



## Original Article

# The effects of online support program for nurses with COVID-19 patients on the professional quality of life and psychological empowerment perception: a randomized controlled trial

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### Abstract

**Objectives:** This study examines the effects of an online support program for nurses with Covid-19 patients on their professional quality of life and psychological empowerment.

**Methods:** This parallel randomized controlled experimental study with a pre- and post-test was prepared using the CONSORT 2010 checklist. This study was conducted online from July to December 2020 in Türkiye. The study was conducted with 48 nurses intervention group (n=24); control group (n=24) who were directly involved in the care of patients with Covid-19. The study data were collected using a personal information form, the Professional Quality of Life Scale and the Psychological Empowerment Scale (PES). An eight-session online support program was administered to the intervention group once a week. The scales were re-administered to the intervention and control groups after the program.

**Results:** The intervention group's post-test PES ( $t=-2.757$ ;  $p=0.008$ ;  $d=0.79$ ) and compassion satisfaction scores ( $t=-3.887$ ;  $p=0.000$ ;  $d=1.12$ ) increased significantly; their burnout ( $t=2.917$ ;  $p=0.005$ ;  $d=0.84$ ) and compassion fatigue ( $t=3.134$ ;  $p=0.003$ ;  $d=0.90$ ) post-test scores decreased significantly ( $p<0.05$ ). The intervention group's post-test PES ( $t=-4.926$ ;  $p=0.000$ ;  $d=1.01$ ) and compassion satisfaction scores ( $t=-3.524$ ;  $p=0.002$ ;  $d=0.71$ ) were significantly higher than their pre-test scores, and their compassion fatigue post-test score ( $t=3.646$ ;  $p=0.001$ ;  $d=0.72$ ) was significantly lower ( $p<0.05$ ).

**Conclusion:** This study's online support program for nurses with Covid-19 patients increased their psychological empowerment and compassion satisfaction, and reduced their levels of burnout and compassion fatigue.

**Keywords:** Burnout; compassion fatigue; compassion satisfaction; Covid-19; nurses; online support program; psychological empowerment.

Covid-19 was first detected in Wuhan, China's Hubei province in December 2019. It spread rapidly in China and then to many other countries; thus, it was declared a pandemic by the World Health Organization on March 11, 2020.<sup>[1]</sup> Although there are ongoing cases, a total of 620,878,405 confirmed Covid-19 cases and 6,543,138 deaths had been reported worldwide as of October 14, 2022.<sup>[2]</sup> The pandemic has caused serious psychological distress for all healthcare professionals.

<sup>[3-6]</sup> Studies have emphasized that the psychological stress of healthcare professionals, especially nurses working with Covid-19 patients and/or quarantined patients, should be diagnosed, and they should receive psychological support.<sup>[7-9]</sup>

Nurses are also more worried about being infected because they interact more with patients.<sup>[10,11]</sup> They have more occupational stress than other professional groups; thus, they are predisposed to anxiety and depression.<sup>[12-14]</sup> Their professional

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**What is presently known on this subject?**

- The professional quality of life of nurses with Covid-19 patients has been negatively affected by the pandemic. Accordingly, nurses experienced compassion fatigue and burnout, and their compassion satisfaction decreased.

Nurses need psychological support during the Covid-19 pandemic. Psychological empowerment studies that are prohibited to be held face-to-face during the pandemic should be conducted online.

**What does this article add to the existing knowledge?**

- The online support program for nurses with Covid-19 patients increased their compassion satisfaction while reducing their burnout and compassion fatigue levels.

The online support program for nurses was effective on psychological empowerment.

**What are the implications for practice?**

- This study found that its online support program for nurses was effective during the Covid-19 pandemic.

