International Journal of Community Medicine and Public Health
Dalal D et al. Int J Community Med Public Health. 2021 Jun;8(6):3048-3054
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20212013

Original Research Article

A single-center study on impact of psychological intervention to acclimatize medical staffs who are serving COVID-19 disease patients, to continue hospital activities without any disruption

Dhaval Dalal[1], Kamalpriya Thiyagarajan[2], Humeshwari Nipane[3], Vijaykumar Gawali[3]*

[1]Department of General Medicine, [2]Department of Obstetrics and Gynecology, [3]Department of Medical Research, Bhaktivedanta Hospital and Research Institute, Thane, Maharashtra, India

Received: 15 April 2021
Accepted: 11 May 2021

***Correspondence:**
Dr. Vijaykumar Gawali,
E-mail: drvijaykumar@bhaktivedantahospital.com

ABSTRACT

Background: COVID-19 has brought psychological disorders that affect health care workers and the general public. Hence it is important to have necessary counselling to address the psychological, social aspects of the pandemic to ensure psychological well-being of especially Health-care Workers and preserve their innate and acquired immunity.
Methods: The study was planned as single centre retrospective study and conducted between April and June 2020 at dedicated COVID-19 hospital in India. Front-line HCWs more than 18 years, of any gender working in COVID-19 hospital and willing to participate for the study were enrolled in the study. Study included two questionnaires, generalized anxiety disorder scale, and socio-demographics and COVID-19 related awareness questionnaire. Measurements were taken pre and post the psychological counselling intervention.
Results: As per generalized anxiety disorder (GAD) scale people suffering from moderate anxiety disorder dropped from 19% (pre counselling) to 5% (post counselling) and severe cases dropped from 14% (pre counseling) to 2% (post counseling), there was statistically significant difference observed due to psychological intervention in GAD scale (Chi square test-10.794, p value=3.67E-27). Socio demographics and COVID-19 related awareness questionnaire results were statistically significant (Chi square test-11.945, p value=6.91E-33).
Conclusions: Counselling interventions based on scientific data offered in groups by investigator with an accurate knowledge of the COVID-19 and its manifestation increased the confidence of health care workers (HCWs) and reduced anxiety level. This was translated into the full availability of HCWs on the clinical study site, although medical services were disrupted while other hospitals were starving due to lack of staff.

Keywords: COVID-19, Health care workers, Medical staff, Mental stability, Psychological resilience, Psychological

INTRODUCTION

Corona virus disease (COVID-19) is a significantly infectious viral pandemic influencing more than one million peoples in excess of 200 countries around the globe. It was broadcast as a public health emergency of international concern (PHEIC) by World Health Organization (WHO) in January 2020. This disease is caused by novel COVID-19 severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) and was first revealed in December 2019 in the Chinese district of Wuhan.[1]

COVID-19 has bring about negative feelings, psychological disorders such as anxiety, depression, insomnia, anger, fear, and stress, that affect health care workers (HCW), medical staff, and the general public.[2-5] And hence it is important to have necessary counselling intervention to address the psychological, social aspects of the pandemic to ensure psychological well-being of

healthcare workers during the COVID-19 pandemic is ensured.[6-7] Psychological counseling and awareness about the pandemic is necessary to equip HCW to preserve their innate and acquired immunity and how to enhance them effectively.[8]

Now in April 2021 the world is fully conversant with necessary precautions about the disease prevention, however at the time of pandemic peak in April 2020 to till now, knowledge of necessary precautions is very much crucial to ensure protection from the COVID-19 disease.

A recent study designed for the purpose of psychological counselling so that we can impart authentic scientific knowledge about the disease instead of hearsay knowledge. Objective of the study is to evaluate the impact of psychological intervention on well being of front-line HCWs serving COVID-19 disease patients.

METHODS

Study design

The study was planned as a single-center; questionnaire based retrospective study on HCWs and was conducted between April 2020 and June 2020 at a dedicated COVID-19 hospital in India. Bhaktivedanta Hospital Ethics Committee for Biomedical and Health Research is Government of India accredited (EC/NEW/INST/2019 /245) and approved the research protocol.

Eligibility criteria

Inclusion criteria

Asymptomatic front line HCWs 18 years onwards, all genders. HCWs who are working at least 4 days a week (minimum 5-6 hours' work per day) in the hospital and intensive care unit (ICU) were enrolled in the study.

