

MENTAL HEALTH SUPPORT PROGRAM FOR HEALTHCARE PROFESSIONALS IN A PANDEMIC HOSPITAL IN TURKEY AND ITS RESULTS ON ANXIETY, DEPRESSION, INSOMNIA AND SEXUAL DISORDERS

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SUMMARY

Background: The COVID-19 pandemic has put enormous stress on the health care workers, threatening not only their physical health but also their mental well-being. No mental health support program (MHSP) addressing depression and anxiety in healthcare workers (HCWs), has been shown to be effective in Turkey previously. We aimed to measure the effect of our MHSP among healthcare workers who applied for psychological help associated with the COVID-19 pandemic.

Subjects and methods: An MHSP has been created for healthcare professionals working in a pandemic hospital during the COVID-19 period. Health workers were recruited between July and September 2020. Anxiety, depression, and insomnia levels were evaluated with HAM-A (Hamilton Anxiety Scale), HDRS (Hamilton Depression Scale), and Insomnia Severity Index (ISI) before and after the intervention. Sexual complaints were questioned by a consultant psychiatrist. MHSP (n=31), and treatment as usual (TAU, n=27) groups were compared using repeated-measures ANOVA.

Results: Sociodemographic data, medical history of COVID-19, and psychiatric diagnoses were similar between the groups. There was no difference in baseline HAM-A, HDRS, and ISI scores ($p>0.05$). At the end of the study, there was a significant difference between study groups regarding anxiety scores (For post-treatment, MHSP=8.0±2.6 vs. TAU=17.9±3.1, $p<0.001$) and depression symptoms (For post-treatment, MHSP=8.8±2.7 vs. TAU=20.0±2.4, $p<0.001$) but not in insomnia levels (For post-treatment, MHSP=6.5±2.4 vs. TAU=7.3±2.4, $p=0.499$). Likewise, both groups reported similar levels of improvement in reduced sexual drive.

Conclusions: Our study results suggest that the MHSP effectively alleviates the psychiatric complaints of healthcare professionals. It is recommended to have mental support teams for healthcare professionals in hospitals.

Key words: COVID-19 - mental support - healthcare workers - insomnia

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INTRODUCTION

Since the beginning of the COVID-19 pandemic, healthcare workers (HCWs) faced several psychological burdens such as the fear of transmitting the disease to their family members, work overload, intensive shifts, insufficient protective equipment, the lack of support, violence, and possible stigmatization (Cai et al. 2020a, Franza et al. 2020, Teksin et al. 2020, Ogutlu et al. 2021, Shoib et al. 2021). Many studies investigating the impact of the COVID-19 pandemic on mental health reported that HCWs suffered from psychiatric symptoms such as anxiety, depression, and sleeping problems (Mosolova et al. 2020, Pappa et al. 2020, Salopek-Ziha et al. 2020, Usul et al. 2020). A meta-analysis found that anxiety (37%), depression (36%), and insomnia (32%) were common among HCWs (Sun et al. 2021). Another meta-analysis also reported similar prevalences for anxiety and depression, and that approximately 40% of all HCWs had insomnia (Pappa et al. 2020). In addition, HCWs who worked in COVID-19 units experienced more psychiatric symptoms than other HCWs and non-HCWs (Cai et al. 2020b, García-Fernández et al. 2020,

Zhang et al. 2020). In Turkey, results indicated depression (77.6%), anxiety (60.2%), and insomnia (50.4%) were fairly common among HCWs, and working on the front line was identified as a risk factor for mental health problems (Şahin et al. 2020). Also, the prevalence of depression, anxiety, and insomnia among HCWs was shown to be increasing significantly as time passes and the epidemic continues, which draws attention to the issue (Mahmud et al. 2021). Moreover, it is known that psychological factors such as depression and anxiety affect individuals' sexual drive (Baldwin 2001, Tırgari et al. 2019). In studies regarding sexual life during the COVID-19 period, a decrease of up to 40% in the sexual functioning of the general population has been reported (Jacob et al. 2020, Karsiyakali et al. 2021).

