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Investigating the effectiveness of innovative intervention based on compassion, awareness, resilience, and empowerment on burnout in nurses of two educational hospitals in Isfahan

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Abstract:

BACKGROUND: Burnout is a syndrome of emotional exhaustion, depersonalization, and low professional efficacy that health workers, especially nurses, experience the highest rates of this. Burnout causes stress and negative attitude towards work and feeling unable to perform tasks in the person. The purpose of this study was to investigate the effect of a method called compassion, awareness, resilience, and empowerment (CARE) on nurses' burnout.

MATERIALS AND METHODS: This study was a semi-experimental study with control group, the statistical population in this study was nurses of Kashani Hospital in Isfahan as intervention group and nurses of Al-Zahra Hospital as control group. The samples were selected by stratified sampling. For both groups before and after and 3 months after the intervention, the burnout questionnaire (Maslach Burnout Inventory) was completed. The intervention was performed in 5 sessions of 90 min 1 day a week. Data were analyzed by SPSS version 25 software (IBM Inc., USA) and independent *t*-test, repeated measures analysis of variance and Chi-square test and Friedman test, significance level was set at $P < 0.05$.

RESULTS: The comparison of mean and intensity of burnout and two dimensions of emotional exhaustion and depersonalization showed a difference between the two groups and this difference was statistically significant ($P < 0.05$). Mean of Individual performance also had a statistically significant difference between the two groups ($P < 0.05$), but its intensity did not change.

CONCLUSION: CARE method can be effective in burnout of nurses and it can be used as a practical method. This training program can be implemented both preservice and in-service for health workers.

Keywords:

Awareness, burnout, compassion, empowerment, resilience

Introduction

Burnout syndrome as Maslach defined is characterized by mental and emotional exhaustion, depersonalization (negativism/cynicism), and decreased job performance includes a decrease in the sense of competence and ability to perform the task successfully,^[1] studies have shown that

nurses have significantly elevated levels of burnout.^[2]

In Iran, the overall prevalence of burnout among nurses was estimated to be 36%.^[3] Overall prevalence of burnout syndrome among global nurses was 11.23%, geographical areas had significant differences in the prevalence of burnout, with the highest prevalence in sub-Saharan

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African and the lowest prevalence in Europe and Central Asia.^[4] A study of 61168 nurses in 12 European countries and 4 US states reported burnout between 10% in the Netherlands and 78% in Greece and 34% in the US.^[5]

Health workers, especially nurses, experience the highest rates of burnout due to exposure to multiple stressors.^[6] The main sources of stress for nurses are workload, emotional cost of care, lack of social support, rewards and shift rotation, exposure to radiation and infection risks, patient mortality, nursing patients with complex care needs.^[7]

Studies on burnout of nurses in Iran show moderate to high levels of burnout in nurses,^[6-9] but not many interventions have been done. For example, Sedghi Goyaghaj *et al.*^[10] and Mehafarid *et al.*^[11] studied the effect of positive thinking and resilience skills, and Mazloomi Mahmoodabad *et al.*^[12] studied the effect of communication skills on nurses' burnout.

In other countries, Medland studied the effect of stress management and strengthening resilience^[13] and Cohen studied the effect of mindfulness on nurses' burnout.^[14] Adams' study was on the effect of resilience and compassion training on burnout in nurses.^[15]

Psychological and emotional factors play a role in this syndrome,^[6,7] so most burnout interventions have been based on methods such as mindfulness, strengthening resilience, and positive thinking.^[13-15]

If we want to have effective interventions with long-term effect, the causes and dimensions of burnout must be well-considered and interventions should cover all three dimensions of burnout.

However, it seems that in the studies done and according to the methods used in each study, only one or two dimensions of burnout have been considered and in order to cover all three dimensions, it is necessary to combine methods.

In this study, an innovative method called compassion, awareness, resilience and empowerment (CARE) is used. In the CARE method, many strategies are reviewed and categorized into groups that form the basis of this innovative intervention: CARE stands for compassion, awareness, resilience, and empowerment.