Exclusion criteria

Patients who have a current history of anxiety, depression and are on medication for the same were excluded from the study.

Procedures

Study team screened 235 front line HCWs and enrolled 226 participants as 9 participants met exclusion criteria of having history of anxiety. Analysis was done on 216 participants as remaining 10 participants didn't filled post counselling questionnaire.

Printed questionnaires were hand distributed and responses were recorded. Post voluntary consent, participants were asked to fill two questionnaires namely, "generalized anxiety and depression scale (GAD scale)", and "COVID-19 related knowledge and worries questionnaire". Expert and participants validation completed by 5 experts and 11 participant representatives for "socio demographics and questionnaire to evaluate knowledge and worries related questionnaire". The GAD-7 scale is a 7-item and it focuses on ongoing indications (i.e. in the past two weeks). The GAD-7 is self-rated scale; it is used as a screening tool to measure the severity of anxiety. Participant's responses are rated on a 4-point Likert-type scale from 0 being not at all to 3 being nearly every day. The scale then measures anxiety as minimum or no anxiety (0–4), mild (5–9), moderate (10–14) and severe (15–21).[9]

Statistical analysis

The study is planned to check the effectiveness of post psychological intervention during COVID-19 disease. Samples of size 216 HCWs were analysed. Descriptive statistical analyses were performed for the study sample. The gender is presented in percentage. The statistical analysis was done using statistical package for social sciences (SPSS) version 22.0. All qualitative data were expressed as proportions and percentages. Chi-square test was to analyse pre and post intervention.

Role of funding source

The funder of the study had no role in the study design, data collection, data analysis, data interpretation or writing of the report. The corresponding author had full access to all the data in the study and had final responsibility for the decision to submit for publication.

RESULTS

Out of the total 216 participants, 66 (31%) were males and 150 (69%) were females with a common age range of 22 to 56 year. Among the included participants, 98 (45%) were doctor and nurse, 9 (4%) were housekeeping and 109 (51%) were other hospital auxiliary staff i.e. technicians, pharmacist, IT, and assistants respectively.

The median age of respondents was 33 years old were 2 men and 7 women. The results of the present study are presented under the two sub-headings namely "4.1 - GAD scale", and "4.2 - socio demographics and COVID-19 related awareness questionnaire". There were no statistically significant differences in psychological impact based on gender or age.

GAD-7 pre psychological counselling intervention results

In our study, 216 study participants filled out questionnaires. The result of mean findings of pre psychological counselling interventions in the GAD-7 scale shows 75 (35%), 86 (40%), 35 (16%), 20 (9%) study participants answered not at all sure, several days, over half the days and nearly every day respectively, when inquired about feeling nervous and anxious (Figure 1). Mean of percentage of participants responses stating not at all sure, several days, over half the days and nearly every day were

35, 40, 15 and 10 respectively in GAD scale of pre-counselling intervention. In GAD scale, when inquired that, If you checked off any problem on this questionnaire so far, how difficult have these problems made it for you to do your work take care of things at home, or get along with other people, 70 (32%), 88 (41%), 44 (20%), 14 (7%) participants responded not difficult at all, somewhat difficult, very difficult and extremely difficult respectively.

Study results depicted 14%, 19% and 67% participants were "severe", "moderate "and "none to mild "respectively when graded for the generalized anxiety and depression severity (Figure 2).

GAD-7 post psychological counselling intervention results

In our study, 216 study participants filled out questionnaires. The result of mean findings of post-psychological counselling interventions in the GAD-7 scale shows 162 (75%), 41 (19%), 10 (5%), 2 (1%) study participants answered not at all sure, several days, over half the days and nearly every day respectively, when inquired about feeling nervous and anxious (Figure 3).

Mean of percentage of participants responses stating not at all sure, several days, over half the days and nearly every day were 76, 19, 4 and 1 respectively in GAD scale for post-counselling intervention. In GAD scale, when enquired that, If you checked off any problem on this questionnaire so far, how difficult have these problems made it for you to do your work take care of things at home, or get along with other people, 157 (73%), 39 (18%), 18 (8%), 2 (1%) participants responded not difficult at all, somewhat difficult, very difficult and Extremely difficult respectively. There was statistically significant difference observed due to psychological intervention in GAD scale (Chi square test-10.794, p value=3.67E-27).

Study results depicted 93%, 5% and 2% participants were "severe", "moderate "and "none to mild" respectively when graded for the generalized anxiety and depression severity (Figure 4).