In line with all these psychological effects of the COVID-19 pandemic, it is recommended to develop structured mental health support programs (MHSP) for HCWs, including working groups and an intervention model to support healthcare professionals (Cabarkapa et al. 2020, Xiang et al. 2020, Fanaj & Mustafa 2021). Although some researchers previously suggested MHSPs are effective (Mellins et al. 2020, Weiner et al. 2020),

more studies are needed to establish their effects on the symptoms of HCWs. For instance, a program utilizing cognitive-behavioral therapy (CBT) yielded faster results in depression, anxiety, and stress symptoms of inpatients with COVID-19 compared to the treatment as usual (TAU) group (Li et al. 2020). In another study, an MHSP effectively reduced affective symptoms of healthcare professionals; although it is important to note there was no comparison group in this study (Cheng et al. 2020). Considering outcomes of these specific interventions are still lacking, more empirical evidence is needed to establish the effectiveness of MHSPs for HCWs.

HCWs may suffer from psychiatric symptoms, such as depression, anxiety, sleep disturbance, and sexual dysfunction during the COVID-19 epidemic. Although mental support programs are recommended to alleviate these symptoms (Shaukat et al. 2020), they are rarely applied in real-world settings. There are several mental health support programs in Turkey (Health Directorate of Istanbul 2021, İstanbul Psychoanalytic Association for Training Research and development 2021) but their outcomes are yet to be published. In this study, we aimed to investigate the effectiveness of an MHSP created for HCWs during the epidemic period in our hospital. We measured depression, anxiety, insomnia, and sexual desire levels of HCWs at baseline and at the end of the MHSP. The change in psychiatric symptoms was compared with those receiving treatment as usual (TAU). We hypothesized that our MHSP would effectively improve the symptoms of anxiety and depression in HCWs compared to the TAU group. Second, we expected our program would be effective in reducing the insomnia symptoms of the participants. In addition, investigating the improvement in the sexual symptoms of HCWs was the explorative aim of the study.

SUBJECTS AND METHODS

Participants and Recruitment

HCWs who applied between July and September 2020 were included in the study. HCWs receiving the psychotherapeutic intervention formed the MHSP group (n=31). The comparison group consisted of HCWs who received TAU, who applied to psychiatry outpatient clinics due to mental distress associated with the COVID-19 pandemic (n=27).

Six of the 42 healthcare professionals did not continue the sessions after the first sessions. Thirty-one of them completed eight sessions. Eleven subjects withdrew their consent in the course of MHSP. Exclusion criteria were having mental symptoms that were not associated with COVID-19, the diagnosis of a psychotic disorder, a bipolar disorder, autism spectrum disorder, substance use, intellectual disability, and not being between 18-65 years.

All patients gave written informed consent for the study. The Local Ethics Committee reviewed and approved the study protocol (Number: KA EK/

2020.07.125). The study was registered in the scientific research platform of the Turkish Ministry of Health on 05.05.2020 (registration number: 2020-05-05T14_07_56). Turkish Ministry of Health scientific research commission also approved the study (<https://bilimselarastirma.saglik.gov.tr>).

Materials

Hamilton Depression Rating Scale (HDRS)

Hamilton Depression Rating Scale (HDRS) is a 17-item scale developed to determine the level and severity of depressive symptoms and is administered by an interviewer (Hamilton 1960). The scale grades the severity of depression in the intervals of 0-7 points ("no depression"), 8-12 points ("mild depression"), 13-17 points ("moderate depression"), 18-29 points ("severe depression") and 30-52 points ("very severe depression"). The validity and reliability study of the Turkish version was conducted by Akdemir et al. (1996) (Akdemir et al. 2001).

Hamilton Anxiety Scale (HAM-A)

Hamilton Anxiety Scale (HAM-A) measures the level of anxiety and anxiety-related symptoms by indicating the severity (Hamilton 1959). It is a 5-point Likert-type scale with two subscales that evaluate mental and somatic symptoms of anxiety. The scale has to be applied by an interviewer, and each item is scored between 0-4. The severity intervals are 0-5 ("No anxiety"), 6-14 ("Mild anxiety"), and more than 15 ("Major anxiety"). The Turkish validity and reliability study was conducted by Yazıcı et al. (1998) (Yazıcı MK 1998).