This method is based on a systematic approach and avoids the shortcomings of one-dimensional methods. In this method, although the elements are grouped in separate groups, they are in harmony with each other.^[16]

CARE considers all the factors affecting burnout and combines the methods that affect it. The advantage

of this method is its comprehensiveness and short duration.

The aim of this study was to investigate the effect of CARE method on burnout in nurses in Kashani Hospital, Isfahan in 2019–2020.

Findings from this study can be useful for health workers in hospitals, primary care centers, and other health settings.

Materials and Methods

Study design and setting

This study is a semi-experimental study with control group, Intervention group received CARE method and control group was not given an intervention, but was offered the option to participate in the same program immediately after the study and it was conducted in Kashani Hospital and Al-Zahra Hospital in Isfahan from November 2019 to April 2020.

Study participants and sampling

This study was conducted on nurses and inclusion criteria include having the consent to participate in the study, no psychiatric illness, employment in hospitalized wards and no employment in the administrative ward, at least 1 year of clinical experience, associate degree and higher, not attending yoga or meditation classes and counseling and psychotherapy sessions during the last 3 months and the next 3 months, and simultaneous nonemployment in the two hospitals where the study was performed. Exclusion criteria include: Cancellation of cooperation, absence in any of the training sessions and failure to answer the questions of the questionnaire more than 20%.

To avoid contamination, the intervention group and the control group were selected from two hospitals. Using stratified sampling based on ward and gender, from eligible participants, 30 people in each hospital were selected, the sampling unit was all ten inpatient wards in Kashani Hospital and similar wards in Al-Zahra Hospital, three samples from each ward were selected by convenience sampling.

Data collection tools and technique

The intervention consisted of five 90-min weekly training sessions for the intervention group.

In these sessions, group class exercises and individual home exercises, and writing exercises related to each component of CARE were expressed. Assessments were performed for all participants of both groups at baseline, immediately after the intervention, and again at the 3 months follow-up [Table 1]. In the first session,

Table 1: Overview of intervention

Week	Topic	Session content	Time (min)
Week 1	Objectives of the intervention Pretest	Introduce the CARE*	90
Week 2	Compassion	Defining self-compassion and its effect on burnout and practical training: Self-compassion meditation Self-compassion letter	90
Week 3	Awareness	Defining awareness and its effect on burnout and practical training: Mindfulness of breathing and body RAIN** Mindfulness journaling	90
Week 4	Resilience	Defining resilience and its effect on burnout and training in practical exercises: Grounding and resourcing Expressive writing about difficult event	90
Week 5	Empowerment Posttest	Defining empowerment and its goals and teaching practical exercises: Positive psych exercise	90

*CARE=Compassion, awareness, resilience and empowerment, **RAIN=Recognition, Acceptance, Investigation, None-identification

the demographic and work information checklist and the burnout questionnaire (Maslach Burnout Inventory [MBI]) were completed by the participants.

Demographic and work information checklist including age, gender, marital status, educational level, and work experience.

MBI was used to assess burnout and its dimensions that include 22 questions in three dimensions of emotional exhaustion (9 questions), depersonalization (5 questions) and personal performance (8 questions). The options for this questionnaire are marked with never (score = 0), rarely (score = 1), little (score = 2), sometimes (score = 3), moderate (score = 4), high (score = 5), always (score = 6) and are scored on a seven-point Likert scale of (0–6). In terms of intensity, emotional exhaustion includes three levels: high (score 30 or higher), moderate (score 18–29), and low (score below 17) and the depersonalization dimension includes three levels, high (score 12 and above), moderate (score 6–11) and low (score below 5) is classified and personal performance with reverse scoring includes three levels, high (score 33 and less), moderate (score 39–34) and low (score 40 and more).

Cronbach alpha ratings of 0.90 for emotional exhaustion, 0.76 depersonalization, and 0.76 for Personal performance were reported.^[1] In Iran, Akbari study show that the Persian version of MBI can be used in burnout research with Persian speaking Iranian participants.^[17]

The sample size with 95% confidence level and 80% study power and based on standard deviation and mean score before and after intervention in similar studies^[11] and 20% probability of attrition rate at follow-up, 30 people in each group were calculated.