Psychological empowerment studies that are prohibited to be held face-to-face during the pandemic could be conducted online.

quality of life has been negatively affected by long working hours, heavy workloads, shiftwork, understaffing, limited hospital resources, infection risk, increased numbers of patients, high emotional burden, and lack of sufficient support in the workplace and at home.<sup>[8,15,16]</sup>

Stamm (2005)<sup>[17]</sup> describes three aspects of professional quality of life. The most important of these are feelings of hopelessness and burnout (BO), relating to professional difficulties. The second is compassion fatigue (CF) due to exposure to extremely stressful work-related events. The last is compassion satisfaction (CS), the pleasure of helping others who need professional assistance. Studies on Covid-19 pandemic have found that professional quality of life should be evaluated along with levels of BO, CF and compassion satisfaction.<sup>[18,19]</sup> Nurses' BO and CF levels have increased during the pandemic, and their CS has decreased.<sup>[4,15,16,19,20]</sup> These issues have long-term effects on nurses' job performance and job satisfaction, resulting in reduced functionality and motivation, errors and accidents, longer disease durations, increase in sick leaves, quitting their jobs, etc.<sup>[3,18,21]</sup> Therefore, nurses' quality of life should be improved, and they should be psychologically supported.<sup>[19,22]</sup>

Spreitzer (1995)<sup>[23]</sup> defines psychological empowerment as the psychological condition that must be experienced by employees for organizations' empowerment interventions to be successful. The psychological empowerment of nurses has many benefits such as increased job satisfaction, organizational commitment, productivity and professional commitment, better disease management, and BO prevention.<sup>[13,24]</sup> More attention has been paid to nurses' physical health for a long time, and their psychological health has often been neglected.<sup>[8]</sup> Although there are services worldwide that healthcare professionals can access when they are distressed, these systems are rarely used.<sup>[18]</sup> Nurses need psychological support to increase their empowerment—an issue that has been foregrounded by the Covid-19 epidemic, and studies of nurses' psychological empowerment should also be conducted.<sup>[4,11,15,19,20]</sup>

During the pandemic, face-to-face support has been curtailed due to social isolation protocols, but it is still possible to offer online psychological support programs to individuals in need.<sup>[25,26]</sup> Video conferencing was first used for group psychotherapy in the 1960s. Since then, using video conferencing for therapeutic purposes has increased. The Covid-19 pandemic has forced psychotherapists to offer online therapy sessions to provide easy access to treat isolated patients in rural and remote areas.<sup>[27]</sup> Many countries have published guidelines to reduce the psychological effects of Covid-19. Social support, peer support, psychological support and resilience programs have been developed, and online and telephone psychological support lines have been established.<sup>[14,28,29]</sup> Counseling and psychotherapy services were provided to healthcare professionals to prevent and address their mental health problems, and a variety of psychological support programs have been developed.<sup>[30,31]</sup> These efforts resulted to a more psychologically effective and practical healthcare professionals.<sup>[32,33]</sup>

This study's online support program offered nurses with patients with Covid-19 the opportunity to support and empower each other by meeting with other colleagues who struggled with the similar problems during the pandemic. It predicted that the online support group would improve the nurses' professional quality of life and increase their psychological empowerment by preventing or reducing psychological problems caused by caring for patients with Covid-19. This study examines the effects of the online support program for nurses caring for patients with Covid-19 on their professional quality of life and psychological empowerment.

## Materials and Method

### Study Design

This study used a parallel randomized controlled experimental research design with a pre- and post-test. It was reported using the CONSORT 2010 checklist. This study was performed in the regions of Türkiye where the survey was available online. The data were collected from July to August 2020. This study's online support program was held September to October 2020, and then the post-test was administered. The data were analyzed and reported from November to December 2020, and the study was completed over a period of six months.

### Participants and Randomization

An online announcement was made introducing the online program to nurses. They answered online whether they wanted to participate in the program. E-mail addresses were requested from those who want to participate in the program. In two months, 175 nurses were reached; however, 119 of them did not want psychological support, and eight of them wanted psychological support but did not want to participate in an online support group. The remaining 48 nurses were included in the sample; after the individual interview, the pre-tests were administered online. The nurses who were

