective measures on their own (Self care) including use of medicines (Self-medication).

Self-medication is defined as “medication taken on patient’s own initiative or on the advice of pharmacist or any other lay person”. This includes the use of non-prescription drugs and a range of different alternative medicines such as herbal remedies, food supplements and traditional products. This study found that 39.6% of the participants have practiced self-medication for prophylaxis of COVID-19. A study conducted in Chennai (2014) reported 39.1% of the subjects practiced self-medication with antibiotics and another one (2016) reported 51.7% whereas the one conducted in Pondicherry had shown a prevalence of 11.9% to allopathic medication. This study observed that maximum participants had taken herbal preparations [Figure 2]. This could be due to the belief that herbal preparations are generally derived from natural sources and are relatively safe, effective and superior to synthetic preparations.

The main reasons quoted for practicing self-medication during this pandemic were familiarity with the drugs(38.3%), fear of COVID-19 spread and rising mortality (37.5%) and fear of acquiring COVID-19 by contact with infected patients or contaminated objects by visiting hospitals(18.75%). Because of the fear and desperation of protecting self, the participants had fallen as prey to medicines claiming benefits against COVID-19, unproven scientifically [Table 3].

A major percentage of the participants (45.3%) have got advice from their family members to practice self-medication followed by
paramedical persons including staff nurses and pharmacists [Table 3]. This was not in accordance with the previous study done in Chennai, which reported that the major source of information was from pharmacists (58%)13. Interestingly 11.7% in this study had trusted internet medical websites and 9.4% had trusted social media for self-medication. After getting the advice in some form, 68.8% have also used internet to find the details of the drugs. This implies the impact of digitalization on protective behaviour especially self-medication. Hence it is vital to search information from reliable sources like standard medical websites.

It is quiet well that 87 (68%) were aware that consuming these drugs could cause adverse effects even though only 11 (8.6%) had suffered from minor adverse effects including gastritis, allergic reactions etc. To minimize the adverse effects related to self-medication, it is necessary to enhance the awareness about the risk of encountering adverse effects related to drugs and other potential disadvantages of self medication16,17.

Self-care may appear frivolous or selfish during stressful times. Committing to self-care, on the other hand, will ensure that one’s ability to meet the challenges of this period is preserved. According to the findings of this study, the majority of the study population had practiced self care measures like wearing a face mask, avoiding touching face, disinfecting the things used by them as well as their home and switching over to healthy diet. Similarly, a significant number of people had avoided attending social events, using public transport, visiting saloons, shopping and going out for a walk or jog in fear of acquiring COVID-19 infection [Table 4].

COVID-19 is a pandemic that would last for a few more years with spikes and lull then. Hence it may not be possible to avoid contact with a COVID positive individual at all time. In a country like India with the silent majority of population belonging to the middle class and below poverty line, it is impossible to avoid public transport for quiet a long time18. Meanwhile people might have to visit salons/parlours and get back to their work or study places once the cases are in lull phase. Hence it is necessary to educate the people about practicing COVID appropriate behavior including wearing masks correctly, frequent hand washing and social distancing instead of avoiding stepping out of home for essential activities due to fear and anxiety. These self care practices might appear as a new normal but it is a temporary normal.

Hand washing with soap or an alcohol-based sanitizer has been widely promoted by health agencies and authorities from the beginning of the pandemic as a preventive measure against COVID-19 and practically almost all people are following this recommendation. It is satisfactory to observe that most of the participants in this study had practiced hand washing. It is also observed that a significant number of participants belonging to the cluster with higher cyberchondria severity score had admitted to compulsively wash their hands due to the fear of being contaminated and this was found to be statistically significant with p = 0.001 by Chi square test [Figure 3]. This behavior is worrisome and indicates that cyberchondria is positively related with health anxiety and obsessive compulsive symptoms as shown in other studies19,20.

A statistically significant difference observed in the mean of the score used to evaluate the self care between the clusters with high and low cyberchondria severity score (p = 0.003) might be attributed to the fact that the anxiety and fear could had an direct impact on the self care making the participants more conscious of avoiding an encounter with COVID-1919.

Taking the registered medical practitioners (RMPs) into account, this study didn’t observe any difference between the cyberchondria clusters. Almost 100% of the RMPs have made the patients to fear face masks and practice hand hygiene before entering their clinic/hospitals and had also restricted the accompanying persons[Table 5]. COVID appropriate behaviour and vaccination against COVID-19 are the two most powerful warriors to contain the spread of this baleful disease21.

Around 65.5% of the RMPs isolated themselves at home/ some other places. 52.8% took a temporary break in their practice and 85.5% limited their practice time and places as a measure to safe guard themselves from COVID-19 [Table 5]. This pandemic has put pressure on all the sectors and almost an unimaginable additional pressure on the health sector where the health care workers who were already stressed out due to the fear and anxiety are working in frontline to save numerous
lives. Hence when things become more pressured, it is more important to pay attention to the self wellbeing as everyone is running a marathon and not a sprint certainly to help the entire community through the COVID-19 pandemic. This study is the first one done to look at the impact of cyberchondria on self-medication and self care. The strength of this study is that it analyzed the self care measures among medical professionals in addition to the general self care measures. The sampling technique and the use of the cyberchondria severity scale not validated in Indian population are the limitations.