Socio demographics and COVID-19 related awareness questionnaire pre psychological counselling intervention result

Study results are described in Figure 5 pertaining to 216 study participants responses to "socio demographics and COVID-19 related awareness questionnaire" for pre-counselling intervention. The result of mean findings of post-psychological counselling interventions in the GAD-7 scale shows 86 (40%), 78 (36%), 52 (24%) member's answered not at all, somewhat, very much respectively when asked about, "are you worried about government arrangements to control corona virus". The mean findings in our study, 70 (32%) and 86 (40%), 60 (28%) participants responded not at all, somewhat, very much when asked about worry being infected, infecting family, feeling avoided by others, being isolate, mood swings, sleep disturbance respectively.

Socio demographics and COVID-19 related awareness questionnaire post psychological counselling intervention

Study results are described in Figure 6 pertaining to 216 study participants responses to "socio demographics and COVID-19 related awareness questionnaire" for post counselling intervention. The result of mean findings of post-psychological counselling intervention shows 154 (71%), 49 (23%), 13 (6%) member's answered not at all, somewhat, very much respectively when asked about, "are you worried about government arrangements to control corona virus". Mean findings in our study, 164 (76%) and 42 (20%), 10 (4%) participants responded not at all, somewhat, very much when asked about worry being infected, infecting family, feeling avoided by others, being isolate, mood swings, sleep disturbance respectively. Socio demographics and COVID-19 related awareness questionnaire results were statistically significant (Chi square test-11.945, p value=6.91E-33).

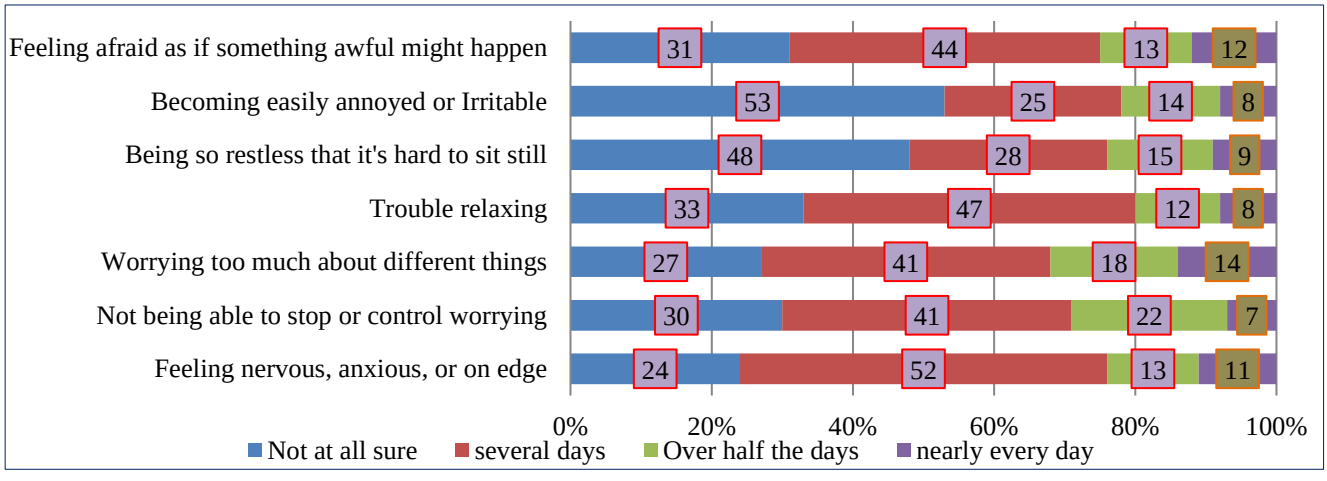

Figure 1: GAD-7 scale pre psychological counselling intervention (in percentage).