Insomnia Severity Index (ISI)

Insomnia Severity Index (ISI) is a valid and reliable measurement tool that was developed to evaluate the severity of insomnia (Célyne H Bastien 2001). The scale items, consisting of seven questions, are scored between 0 and 4. The total scores obtained from the scale ranges between 0-28. The score between 0 and 7 indicates "clinically insignificant insomnia". The lower threshold for mild insomnia was 8-14. 15-21 shows clinically significant insomnia (moderate), and 22-28 shows severe insomnia. Boysan et al. (2010) conducted the validity and reliability study in Turkey (Boysan et al. 2010).

Structured Clinical Interview for the diagnostic and statistical manual of mental disorders 4th edition Axis I Disorders

Structured Clinical Interview for diagnostic and statistical manual of mental disorders 4th edition (DSM-IV), Clinical Version (SCID-I) was originally developed by First et al. (1997) (First et al. 1997). In our study, the SCID-I was applied to determine diagnoses according to DSM-IV. The validation study of SCID-I in the Turkish population was performed by Özkürkçügil et al. (1999) (Özkürkçügil et al. 1999).

Questionnaire Form

The questionnaire form (QF) includes sociodemographic characteristics of the clients such as age, gender, and psychiatric history. We also asked a set of Likert-type questions concerning COVID-19 related worries. It evaluates five areas of concern: i) the fear of infecting others, ii) fear of catching COVID-19, iii) profession-related concerns, iv) uncertainty, v) the news spread in social media. An example question is as follows: "How much are you concerned about catching COVID-19?". Possible answers could be coded between 1 and 5 (1=none, 2=very mild, 3=mild, 4=moderate, 5=severe) (see supplementary material).

The loss of sexual drive was also screened as an exploratory aim of the study. A consultant psychiatrist interviewed all sexually active subjects to assess the presence of hypoactive sexual desire at the beginning of the study. At the end of the 9-week program, individuals who reported hypoactive sexual drive were re-evaluated for any improvement in sexual life. An experienced psychiatrist rated the overall change in sexual desire based on the clinical interview (1=Very much improved, 2=Much (at least 50%) improved, 3=No significant change, 4=Worsening). At least "much improved" was set a priori threshold to define treatment response.

Design

All measurements and scales were implemented at baseline (pre-treatment) and at the ninth week by a blind rater. A psychiatry consultant evaluated psychiatric diagnoses and the severity of sexual complaints since both required clinical expertise. Intervention in the MHSP group consisted of eight online therapy sessions, while the TAU group only received regular psychiatric care.

Mental health support program

The study was conducted in a training and research hospital located in the most crowded city of Turkey, Istanbul. During the epidemic, an MHSP was established to serve the HCWs of the hospital. HCWs who suffered from COVID-19-related mental distress and sought help could apply to this MHSP. We created a text announcement for the program and invited those in need by word-of-mouth. This information and invitation text about the program was also announced via mobile phones of all hospital staff and the software system of the hospital twice a month. The program did not have any financial cost and was free for all HCWs.

The applicants first met with a clinician and their symptom severity was rated by a blind rater. After this meeting, the clinician directed the applicants to the acute mental health support team and a therapist was assigned to each patient in turn. Patients were taken to sessions by their therapists once a week for at least eight weeks. The psychotherapist who was assigned in the first interview conducted all sessions. Between sessions, psychotherapists consulted the responsible psychiatrist if

they needed supervision (including urgent conditions and suicidality). Whenever needed, medications were allowed for both study groups. At the end of the sessions, a blind rater evaluated the severity of symptoms again.

Acute mental health support team

It consisted of psychotherapists who voluntarily participated in the program. It consisted of psychiatrists and psychologists who were trained in CBT and who actively conducted therapy sessions with clients in their routine practice. Before starting the program, all therapists reached a consensus on the structure, intervals, durations, topics of sessions, and techniques implemented. Team meetings also included supervision for CBT techniques, motivational interviews, supportive therapy techniques, and relaxation exercises as per the consensus of therapists.

Sessions

CBT techniques have been reported as the most effective method for occupational distresses (Graham 2012). The general features of the sessions involved techniques focusing on anxiety, depression, and insomnia (Al-Alawi et al. 2021, Benhamou & Piedra 2020, Luik et al. 2019, Graham 2012).