Data analysis was performed from demographic questionnaires and burnout questionnaire using SPSS

version 25 software (IBM Inc., USA) and independent *t*-test and repeated measures analysis of variance, Chi-square test and Friedman test, significance level was set at $P < 0.05$.

Results

In this study, 60 nurses participated, 30 nurses (15 females and 15 males) in the intervention group and 30 nurses (15 females and 15 males) in the control group.

No significant differences were observed between the two groups for any of the demographic characteristics [Table 2].

Using independent *t*-test, there were no significant differences in mean score of burnout ($P = 0.340$), emotional exhaustion ($P = 0.583$), depersonalization ($P = 0.728$), and performance ($P = 0.209$) between two groups at baseline, but statistically significant effects of time and the group \times time interaction on burnout, emotional exhaustion, depersonalization and performance were observed between the two groups at baseline, immediately after the intervention and at the 3 months follow-up [Table 3].

It was found that the intensity of burnout and two dimensions of emotional exhaustion and depersonalization were statistically significant difference between the two groups, but the intensity of individual performance was not different [Table 4].

Discussion

The aim of this study was to investigate the effect of an innovative method based on compassion, awareness, resilience and empowerment called CARE on nurses' burnout. Findings showed that demographic characteristics did not differ between two groups before intervention

Table 2: Demographic characteristics of study participants

Variable	Category	Intervention group	Control group	P
Gender, n (%)	Male	15 (50)	15 (50)	1*
	Female	15 (50)	15 (50)	
Marital status, n (%)	Married	22 (73.2)	24 (80)	0.761*
	Single	8 (26.8)	6 (20)	
Educational level, n (%)	Associate's degree	0	3 (10)	0.200*
	Bachelor's degree	26 (86.7)	24 (80)	
	Master's degree	4 (13.3)	3 (10)	
Age (year) (mean±SD)	-	38.56±6.15	39.30±7.78	0.807**
Work experience (mean±SD)	-	14.22±5.35	15.30±5.78	0.454**

*Chi-square test, **Independent t-test. SD=Standard deviation

Table 3: The mean and standard deviation of burnout scores and their dimensions in two groups

Variable	Group	Mean±SD			P*
		Pretest	Posttest	3 months later	
Burnout	Intervention	50.80±15.95	32.16±10.62	41.30±15.41	0.005
	Control	46.86±15.70	39.20±11.24	41.40±11.80	
Emotional exhaustion	Intervention	29.73±11.28	20.16±7.23	23.43±9.26	0.001
	Control	28.20±10.21	25.70±7.67	26.26±7.55	
Depersonalization	Intervention	6.03±5.59	3.13±3.33	4.20±4.31	0.005
	Control	5.50±6.19	4.66±4.59	5.33±4.29	
Performance	Intervention	15.03±5.42	8.86±4.50	13.66±6.58	0.001
	Control	13.16±5.94	8.83±4.06	9.80±6.55	

*Repeated measure ANOVA. SD=Standard deviation

Table 4: Comparisons of intensity of burnout and their dimensions in two groups

Variable	Time	Intervention group, n (%)			Control group, n (%)			P*
		High	Moderate	Low	High	Moderate	Low	
Burnout	Pretest	1 (3.3)	10 (33.3)	19 (63.4)	2 (6.7)	4 (13.3)	24 (80)	<0.001
	Posttest	0	1 (3.3)	29 (96.7)	0	3 (10)	27 (90)	
	3 months later	1 (3.3)	2 (6.7)	27 (90)	0	3 (10)	27 (90)	
Emotional exhaustion	Pretest	14 (46.7)	11 (36.7)	5 (16.7)	11 (36.7)	15 (50)	4 (13.3)	<0.001
	Posttest	4 (13.3)	15 (50)	11 (36.7)	9 (30)	17 (56.7)	4 (13.3)	
	3 months later	8 (26.7)	11 (36.7)	11 (36.7)	9 (30)	19 (63.3)	2 (6.7)	
Depersonalization	Pretest	27 (90)	1 (3.3)	2 (6.7)	5 (16.7)	6 (20)	19 (63.3)	<0.001
	Posttest	11 (36.7)	5 (16.7)	14 (46.7)	3 (10)	6 (20)	21 (70)	
	3 months later	15 (50)	4 (13.3)	11 (36.7)	2 (6.7)	11 (36.7)	17 (56.7)	
Individual performance	Pretest	30 (100)	-	-	30 (100)	-	-	-
	Posttest	30 (100)	-	-	30 (100)	-	-	
	3 months later	30 (100)	-	-	30 (100)	-	-	