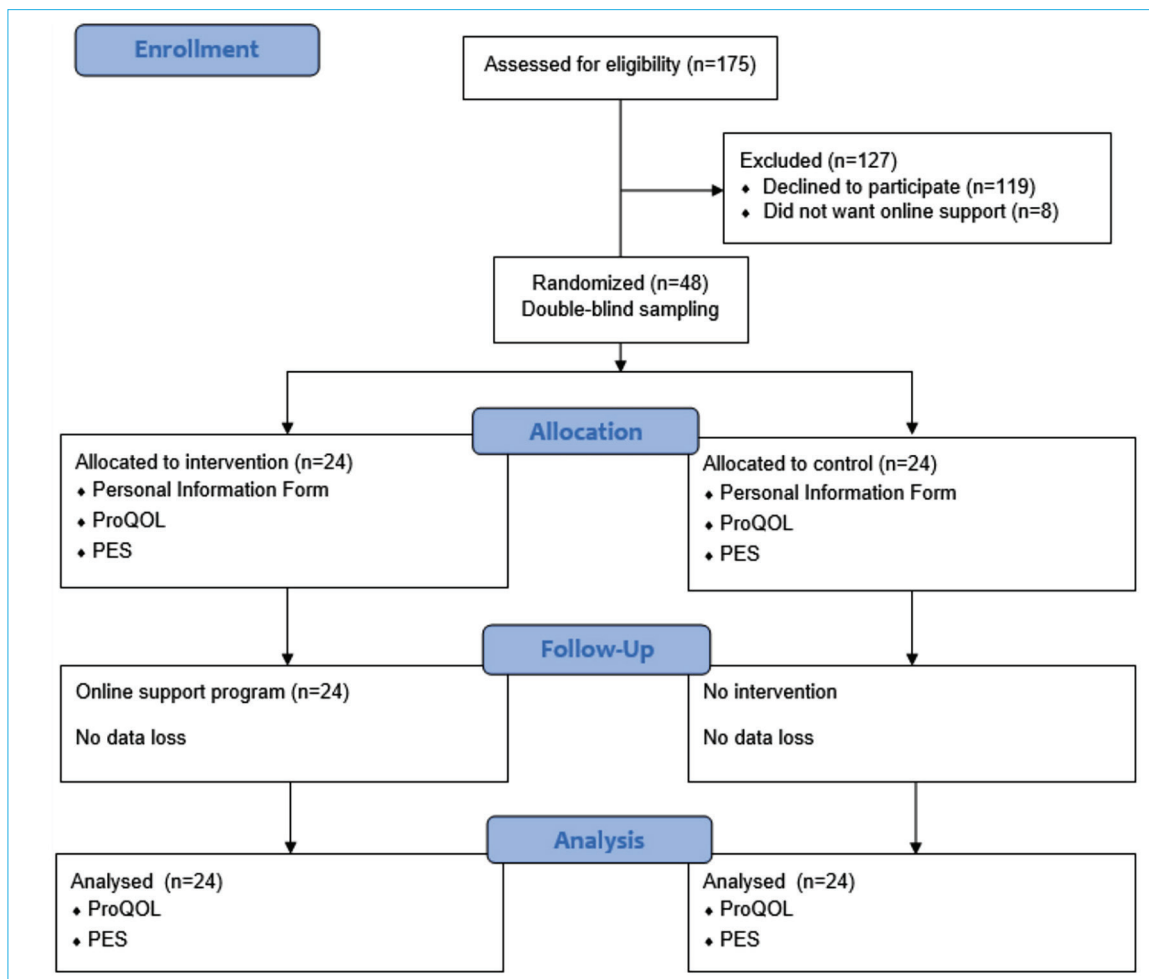
included and were actively caring for Covid-19 patients said they needed for psychological support and completely filled out the questionnaires. Figure 1 shows the flow diagram for study participants.

The sample was numbered in the sequence of their responses to the questionnaire by an independent person. Then, 24 nurses were randomly assigned to the intervention group, and 24 nurses were randomly assigned to the control group using double blinding with the participants and the researcher. Randomization was performed using a computer-generated random number table. Single blinding was done with the participants during the practice. No significant differences were found between the intervention and control groups by age, gender, marital status, education level, current department, experience or duration of caring for Covid-19 patients ( $p>0.05$ , Table 1). There were no significant differences between the intervention and control groups' pre-test scores ( $p>0.05$ , Table 2). With this sample, the effect size was 0.82 at a 95% confidence interval with 80% power. This effect size construes as large in Cohen's classification ( $d\leq 0.20$ =small effect size,  $0.20<d<0.80$ =medium effect size, and  $d\geq 0.80$ =large effect size).<sup>[34]</sup>