First, the sessions were created to provide a safe and supportive environment to discuss clients' concerns to develop collaboration. This approach included active listening, reflection, and validation of the concerns (Pederson 2015, Al-Alawi et al. 2021). Psychoeducation was also a major component. The therapists explained the functional and dysfunctional parts of psychological responses. They also explained associations between cognitions and behaviors (Liu et al. 2021, de la Fuente et al. 2021, Luik et al. 2019). In addition, normalization for emotions was implemented in the sessions (e.g., "concerns about transmitting the disease to others, health-anxiety and uncertainty can be encountered frequently during epidemic periods and may not necessarily be signs of a mental disorder") (Kisely et al. 2020, Benhamou & Piedra et al. 2020). The main cognitions were addressed in the sessions. Epidemic-related negative appraisals were determined for cognitive restructuring (e.g., "I cannot cope with stress", "I will lose my family") (Ahmed Ali et al. 2021). Dysfunctional behavioral and cognitive strategies were also addressed during cognitive restructuring (e.g., "If I talk to my friends... They will ask me about the epidemic and the COVID-19 diagnosed patients in my hospital... thus I do not call my friends"). Behavioral modifications were suggested for dysfunctional behaviors (e.g., behavioral activation: "activities, which could include even small pursuits or home-based activities such as reading novels, watching favorite TV programs, watering plants and having online meetings with friends or colleagues" or to re-establish the association between bed and sleep: "establishing a standard wake-up routine; getting out of bed when awake") (Benhamou & Piedra et al. 2020,

Luik et al. 2019). Problem-solving and suggested coping strategies were also given as homework exercises to enhance the skills taught in the session (Ahmed Ali et al. 2021, Benhamou & Piedra et al. 2020).

Finally, therapists also suggested self-care interventions/strategies, including receiving supervision when needed, for a healthy lifestyle and sleep habits (Graham 2012, Luik et al. 2019). All sessions were 30-40 min and were delivered weekly.

Data analysis

Continuous variables were compared using Student's t-test for sociodemographic and baseline clinical data. Categorical variables were also tested using the chi-square test. Pre- and post-intervention levels of psychopathology were compared using repeated-measures ANOVA models for the time by group interaction. Age, education, employment years, and antidepressant use were entered as covariates in the models. Patients who did not report sexual complaints or were not sexually active were excluded from post-intervention comparisons. Statistical significance was set at 0.05 for all comparisons. Statistical Package for Social Sciences Version 24 (IBM Corporation, Armonk, NY) was used for data analysis.

RESULTS

Sociodemographic data, history of COVID-19, and antidepressant use of participants are shown in Table 1. There were 58 HCWs, including 29 nurses, six medical doctors, 23 other professionals. No statistically significant difference was found between the two groups regarding age, sex, marital status, or smoking. The

average duration of education and employment also did not differ between groups (14.4±3.6, 12.4±9.1 years in the MHSP group vs. 14.0±3.6, 11.7±8.6 years in the TAU group, $p=0.686$, $p=0.781$). The psychiatric diagnoses of the groups were also similar. Medical history of COVID-19 and antidepressant medication use did not differ between the groups ($p=0.931$, $p=0.228$).

Baseline and post-intervention symptom levels are shown in Table 2. Study groups were similar regarding baseline anxiety (MHSP group = 33.0±3.1 vs. TAU group = 32.5±3.2, $t=0.6$, $p=0.563$), baseline depression (MHSP group = 33.7±2.1 vs. TAU group = 3.2±3.4, $t=0.6$, $p=0.546$) and baseline insomnia (MHSP group = 22.1±3.1 vs. TAU group = 22.6±3.0, $t=0.6$, $p=0.530$) symptoms. After intervention, compared to the TAU group, the MHSP group demonstrated better improvement in anxiety (MHSP group = 8.0±2.6 vs. TAU group = 17.9±3.1, $F=114.3$, $p<0.001$) and depression (MHSP group = 8.8±2.7 vs. TAU group = 20.0±2.4, $F=108.8$, $p<0.001$) symptoms.