*Friedman test

and the demographic characteristics weren't effective on burnout, with increasing sample size, we can investigate the confounding effect of demographic characteristics.

The mean of burnout and its dimensions within the case group, after the intervention and 3 months later has statistically significant difference and decreased, but within the control group after the intervention and 3 months later, there was no statistically significant difference in mean of burnout and its dimensions.

The intensity of burnout and emotional exhaustion and depersonalization within the case group, after

the intervention and 3 months later has statistically significant difference and decreased. within the control group the intensity of burnout and emotional exhaustion and depersonalization did not change.

The intensity of individual performance wasn't different within the two groups after intervention and 3 months later, and before, later, and 3 months later and it was high.

Statistically significant difference between the two groups in mean and intensity of burnout and two components of emotional exhaustion and depersonalization, in individual performance there was statistically significant

difference between the two groups, but the intensity did not change in the two groups.

According to the method used in this study which is an innovative and combine method many similar studies have not been performed for comparison in Iran and other countries and these studies have used one or two components of this method, not all four components so they consider only one or two of the three dimensions of burnout.

Sedghi Goyaghaj *et al.*^[10] and Mehafarid *et al.*^[11] studied the effect of positive thinking on nurses burnout, the results of our study are similar in terms of the effect on mean of burnout but are different in the severity of burnout.

The positive thinking method used in these two studies is more effective on empowerment but it isn't very effective for the other three components affecting burnout^[15] but the CARE method has components to cover burnout and all three dimensions.

Mazloomi Mahmoodabad *et al.*^[12] also studied the effect of communication skills on nurses' burnout, the results of this study are the same as the present study in mean of burnout, but the communication skills used in that study had the greatest effects on individual performance and less effects on the other two dimensions.

Cohen's study^[14] showed that mindfulness was effective on nurses' burnout and the results were consistent with the present study but Cohen's study focused more on awareness.

Adams's study^[15] was on resilience and compassion, which affected nurses' burnout and the results were consistent with the present study but no intervention was made on awareness and empowerment.

Studies on other occupational groups have also shown the positive effects of some components of this method on burnout. For example, in the study of Rastgoo *et al.*,^[18] mindfulness had a positive effect on burnout of teachers, but participants and factors influencing burnout were different in two studies.

In this study, demographic characteristics were not effective on burnout, but in the Sedghi Goy's study, gender, marital status, and work experience were effective on burnout in nurses, in Mehafarid's study, marital status and work experience were effective on burnout.

Conclusion

CARE is a multidimensional method that aims to cover all three components of burnout by combining

one-dimensional methods. In this method, Exercises related to compassion addresses emotional exhaustion. Awareness exercises are effective in reducing symptoms of emotional exhaustion and resilience exercises help to address emotional exhaustion and depersonalization, and empowerment exercises is more effective on individual performance.

The results of this study showed the effectiveness of this method on burnout and this method can be used to reduce or prevent burnout in nurses as a practical method in preservice and in-service training for nurses.

At present, burnout of nurses due to high workload, especially due to the burden of COVID-19, comprehensive management of this syndrome is important and necessary and CARE is a useful method because it is a combination of previous methods and considering all the causes of burnout and using short exercises that are easily applicable.

Limitation and recommendation

One of the most important limitations of the study was the presence of nurses in training classes, which sometimes coincided with work shifts, which was solved with the help and cooperation of hospital officials by replacing or changing shifts.

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Conflicts of interest

There are no conflicts of interest.

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