## Intervention

An online support program was applied to the intervention group in this study. Support groups are intended to support group members after traumatic events. In this study's support group meetings, the nurses were expected to share examples of whenever they need informational, instrumental, or emotional support and to share their problems to get feedback from other group members. The goals of support groups for nurses include preventing or mitigating the symptoms of BO, sharing and discussing general problems as well as psychological difficulties, sharing information, news and experiences, and increasing self-confidence and communication between nurses.<sup>[35]</sup>

The subjects of support groups can be determined according to the needs of the members, and the meetings are managed by group leaders. Group leaders are responsible for increasing communication between members, dealing with conflicts between group members, increasing feedback from group members, using time effectively, and managing meetings by observing the group members' needs.<sup>[35]</sup> This study's group leader for all sessions was this study's author, an academic who has previously participated in support groups, received group therapy training and is an expert in psychiatric nursing.



**Figure 1.** Flow diagram for participants in the study.

**Table 1. The nurses' sociodemographic and professional characteristics**

Characteristics		Intervention (n=24)		Control (n=24)		Significance	
		n	%	n	%	Chi square	p
Age	Under 25	5	20.8	7	29.2	2.124	0.346
	25-30	13	54.2	8	33.3		
	Over 30	6	25.0	9	37.5		
Gender	Female	21	87.5	20	83.3	0.000	1.000
	Male	3	12.5	4	16.7		
Marital status	Single	15	62.5	13	54.2	0.343	0.558
	Married	9	37.5	11	45.8		
Education level	Associate's degree	2	8.3	4	16.7	1.297	0.551
	Bachelor's degree	21	87.5	18	75.0		
	Master's degree	1	4.2	2	8.3		
Current department	Covid-19 unit	10	41.7	4	16.7	5.239	0.267
	Intensive care unit	7	29.2	10	41.7		
	Emergency room	1	4.2	4	16.7		
	Outpatient units	1	4.2	2	8.3		
	Other inpatient units	5	20.8	4	16.7		
Professional experience	Less than 1 year	9	37.5	7	29.2	0.389	0.823
	1-10 years	10	41.7	11	45.8		
	More than 10 years	5	20.8	6	25.0		
Duration of caring for COVID-19 patients	Less than 1 month	10	41.7	3	12.5	5.462	0.065
	1-3 months	8	33.3	10	41.7		
	More than 3 months	6	25.0	11	45.8		

While creating the content of the sessions, the opinions of two experts in the field of Psychiatric Nursing and Psychological Counseling were consulted. Additionally, to determine the expectations and goals of the nurses, 10 nurses who care for the Covid-19 patients and were excluded in the study were interviewed. A semi-structured program was prepared in line with the opinions. The content of the created program was eight sessions. Sessions included the following themes: Covid-19 experiences of nurses, self and identity awareness, CS and BO, secondary trauma and CF using first person language, clearly displaying your feelings, hope and despair, loss, death and mourning, coping with stress, problem solving and crisis management, and psychological resilience. Each session consisted of learning activities based on warm-up exercises, an opening (introductions and expectations in the first session, and evaluation of the previous week in the subsequent sessions), a statement of purpose and general information, online group activities, and a closing (planning the next week and expectations). In summary, the content of the sessions;

- Session 1- Pre-test, getting to know each other and information about the support group: The pre-test was administered before the nurses were randomly assigned to their groups. The nurses got to know each other in the first session of the group meetings. All the nurses participated by accessing the online video meeting. The group

leader explained the aims and functioning of the support group. The nurses' feedback about their expectations was received and recorded for evaluation at the end of the sessions. A regular day and time were set for the weekly sessions.