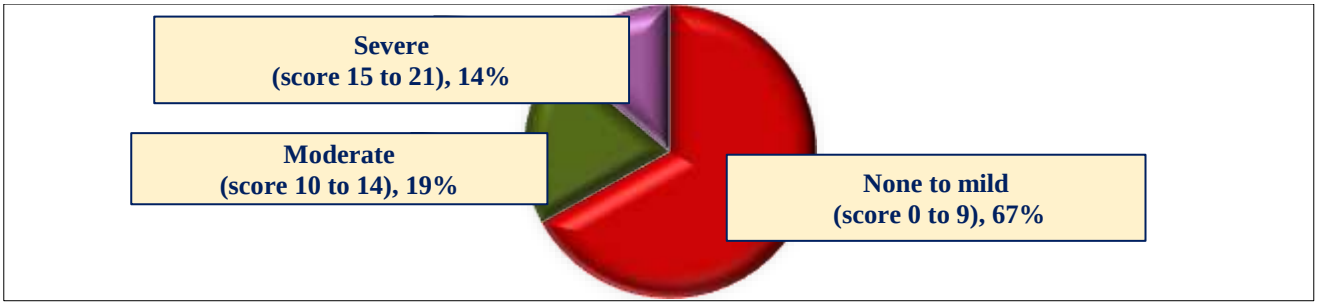

Figure 2: Severity grading for GAD-7 (pre-counselling).

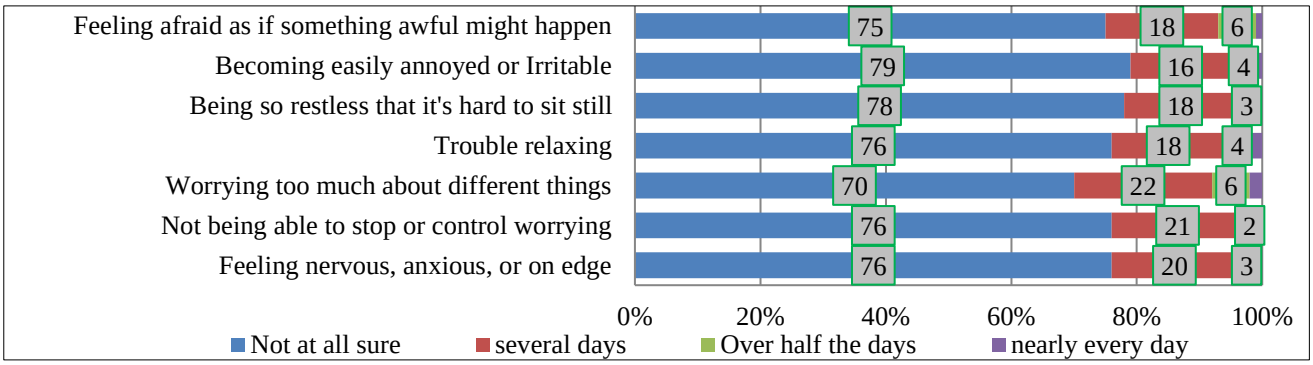

Figure 3: GAD-7 scale post psychological counselling intervention (in percentage).

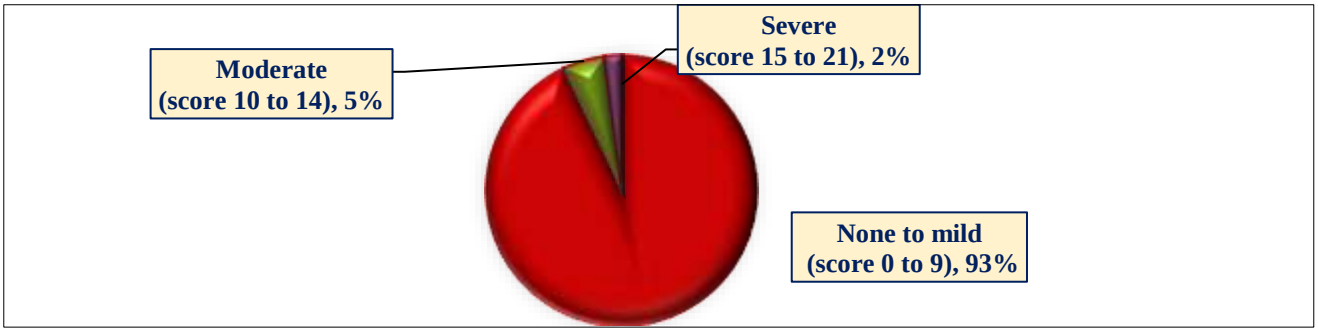

Figure 4: Severity grading for GAD-7 (post counselling intervention).