The severity of insomnia significantly decreased after 9-week clinical follow-up within both the MHSP (Baseline ISI = 22.1±3.1 to 6.5±2.4, $F=6.0$, $p=0.021$) and the TAU (Baseline ISI = 22.6±3.0 to 7.3±2.4, $F=16.5$, $p=0.001$) groups separately. Conversely, the improvement in insomnia scores did not differ between study groups. Overall, study groups reported similar rates of reduced sexual drive (TAU group, $n=14$, 51.9% vs. MHSP group, $n=17$, 56.7%, $\chi^2=0.1$, $p=0.933$). At the end of the study, individuals with hypoactive sexual desire (For the TAU group, $n=14$, and for the MSH group, $n=17$) reported an overall improvement in both groups ($\geq 0\%$ reduction according to the interviewer). However, the frequency of improvement was similar between study groups (TAU = 42.9% [$n=6$] vs. MHSP = 58.8 [$n=10$], $\chi^2=0.8$, $p=0.376$).

Table 1. Sociodemographic and clinical characteristics of both study groups

| | TAU group, n=27 | MHSP group, n=31 | Statistics | p value |
|---------------------------------------|-----------------|------------------|--------------|---------|
| Age, years, mean ± SD | 36.5±8.3 | 37.8±10.0 | $t=0.6$ | 0.580 |
| Gender, female, n (%) | 18 (66.7) | 20 (64.5) | $\chi^2=0.0$ | 0.864 |
| Married, n (%) | 20 (74.1) | 22 (71.0) | $\chi^2=0.1$ | 0.792 |
| Profession, n (%) | | | $\chi^2=0.6$ | 0.729 |
| Nurse | 12 (44.4) | 17 (54.8) | | |
| Medical Doctor | 3 (11.1) | 3 (9.7) | | |
| Other healthcare workers ^a | 12 (44.4) | 11 (35.5) | | |
| Education, years, mean ± SD | 14.0±3.6 | 14.4±3.6 | $t=0.4$ | 0.686 |
| Employment, years, mean ± SD | 11.7±8.6 | 12.4±9.1 | $t=0.3$ | 0.781 |
| Smoking, n (%) | 9 (33.3) | 13 (41.9) | $\chi^2=0.5$ | 0.501 |
| Psychiatric diagnoses n (%) | | | | |
| Depressive disorders ^b | 14 (51.9) | 15 (48.4) | $\chi^2=0.1$ | 0.792 |
| Anxiety disorders ^c | 12 (44.4) | 16 (51.6) | $\chi^2=0.3$ | 0.586 |
| PTSD | 2 (7.4) | 3 (9.7) | $\chi^2=0.1$ | 0.759 |
| History of COVID-19, n (%) | 9 (33.3) | 10 (32.3) | $\chi^2=0.0$ | 0.931 |
| Antidepressant use, n (%) | 10 (37.0) | 7 (22.6) | $\chi^2=1.5$ | 0.228 |

Note: COVID-19 = coronavirus disease-19; MHSP = mental health support; PTSD = post-traumatic stress disorder; SD = standard deviation; TAU = treatment as usual; ^aMedical secretary, cleaning staff, patient care staff, technical staff; ^bIncluding major depressive disorder and adjustment disorder with depressive mood; ^cIncluding anxiety disorders and adjustment disorder with anxiety

Table 2. The primary secondary and explorative outcome of the study

| | TAU group, n=27 | MHSP group, n=31 | Statistics | p value |
|---|-----------------|------------------|------------------------------|---------|
| <i>Primary Outcomes</i> | | | | |
| Depression, mean ± SD | | | | |
| HDRS (baseline) | 33.2±3.4 | 33.7±2.1 | <i>t</i> =0.6 | 0.546 |
| HDRS (9 th week) | 20.0±2.4 | 8.8±2.7 | <i>F</i> =108.8 ^a | <0.001 |
| Anxiety, mean ± SD | | | | |
| HAM-A (baseline) | 32.5±3.2 | 33.0±3.1 | <i>t</i> =0.6 | 0.563 |
| HAM-A (9 th week) | 17.9±3.1 | 8.0±2.6 | <i>F</i> =114.3 ^a | <0.001 |
| <i>Secondary Outcome</i> | | | | |
| Insomnia, mean ± SD | | | | |
| ISI (baseline) | 22.6±3.0 | 22.1±3.1 | <i>t</i> =0.6 | 0.530 |
| ISI (9 th week) | 7.3±2.4 | 6.5±2.4 | <i>F</i> =0.5 ^a | 0.499 |
| <i>Explorative Outcome</i> | | | | |
| Reduced sexual drive | | | | |
| Loss of sexual drive (baseline), n (%) ^b | 14 (51.9) | 17 (56.7) | $\chi^2=0.1$ | 0.716 |
| Improvement rate (9 th week), n (%) ^c | 6 (42.9) | 10 (58.8) | $\chi^2=0.8$ | 0.376 |