- Session 2- Covid-19 experiences: The difficulties that nurses experience while caring for patients with Covid-19 were discussed. All the nurses contributed by giving examples from their hospitals and clinics. The most common problems: lack of protective equipment, anxiety about spreading infection, understaffing, heavy workloads, poor teamwork, and isolation from their families for long periods. Their expectations of managerial and psychological support to address these problems were discussed. The focus of this discussion was the nurses' feelings and thoughts, and feedback was received from all the nurses.
- Session 3- Self, identity awareness, CS and BO: In this session, the nurses' definitions of their professional identities and the concept of CS were discussed with the participants who had most frequently mentioned physical, organizational, and managerial difficulties in the first session. Then, the concept of BO, primarily caused by physical fatigue, was addressed. The nurses were given the opportunity to propose systemic solutions for this issue, and they were allowed to express their feelings of BO openly.

**Table 2. Comparison of the intervention and control groups' mean pre-test and post-test Psychological Empowerment Scale (PES), compassion satisfaction (CS), burnout (BO) and compassion fatigue (CF) score**

Scales	Intervention group		Control group		Significance	95% CI	Effect size	
	Mean±SD	Min-Max	Mean±SD	Min-Max				
PES	Pre-test	48.37±8.58	30-60	48.04±6.44	36-60	t=-0.152, p=0.880	-4.742, 4.075	d=0.79
	Post-test	52.37±6.49	36-60	47.12±6.70	22-57	t=-2.757, <b>p=0.008</b>	-9.083, -1.416	
	Significance	t=-4.926, <b>p=0.000</b>		t=0.963, p=0.345				
	95% CI	-5.679, -2.320		-1.051, 2.885				
	Effect size	d=1.01						
CS	Pre-test	35.04±12.29	13-50	32.29±8.60	19-48	t=-0.898, p=0.375	-8.936, 3.436	d=1.12
	Post-test	40.70±10.06	20-50	30.00±8.98	14-45	t=-3.887, <b>p=0.000</b>	-16.253, -5.163	
	Significance	t=-3.524, <b>p=0.002</b>		t=2.101, <b>p=0.047</b>				
	95% CI	-8.993, -2.340		0.034, 4.548				
	Effect size	d=0.71						
BO	Pre-test	20.37±8.59	6-39	24.54±7.30	12-39	t=1.810, p=0.077	-0.467, 8.800	d=0.84
	Post-test	19.08±8.05	6-32	25.29±6.61	14-40	t=2.917, <b>p=0.005</b>	1.923, 10.492	
	Significance	t=1.567, p=0.131		t=-0.639, p=0.529				
	95% CI	-0.413, 2.996		-3.178, 1.678				
	Effect size	d=0.31						
CF	Pre-test	18.50±9.23	1-39	23.75±9.61	7-43	t=1.929, p=0.060	-0.229, 10.729	d=0.90
	Post-test	15.66±9.22	0-38	23.83±8.83	12-42	t=3.134, <b>p=0.003</b>	2.921, 13.412	
	Significance	t=3.646, <b>p=0.001</b>		t=-0.148, p=0.884				
	95% CI	1.225, 4.440		-1.250, 1.084				
	Effect size	d=0.72						

The independent samples t test was used for the significance between groups, and the paired samples t test was used for significance within groups. Significant p values of less than 0.05 are shown in bold. Effect size was calculated at a 95% confidence interval.

- Session 4- Secondary trauma and CF: In this session, empathy was discussed first. The concepts of empathic tendency and the empathic approach were explained using role play. Compassion fatigue and secondary trauma resulting from intense empathy were introduced. There were nurses who were encountering this concept for the first time, and all the nurses evaluated their compassion fatigue.
- Session 5- Using first person language, displaying your feelings clearly: For the nurses who said that they were inadequate at expressing their feelings and this causes them difficulties, expressing feelings openly and directly and using "I language" was discussed in this session. Exercises about the messages they wanted to convey to their teammates, their administrative supervisors, their families, and the community regarding the pandemic and patient care were done.
- Session 6- Hope and despair, loss, death and mourning: The concept of hope was addressed due to the despair caused by the pandemic. The meaning of loss and death was discussed. General information about the stages of the grieving was given. The nurses described the difficulty of witnessing the deaths of their Covid-19 patients and the grief of families. The nurses were informed about how to approach patients in the terminal stage and support the mourning relatives of deceased patients. Examples of therapeutic communication were given using role play.
- Session 7- Coping with stress, problem solving and crisis management: The pandemic can be described as a major crisis, which means that it is possible to cope with it. It was emphasized that nurses are frontline fighters who make society more resilient.
- Session 8- Psychological resilience and the post-test: The nurses were given the opportunity to talk about how they psychologically felt. The participants were informed about empowerment studies conducted worldwide to protect mental health. The meetings were then evaluated. The extent to which their goals and expectations from the first session were achieved was discussed. The nurses gave positive feedback. The post-test was administered, and the group said their goodbyes.