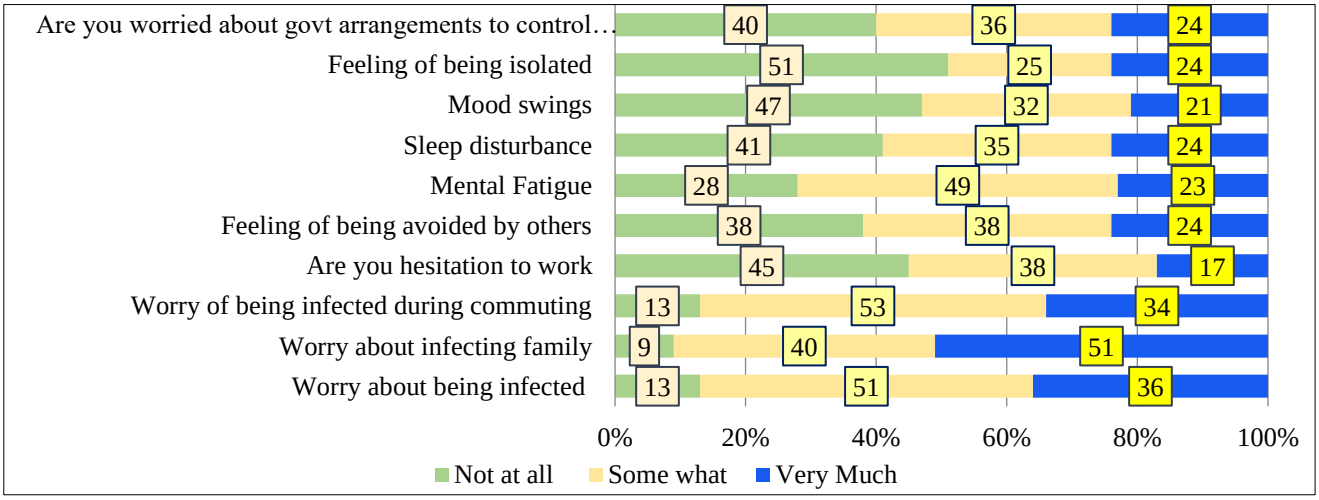

Figure 5: Questionnaire to evaluate knowledge and worries related to COVID-19 (pre psychological counselling intervention).

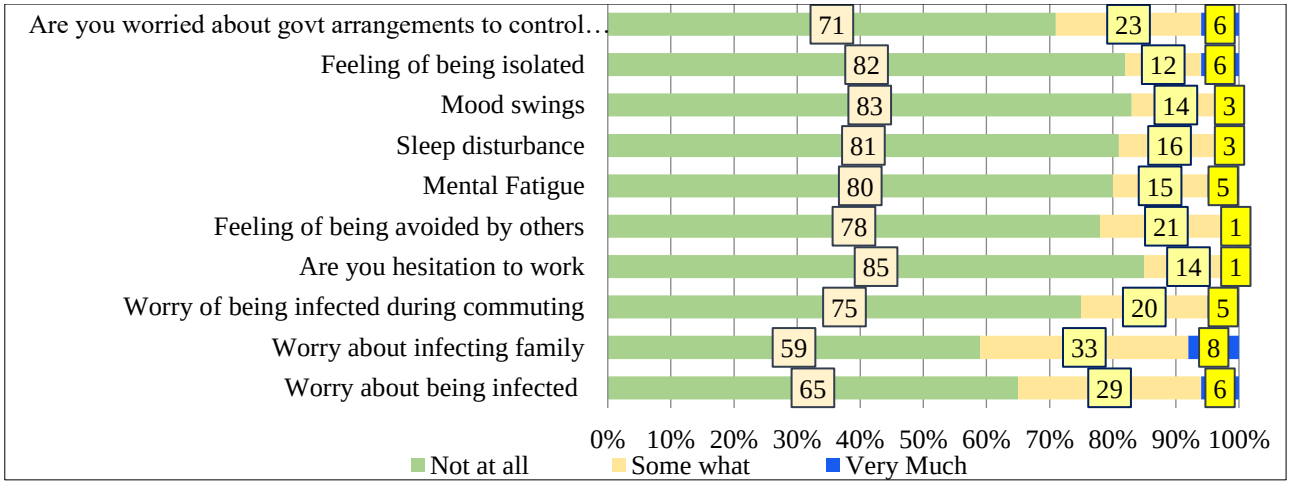

Figure 6: Questionnaire to evaluate knowledge and worries related to COVID-19 (post-psychological counselling intervention).

DISCUSSION

There are multiple studies focusing on measurements of the severity of GAD-7, but there are no specific comprehensive studies that can help HCWs deal with any level of mental illness associated with this disease. This study focuses on the impact of a unique psychological counselling intervention with data of 216 healthcare workers participants. Since April 2020, widespread uncertainty and fears of possible death arose. And so it felt like medical staff needed help because healthcare workers were unwilling to come to the workplace due to fear of contracting the diseases. Also health care workers family members discouraged them to attend for hospital duties.