Note: HAM-A = Hamilton Anxiety Rating Scale; HDRS = Hamilton Depression Rating Scale; ISI = Insomnia Severity Index; MHSP = mental health support program; SD = standard deviation; TAU = treatment as usual; ^a Results were adjusted for age, education, years of employment, and the use of antidepressants. *F* values indicate time by group interactions to compare the change in both groups in repeated measures ANOVA; ^b One case in the MHSP group was not sexually active; ^c Subjects with hypoactive sexual desire were included in this analysis (For the TAU group n=14, and for the MHSP group, n=17). The overall change in sexual desire was rated based on the clinical interview (at least 50% improvement according to the interviewer's impression)

Table 3. Contents of worries of study participants

| Contents of worries (≥ moderate) | TAU group, n=27 | MHSP group, n=31 | χ^2 | p value |
|----------------------------------|-----------------|------------------|----------|---------|
| Contamination, n (%) | 27 (100.0) | 29 (93.5) | 1.8 | 0.179 |
| Health-anxiety, n (%) | 18 (66.7) | 16 (51.6) | 1.3 | 0.246 |
| Occupational, n (%) | 11 (40.7) | 14 (45.2) | 0.1 | 0.735 |
| Uncertainty, n (%) | 16 (59.3) | 12 (38.7) | 2.4 | 0.118 |
| News in social media, n (%) | 9 (33.3) | 3 (9.7) | 4.9 | 0.027 |

Note: MHSP = mental health support program; TAU = treatment as usual

Table 3 shows the comparison of contents of worries between the intervention group and the control group. The groups were similar regarding fear of infecting others, fear of catching COVID-19, profession-related concerns, and uncertainty. The news spread in social media-related worries were significantly higher in the control group than in the intervention group (*p*=0.027).

DISCUSSION

Our study results provided preliminary findings that MHSP programs could be beneficial to reduce COVID-19-related depression, anxiety, sleep problems, and sexual dysfunction symptoms of HCWs. To the best of our knowledge, this is the first report that presents the effectiveness of an MHSP in Turkey. Our study showed a significant improvement in anxiety/depression and insomnia levels of healthcare providers after the treatment program. The intervention group revealed a marked response to the MHSP, significantly higher than the TAU group. Considering our secondary and explorative purposes, the improvement in insomnia and reduced sexual drive were similar within both study groups.

After the COVID-19 outbreak, evidence-based psychosocial interventions and support programs were established for HCWs in Wuhan, China. These programs involved peer-group psychological support, regular exercise, and after-work social activities. A general improvement in psychological well-being was reported in HCWs who participated in this six-week program. The authors stated that this type of program could be an adequate approach to support medical teams with work overload (Cheng et al. 2020). A study conducted in the United Kingdom proposed regular breaks during work, improving communication skills, building social skills, designing adequate resting areas, and psychological first-aid programs for the psychological well-being of the hospital staff (Blake et al. 2020).

First, we want to address whether or not the MHSP program could provide a more robust recovery for psychiatric symptoms. In our study, improvement in anxiety and depression symptoms was more significant in patients treated with MHSP. MHSPs could be alternative treatment methods for HCWs during the COVID-19 era. The second topic is the mediators of the improvement. Specifically, our program did not include peer group support, social activity, regular exercise, or

communication skills, which were investigated in other studies. Instead, the effectiveness of the program was most probably related to problem-solving skills, and behavioral modifications suggested during the sessions. Finally, a supportive and empathetic approach taken during the sessions could also facilitate improvement. Skills gained in these individual sessions were helpful to provide further improvements in anxiety/ depression symptoms.

Some previous studies included limiting working hours, improving the quality of breaks, and the provision of adequate protective equipment (Cai et al. 2020a, Wong et al. 2020). Unfortunately, we did not have a support system to address occupational problems. We could only address their concerns and make recommendations. To provide better results, future research should also focus on the effects of administrative interventions.