#### Data Collection and Processing

The data collection forms were made accessible on social media channels using online Google Forms. The nurses who met this study's inclusion criteria initiated their participation by completing the pre-test online. A pre-test was administered to the 48 nurses in the study. The nurses in the sample were

randomly assigned to the intervention group (n=24) and the control group (n=24). The intervention group was also divided into two separate groups of 12 nurses to increase the interaction between them and to make the group meetings more suitable for the purpose. The same program was administered to both sub-groups. The online support groups met once a week for 45–60 minutes. The meetings were held on an online platform chosen by joint decision of the participants. After the eight-week online support program, a post-test was administered to the intervention and control groups. All of the nurses in the intervention group participated in at least six program sessions. The control group did not participate in any support program during this period and were not told that they had been included in the control group. After the study was completed, a support program was performed for the control group in accordance with ethical principles.

### Outcome Measures

The data were collected using a personal information form, the Professional Quality of Life Scale (ProQOL), and the Psychological Empowerment Scale (PES).

*The Personal Information Form:* This form was prepared by the researcher and contains questions about the nurses' sociodemographic characteristics (age, gender, marital status, and education level) and their professional characteristics (current department, experience, and duration of caring for patients with Covid-19).<sup>[8,15,19,21,33]</sup>

*The Professional Quality of Life Scale (ProQOL):* The ProQOL was developed by Stamm (2005).<sup>[17]</sup> The Turkish adaptation study of the ProQOL was conducted by Yesil et al.<sup>[36]</sup> (2010). It is a self-report assessment tool with 30 items in three subscales of 10 items each: CS, BO and CF. The CS subscale (items 3, 6, 12, 16, 18, 20, 22, 24, 27, and 30) assesses satisfaction felt as a result of helping another person who needs their professional help. High scores on this subscale indicate high levels of CS. The original Cronbach's alpha reliability value of the CS subscale was 0.87. The BO subscale (items 1, 4, 8, 10, 15, 17, 19, 21, 26, and 29) assesses the feeling of BO caused by coping difficulty with problems in professional life. High scores on this scale indicate high levels of BO. The original Cronbach's alpha reliability value of the BO subscale was 0.72. The CF (items 2, 5, 7, 9, 11, 13, 14, 23, 25, and 28) assesses symptoms that occur as a result of stressful events. Employees who score high on this scale should seek support or assistance. The Cronbach's alpha reliability value of this subscale was 0.80. Items 1, 4, 15, 17, and 29 are reverse-scored. Responses to the ProQOL are given on a six-point Likert-type scale ranging from 0 (never) to 5 (very often).<sup>[36]</sup> Moreover, the Cronbach's alpha values were 0.90, 0.71, and 0.84 for the CS subscale, BO subscale, and the CF subscale, respectively.

*The Psychological Empowerment Scale (PES):* This scale was developed by Spreitzer (1995)<sup>[23]</sup> to measure employees' perceptions of empowerment. It has 12 items in four subscales: meaning, competence, self-determination, and impact. The

PES scores are obtained by rating the scale items. The highest possible score is 60. Higher scores indicate positive perceptions of psychological empowerment. The PES is a five-point Likert-type scale with the responses: 1=completely disagree, 2=disagree, 3=neutral, 4=agree, and 5=completely agree. Spreitzer (1995)<sup>[23]</sup> reported a Cronbach's alpha value of 0.72 for the entire PES. The Turkish adaptation study of the PES was conducted by Surgevil et al.<sup>[37]</sup> (2013). They found a Cronbach's alpha value of 0.94. The Cronbach's alpha value was 0.88 in this study.