Discussion is presented in sub headings i.e. "5.1 - GAD-7" pre and post psychological counselling intervention, and "5.2 - socio-demographic and to evaluate knowledge and worries related to COVID-19, measurements were taken pre and post psychological counselling intervention.[10]

GAD-7 compare between pre and post psychological counselling intervention

Multiple studies have used GAD-7 scale to determine psychological health in COVID-19 prophylaxis.[11-13] Notably, as per the study findings, psychological counselling intervention helped tremendously, people suffering from moderate anxiety disorder dropped from 19% (pre-counselling) to 5% (post-counselling) and severe cases dropped from 14% (pre-counseling) to 2% (post-counseling).

Socio demographics and COVID-19 related awareness compare between pre and post psychological counselling intervention

Many studies shown, due to the COVID-19 pandemic people reported higher levels of emotional distress, depression, stress, mood swings, irritability and insomnia.[14] It was observed that anxiety, depression, stigmatization, insomnia were some of the psychological responses to the pandemic. Although people understand the need for quarantine and social distancing, being quarantined evoked a sense of isolation and abandonment among the population.[15]

As per the findings of pre and post psychological intervention on Socio demographic scale counselling session helped tremendously, people having trouble over half the days dropped from 28% (pre-counseling) to 4% (post-counseling) and people having troubles several days dropped from 40% (pre-counseling) to 20% (post-counseling).

The psychological situations prevalent in April 2020 compelled us to devise a strategy to address the rampant fear anxiety dominated behaviors among the health care staff. Phenomenon of catastrophization made things worst. Ignorance of the disease, lack of standardized proper treatment protocols, and constant news of adverse outcomes along with family pressures created massive functional instability at a time when hospital needed health care workers to report on duty to face the heavy patient onslaught. Also, it was seen that similar features of psychological instability were seen among outpatient departments who came with psychological symptoms of chest tightness, palpitation, and lack of ability to focus, sleep disturbances all indicating that is now being termed as corona psychosis.

As part of the psychological intervention, counselling worked by providing scientific knowledge about the disease agent and its manifestation. Group mobility worked well because counselling was done in small groups with authentic data rather than hearsay knowledge. Concepts of innate and acquired immunity and how to boost them effectively, hygienic protocol before leaving home while at the workplace and returning home were explained scientifically. Natural remedies promoted with scientific based evidence about its efficacy helped our

health care workers to fearlessly attend their respective duties. Hospital management formulated "rapid action force team", which was assigned to take complete responsibility of family members in an event healthcare workers get contracted with the diseasee. This boosted the confidence of the staff. Bhaktivedanta Hospital and Research Institute of Thane, Maharashtra, India did not have to go through the turmoil situation of lack of staff, because its staffs even from far off were coming to offer their services.

Our intervention study stated that in this case there will be symptoms that look like any other flu, such as fever or cough or lack of smell and taste. And they should report it and not hide it. People were hiding it because of some stigma. So they were expected to report this to the hospital so that timely intervention could be planned before any problems arose.

In addition, our intervention was on to adopt a lifestyle that would include some scientifically proven medical formulas that were natural. Because the mass of common people easily understand this level of care consisting of these ingredients. Healthcare workers were happy to do that when they were explained how each element has a scientific base. Examples of turmeric and black pepper are known to work on the viruses and increase the levels of natural killer cells. Hence each and every ingredient was explained. Participants were explained about homemade immune booster herbal medicinal drink consisting of a mixture of turmeric powder, black pepper powder, jaggery, shredded ginger to be boiled in the required amount of water. Scientific reasoning, along with authentic data on the use of dietary supplements such as vitamin C, zinc, and curcumin was also explained in vernacular language.

Along with psychological counselling standard precautionary measures mainly using facial masks, regular hand washing with soap or disinfection by hand sanitize; maintaining social distance was adequately stressed.16

Personalized psychological supportive care of frontline healthcare workers during large scale health crisis is of paramount importance for successful execution of the mission at hand.

Limitations

Interpretations of the study need to be studied in light of following limitations of the study. All tools used in the study are self-rating to assess mental health indicators with no contributory clinical assessment.