During the COVID-19 pandemic in Turkey, increased rates of anxiety, depression, and insomnia have been reported both in the general population and among healthcare professionals (Şahin et al. 2020, Özdin & Özdin 2020). For this reason, psychological support programs were established for those seeking help due to COVID-19-related psychiatric symptoms (Health Directorate of Istanbul 2021, İstanbul Psychoanalytic Association for Training Research and development 2021). A psychological support line supported by the ministry of health was set up to serve the general public. People were directed to a mental health specialist (i.e., psychiatrist or psychologist) to have an interview according to their needs (Health Directorate of Istanbul 2021). The collaborative initiative of 'İstanbul Psychoanalytic Association for Training Research and development' developed the second program (İstanbul Psychoanalytic Association for Training Research and development 2021). Only HCWs working in pandemic hospitals could apply to the second program. Applicants were referred to the volunteer therapists who provided free sessions. Third, The Psychiatric Association of Turkey established a support line between April-May 2020 for HCWs. An MHSP was delivered via phone on request (The Psychiatric Association of Turkey 2021). However, according to our knowledge, the naturalistic outcomes of these approaches have not been published yet. Knowing the effectiveness of other support programs would be beneficial to detect the moderators of the improvement more accurately.

Focusing on a different topic, a previous study proposed that regular sleep habits are important for the psychological resilience of HCWs during the COVID-19 pandemic (Bozdag & Ergun 2020). In our study, insomnia symptoms improved after treatment in both MHSP and TAU groups, but there was no significant difference between groups. Considering that the MHSP program did not provide extra benefit for insomnia, we deduced that medications used may have had a confounding effect on the improvement. In clinical practice, the management of sleeping problems generally has effective pharmacological solutions (Lie 2015). Since medications were allowed in our study, it could be argued that our results

were inconclusive rather than negative in terms of insomnia-related symptoms.

Almost half of the participants reported hypoactive sexual desire. Reduced sexual desire somewhat improved in both groups at the end of follow-up, yet, both study groups had similar results. However, our mental support program did not contain a specialized technique for hypoactive sexual desire. Likewise, we did not use a psychometric scale for sexual problems, limiting the generalizability of findings. Considering sexual problems may be overlooked during stressful periods, it is also advisable for clinicians to investigate sexual problems and refer these individuals for sexual therapy in their routine clinical practice.

Protecting the psychological well-being of a medical team is crucial for efficient work, but existing literature concerning MHSP for healthcare professionals is scarce (Heath et al. 2020). MHSP and mental health support teams for healthcare professionals should be constantly available in hospitals. More importantly, MHSPs could evolve in the long run. Researchers continue to examine the effective and ineffective parts of the MHSPs by using qualitative feedback and quantitative data analysis. The improvements in the MHSPs are also crucial for contingency management of psychosocial crises and psychiatric disorders seen in HCWs.

Our study has some strengths and limitations. It was conducted in a single center and with a relatively modest sample. Also, the inclusion of different groups of health care workers in the same analysis could give rise to heterogeneity when considering the vulnerabilities of different working conditions that could vary among HCWs. Another limitation was that the sessions were not fully structured, and independent experts did not conduct the quality assessment. However, results indicated robust findings for the primary outcomes.

Additionally, we did not randomize participants. Participants who applied to MHSP could be more willing to receive psychotherapeutic treatment. Given the drop-out rate of the MHSP group, completer analysis could also be a source of bias. Volunteers who have completed the program might be more motivated to participate in the program, we could not rule out the confounding effect of this bias on our results. On the other hand, regarding the scarcity of the studies conducted in Turkey and considering the burden of acute social traumas, our program contributed to the literature. As a result, it may be suggested that mental support teams should be routinely used in hospitals and be activated in acute situations. By doing so, during extraordinary conditions, such programs can efficiently provide mental support for healthcare professionals.

CONCLUSIONS

In this study, being in the Mental Health Support Program ameliorated anxiety and depression symptoms in HCWs. Additional interventions are still needed for insomnia and sexual symptoms. Holistic approaches,

including social and occupational interventions, should be considered for future studies. More comprehensive treatment modalities can be beneficial for current and future crises.

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Contribution of individual authors:

Özgecan Tuna: Conceptualization, data curation, formal analysis, designed the data collection instruments, writing the first and last version of the manuscript

Çağatay Ermiş: Conceptualization, formal analysis, methodology, writing - review & editing.

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