### Ethical Considerations

Permissions to conduct this study were granted by Türkiye Ministry of Health (June 17, 2020, permission number T22\_59\_31) and Amasya University's Clinical Research Ethics Committee (June 25, 2020, permission number 75). The participants signed an obligatory informed consent form before they accessed the questionnaires.

### Statistical Analysis

The data were analyzed using IBM SPSS version 25. Descriptive statistics were used to classify and explain the study data. The chi-squared test was used to determine significant differences between demographic data groups. The pre- and post-test scale scores of the intervention and control groups were compared using the independent t-test and the paired t-test samples. The threshold for statistical significance was  $p < 0.05$ . The effect size of the sample included in the study and the effect size of the groups' scale scores after the online support program were calculated using the G\*Power (3.1.9.7).

### Results

This study examined the effects of an online support program for nurses with patients with Covid-19 on their professional quality of life and psychological empowerment. The sample included 48 nurses: 24 in the intervention group and 24 in the control group. There were no statistically significant differences between the groups' descriptive characteristics ( $p > 0.05$ , Table 1).

The nurses' sociodemographic and professional characteristics are shown in Table 1. Most of the participants were single, female nurses ages > 25 who had 1–10 years of work experience. Most of the units where the nurses were caring for Covid-19 patients were special clinics and intensive care units reserved for Covid-19. All of them were doing shiftwork, and none of them had been diagnosed with Covid-19.

Table 2 shows the intervention and control groups' mean PES, CS, BO, and CF pre- and post-test scores. The groups' pre-test scores had a normal distribution, and there were no significant differences between them ( $p > 0.05$ , Table 2).

There were significant differences between the intervention and the control groups' mean PES post-test scores: ( $t = -2.757$ ,

$p=0.008$ ,  $d=0.79$ ), CS ( $t=-3.887$ ,  $p=0.000$ ,  $d=1.12$ ), BO ( $t=2.917$ ,  $p=0.005$ ,  $d=0.84$ ), and CF ( $t=3.134$ ,  $p=0.003$ ,  $d=0.90$ ) ( $p<0.05$ , Table 2). The psychological empowerment and CF levels of the intervention group were significantly higher than those of the control group, and the intervention group's BO and CF levels were significantly lower. The effect sizes were found to be medium ( $0.20<d<0.80$ ) and large ( $d\geq 0.80$ ) (Table 2).

There were significant differences between the intervention group's mean PES ( $t=4.926$ ,  $p=0.000$ ,  $d=1.01$ ), CS ( $t=-3.524$ ,  $p=0.002$ ,  $d=0.71$ ), and CF ( $t=3.646$ ,  $p=0.001$ ,  $d=0.72$ ) scores before and after the online support program ( $p<0.05$ , Table 2). The effect sizes were large ( $d\geq 0.80$ ) and medium ( $0.20<d<0.80$ ). There was no significant difference between the intervention group's mean BO ( $t=1.567$ ,  $p=0.131$ ,  $d=0.31$ ) scores before and after the support program ( $p>0.05$ , Table 2).

## Discussion

The professional quality of life of nurses, who constantly adapt to the ever-changing and developing health sector and attempt to provide the highest quality service, especially in situations that require critical care, has been significantly affected, by the Covid-19 pandemic. It has negatively affected nurses' professional quality of life, resulting to BO<sup>[4,15,19,20]</sup> and increased CF levels.<sup>[15,19,20]</sup> Their CS has decreased.<sup>[16,20]</sup> Studies have shown that nurses struggling with Covid-19 experience psychological problems and suggested that nurses need psychosocial support.<sup>[5,8,11]</sup> This study examined the effect of an online support program for nurses with Covid-19 patients on their professional quality of life and psychological empowerment.