CONCLUSION

Counselling interventions based on scientific data offered in groups by investigator with an accurate knowledge of the COVID-19 and its manifestation increased the confidence of HCWs and reduced anxiety level. This was translated into the full availability of HCWs on the clinical study site, although medical services were disrupted while other hospitals were starving due to lack of staff.

ACKNOWLEDGEMENTS

Authors would like to thank Mrs. Snehal Mayekar and Mrs. Prerna Ghosh.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Peng L, Liu KY, Xue F, Miao YF, Tu PA, Zhou C. Improved early recognition of coronavirus disease-2019 (COVID-19): single-center data from a Shanghai Screening Hospital. Arch Iranian Med. 2020;23(4):272-6.
2. Roy D, Tripathy S, Kar SK, Sharma N, Verma SK, Kaushal V. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. Asian J Psychiatr. 2020;51:102083.
3. Zhou SJ, Zhang LG, Wang LL, Guo ZC, Wang JQ, Chen JC, Liu M, Chen X, Chen JX. Prevalence and socio-demographic correlates of psychological health problems in Chinese adolescents during the outbreak of COVID-19. Eur Child Adolesc Psychiatr. 2020;29(6):749-58.
4. Hall RC, Hall RC, Chapman MJ. The 1995 Kikwit Ebola outbreak: lessons hospitals and physicians can apply to future viral epidemics. Gen Hospital Psychiatr. 2008;30(5):446-52.
5. Hu CC, Huang JW, Wei N, Hu SH, Hu JB, Li SG, Lai JB, Huang ML, Wang DD, Chen JK, Zhou XY. Interpersonal psychotherapy-based psychological intervention for patient suffering from COVID-19: A case report. World J Clin Cases. 2020;8(23):6064.
6. Holmes EA, O'Connor RC, Perry VH, Tracey I, Wessely S, Arseneault L, Ballard C, Christensen H, Silver RC, Everall I, Ford T. Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. Lancet Psychiatr. 2020.
7. Salari N, Hosseinian-Far A, Jalali R, Vaisi-Raygani A, Rasoulpoor S, Mohammadi M, Rasoulpoor S, Khaledi-Paveh B. Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. Globalization and health. 2020;16(1):1-1.
8. Smith CA, Levett KM, Collins CT, Armour M, Dahlen HG, Suganuma M. Relaxation techniques for pain management in labour. Cochrane Database System Rev. 2018(3).
9. Mok E, Chung BP, Chung JW, Wong TK. An exploratory study of nurses suffering from severe acute respiratory syndrome (SARS). Int J Nurs Practice. 2005;11(4):150-60.

10. Ozamiz-Etxebarria N, Santa María MD, Munitis AE, Gorrotxategi MP. Reduction of COVID-19 anxiety levels through relaxation techniques: a study carried out in northern Spain on a sample of young university students. Front Psychol. 2020;11.
11. Löwe B, Decker O, Müller S, Brähler E, Schellberg D, Herzog W, Herzberg PY. Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population. Med Care. 2008:266-74.
12. Ahmed N, Shakoor M, Vohra F, Abduljabbar T, Mariam Q, Rehman MA. Knowledge, awareness and practice of health care professionals amid SARS-CoV-2, corona virus disease outbreak. Pak J Med Sci. 2020;36(4):49.
13. Tillu G, Chaturvedi S, Chopra A, Patwardhan B. Public health approach of ayurveda and yoga for COVID-19 prophylaxis. J Alternative Complement Med. 2020;26(5):360-4.
14. Wang Y, Xu B, Zhao G, Cao R, He X, Fu S. Is quarantine related to immediate negative psychological consequences during the 2009 H1N1 epidemic? Gen Hosp Psychiatr. 2011;33(1):75-7.
15. Chew QH, Wei KC, Vasoo S, Chua HC, Sim K. Narrative synthesis of psychological and coping responses towards emerging infectious disease outbreaks in the general population: practical considerations for the COVID-19 pandemic. Trop J Pharm Res. 2020;61(7).
16. Chang D, Xu H, Rebaza A, Sharma L, Cruz CS. Protecting health-care workers from subclinical coronavirus infection. Lancet Resp Med. 2020;8(3):13.

Cite this article as: Dalal D, Thiyagarajan K, Nipane H, Gawali V. A single-center study on impact of psychological intervention to acclimatize medical staffs who are serving COVID-19 disease patients, to continue hospital activities without any disruption. Int J Community Med Public Health 2021;8:3048-54.