CONCLUSION

This study concludes that the anxiety related with excessive online COVID-19 information seeking behaviour had effects in terms of enhanced self care and self-medication in the respondents. A considerable proportion of the self-medication users had also encountered adverse effects. The greatest challenge an internet user faces is information overload. A famous American writer said ‘It is not information overload. It’s filter failure’. So each and every netizen should know how to use internet wisely for self wellbeing and emotional resilience.

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Conflict of interest

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REFERENCES

1. Wang C., Horby P.W., Hayden F.G., Gao G.F. A novel coronavirus outbreak of global health concern. Lancet., 395(10223): 470–473 (2020)
2. https://www.worldometers.info/coronavirus/
countries-where-coronavirus-has-spread/ (Last accessed on 04.08.2021)
3. Dadaczynski K, Okan O, Messer M, Leung AYM, Rosário R, Darlington E, Rathmann K. Digital Health Literacy and Web-Based Information-Seeking Behaviors of University Students in Germany During the COVID-19 Pandemic: Cross-sectional Survey Study. J Med Internet Res., 23(1): e24097 (2021)
4. https://www.who.int/health-topics/infodemic#tab=tab_1 (Last accessed on 04.08.2021)
5. https://www.gadgetsnow.com/slideshows/searching-these-10-coronavirus-related-things-online-can-prove-to-be-dangerous/photolist/74766872.cms (Last accessed on 05.10.2020)
6. Dagar D, Kakodkar P, Shetiya SH. Evaluating the cyberchondria construct among computer engineering students in Pune (India) Using Cyberchondria Severity Scale (CSS-15). Indian J Occup Environ Med., 23:117-20 (2019)
7. Barke A, Bleichhardt G, Rief W, Doering BK. The Cyberchondria Severity Scale (CSS): German Validation and Development of a Short Form. Int J Behav Med., 23(5): 595-605 (2016)
8. Kayalvizhi S, Senapathi R. Evaluation of the perception, attitude and practice of self-medication among business students in 3 select cities, South India. IJEIMS., 1(3):40-44 (2010). Available: http://www.ijcns.com/pdf/40-44. Last accessed on 04.08.2021
9. Kumar N, Kanchan T, Unnikrishnan B, Rekha T, Mithra P, Kulkarni V, Pappanna MK, Holla R, Uppal S. Perceptions and practices of self-medication among medical students in coastal South India. PLoS One., 8(8): e72247 (2013).
10. Makarla S, Gopichandran V, Tondare D. Prevalence and correlates of cyberchondria among professionals working in the information technology sector in Chennai, India: A cross-sectional study. J Postgrad Med., 65: 87-92 (2019).
11. WHO (2000) Guidelines for the Regulatory Assessment of Medicinal Products for Use in Self-Medication., Geneva. Available from: http://apps.who.int/medicinedocs/pdf/s2218e/s2218e.pdf. (Last accessed on 05.10.2020)
12. Ganesan N, Subramanian S, Jai Kumar, Rawat H, Kumar S. Self-Medication and Indiscriminate Use of Antibiotics without Prescription in Chennai, India: A Major Public Health Problem. J Club Pharmaceutical Sciences., 1(1):131-41 (2014).
13. Varadarajan V, Paul CMP, Swapna S, Preethi S, Kumar K, Dharshini PUD. A cross sectional...
study on the prevalence of self-medication in a Chennai based population, Tamil Nadu, India. *Int J Community Med Public Health.*, 4: 418-23 (2017).

14. Selvaraj K, Kumar GS, Ramalingam A. Prevalence of self-medication practices and its associated factors in Urban Puducherry, India. *Perspect Clin Res.*, 5(1): 32-6 (2014).

15. Ekor M. The growing use of herbal medicines: issues relating to adverse reactions and challenges in monitoring safety. *Front. Pharmacol.*, 4: 177 (2014).

16. Patil AD, SharmaH, TetarbeT. COVID-19 and concerns related to self-medication. *Int J Basic Clin Pharmacol.*, 9: 1475-6 (2020).

17. Bennadi D. Self-medication: A current challenge. *J Basic Clin Pharma.*, 5: 19-23 (2014)

18. Masspoverty is back in India. https://www.downtoearth.org.in/blog/governance/mass-poverty-is-back-in-india-76348 (Last assessed on 13.08.2021)

19. Pozza, A., Mucci, F., Marazziti, D. Risk for pathological contamination fears at coronavirus time: Proposal of early intervention and prevention strategies. *Clinical Neuropsychiatry.*, 17(2):100-102 (2020)

20. Bajcar, B., Babiak, J. Self-esteem and cyberchondria: The mediation effects of health anxiety and obsessive–compulsive symptoms in a community sample. *Curr Psychol.*, 40:2820–2831 (2021).

21. An illustrated guide of COVID appropriate behaviour. Available from https://www.mohfw.gov.in/pdf/Illustrativeguidelineupdate.pdf (Last accessed on 13.08.2021)

22. Mental health and psychosocial considerations during the COVID-19 outbreak https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf?sfvrsn=6d3578af_10 ( Last accessed on 03.10.2020)

23. https://www.oncnursingnews.com/web-exclusives/stress-management-and-self-care-during-covid-19-nccn-publishes-guidelines (Last accessed on 03.10.2020).