Many studies have evaluated healthcare professionals' quality of life using the ProQOL scale. It is noteworthy that these studies have increased, especially due to the prolongation of the pandemic. The CS, BO, and CF subscales of the scale assess factors that affect professional quality of life. A study conducted with 1,044 nurses in China;<sup>[20]</sup> 506 nurses in Spain;<sup>[19]</sup> and 102 nurses in Italy<sup>[15]</sup> reported mean scores of  $32.63\pm 6.46$ ,  $27.36\pm 5.29$ , and  $26.88\pm 5.13$ ;  $39.9\pm 5.9$ ,  $24.3\pm 5.7$ , and  $19.4\pm 7.3$ ; and  $22.96\pm 10.31$ ,  $29.92\pm 13.18$ , and  $26.75\pm 12.48$  for CS, BO, and CF, respectively. Our study was carried out on 48 nurses in Türkiye and found that the intervention group's mean CS, BO, and CF pre-test scores were  $35.04\pm 12.29$ ,  $20.37\pm 8.59$ , and  $18.50\pm 9.23$ , respectively. Accordingly, the control groups' scores were  $32.29\pm 8.60$ ,  $24.54\pm 7.30$ , and  $23.75\pm 9.61$ .

Although similarities exist between these studies, it should be considered that differences exist since professional quality of life may vary by location and with the course of the pandemic. A study conducted with healthcare professionals during the Covid-19 epidemic found that psychological resilience and personal satisfaction were protective variables.<sup>[38]</sup> Another study conducted with nurses reported that nurses with more psychological resilience had lower BO and CF levels; however, the psychological resilience offered only a limited degree of

protection against CF when the nurses' BO levels were high.<sup>[39]</sup> Burnout takes longer to develop than CF.<sup>[20]</sup> In this study, the online support program, which improved psychological empowerment, increased the nurses' CS and psychological empowerment and reduced their CF and BO levels. The intervention group's CS increased, but the control group's CS decreased since they continued to work under the same conditions without any support. Reduction in CF due to psychological empowerment is also a result that is corroborated by the literature. Since BO involves physical outcomes and the online support group was intended to promote psychological empowerment, the program had a greater effect on the intervention group's CF and did not have such a strong effect on their BO. It should also be considered that longer exposure to risk factors for BO increases the likelihood of BO and cases of BO will thus increase as long the pandemic continues.

During the pandemic, which requires social isolation, online support programs can effectively meet the psychosocial needs of all healthcare professionals. A variety of psychological support programs have been created to prevent development of psychological problems during the pandemic.<sup>[14,28,29]</sup> Studies have shown that support programs for healthcare professionals are psychologically effective. Currently, the support programs offered online or by telephone are practical solutions.<sup>[32,33]</sup> Studies have discussed healthcare professionals' wishes and needs for online support<sup>[40]</sup> and their use of online support services;<sup>[41]</sup> however, there are no experimentally proven studies in the literature. Although there are studies in progress, few studies in the literature have reported the results of online support programs for healthcare professionals. Since predominantly descriptive studies of the pandemic's unknown effects are being conducted, conducting experimental studies using face-to-face interviews is currently impossible. This study, which will contribute to the literature and nursing practice, shows that online support programs for nurses are both effective and practical.

## Limitations

This study was conducted online; so, it does not represent the nurses of a particular location or hospital, and is limited to nurses who could be reached on the internet. A short-term online gathering of a group of nurses who did not know each other before may have limited the safe sharing of feelings and thoughts and group interaction. Since their work hours changed weekly, it was impossible for the nurses in the intervention group to regularly participate in the program. They only participated in six eight of the program sessions. Additionally, the implementation of the support program in two separate groups made it difficult to carry out the program exactly the same in both groups.

## Conclusion

This study's online support program was found to be effective

on nurses with Covid-19 patients in increasing their psychological empowerment and CS and reducing their levels of BO and CF. Therefore, the professional quality of life of nurses can be increased and psychologically empowered through online support programs. These results indicate that the psychological problems experienced by nurses during the pandemic should be determined, their coping skills should be evaluated, and psychological empowerment studies should be conducted. Finally, it is important for hospital administrators to make psychological support teams available, especially during pandemics, to ensure their continuity even in extraordinary situations, for all healthcare professionals struggling with mental health problems. Additionally, it is thought that it will be effective to apply face-to-face support programs for all healthcare professionals when pandemic conditions are appropriate. It is recommended to conduct new studies investigating the effectiveness of online or face-to-face support programs.

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