Original Article

Role of Mindfulness-Based Cognitive Therapy in Enhancing Critical Care Nurses' Sense of Personal Accomplishment

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ABSTRACT

Objective: To determine the effect of mindfulness-based cognitive therapy on enhancing the sense of personal accomplishment among critical care nurses.

Study Design: A quasi-experimental study

Place and Duration of Study: This study was conducted at the Critical Care Units of Al-Hussein Medical City and Imam Al-Hassan Al-Mujtaba Teaching Hospital in Karbala, Iraq from 7th June to 13th November 2024.

Methods: This study was conducted with 88 critical care nurses from two Hospitals in Karbala. Due to the specialized nature of critical care units, participants in the intervention group attended sessions comprising 2–5 individuals each. Nurses were randomly allocated to intervention group and control group. The intervention group undertook an eight-week Mindfulness-Based Cognitive Therapy (MBCT) program, while the control group continued with their routine duties. Both groups completed the personal accomplishment subscale of the Maslach Burnout Inventory (MBI) before and after the intervention.

Results: The experimental group showed a significant improvement in personal accomplishment compared with a slight decline in the control group, reflecting a moderate effect size. Within-group analysis confirmed a substantial effect only for the experimental group, which also achieved a markedly higher percentage improvement. Among socio-demographic variables, only family structure was significant, with nurses from nuclear families showing greater gains.

Conclusion: Mindfulness-based cognitive therapy significantly improves personal accomplishment among critical care nurses, enhancing their resilience and reducing burnout.

Key Words: Burnout, Personal accomplishment, Professional, Mindfulness, Cognitive behavioral therapy, Critical care nursing

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INTRODUCTION

Personal accomplishment represents a vital psychological resource that underpins nurses' resilience, motivation, and professional satisfaction.[1,2] Within the framework of burnout, it is one of the three core dimensions identified by Maslach and Jackson, alongside emotional exhaustion and depersonalization.[3,4] A diminished sense of personal accomplishment manifests as negative self-evaluation, feelings of inefficacy, and a perception of reduced competence, which collectively undermine both individual well-being and professional performance.[2] Conversely, a heightened sense of accomplishment fosters engagement, confidence, and commitment to high-quality patient care.[5,6]

Critical care nurses (CCNs) are particularly vulnerable to experiencing reduced personal accomplishment due to the complexity and intensity of their working environment.[7] The pressures, compounded by long shifts, high patient acuity, and frequent exposure to distressing situations, increase the risk of burnout and erode nurses' sense of achievement.[8] Alarm fatigue, staffing shortages, and limited organizational support further exacerbate these challenges, leaving CCNs susceptible to professional dissatisfaction and psychological strain.

The consequences of diminished personal accomplishment extend beyond individual nurses[6], the reduced accomplishment to increased turnover, absenteeism, and job dissatisfaction, all of which compromise continuity of care and contribute to poorer patient outcomes, including higher rates of adverse events, infections, and mortality.[9] Moreover, healthcare organizations bear significant financial costs due to

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high turnover and reliance on temporary staffing. In contrast, cultivating a strong sense of accomplishment enhances resilience, promotes retention, and supports the delivery of safe, compassionate, and efficient care.[10] Addressing personal accomplishment among healthcare providers is crucial for enhancing patient safety and improving the overall quality of care. Interventions that strengthen nurses' sense of personal accomplishment are therefore of particular importance.[11] Mindfulness-Based Cognitive Therapy (MBCT), which integrates cognitive–behavioral strategies with mindfulness practices, has shown promise in reducing emotional exhaustion, alleviating depersonalization, and enhancing personal accomplishment.[12] By cultivating self-awareness, acceptance, and adaptive coping, MBCT enables critical care nurses to reframe their experiences, manage occupational stressors more effectively, and rediscover meaning and fulfillment in their professional roles.[13] The enhancements in resilience and decreases in emotional exhaustion after participation in MBCT[14], while a systematic review corroborated the efficacy of mindfulness-based interventions in alleviating stress and emotional exhaustion among nursing populations.[15] While the benefits of MBCT are well documented in various populations, little is known about its feasibility and impact within high-intensity environments such as critical care units, where nurses contend with complex clinical demands, technological overload, and profound emotional strain.[16]

This research is based on the Neuman Systems Model and Orlando's Nursing Process Theory to help critical care nurses use Mindfulness-Based Cognitive Therapy (MBCT). Neuman's approach posits that stresses disturb the individual's physiological, psychological, and sociocultural systems, which may result in emotional fatigue.[17] MBCT serves as a secondary preventative technique, augmenting the nurse's capacity for self-regulation and adaptive responses to both internal and external stresses. In accordance with Orlando's theory, which underscores the importance of nurses in recognizing and addressing patients' articulated needs through responsive interaction.[18]

METHODS

This quasi-experimental study was conducted at Critical Care Units of Al-Hussein Medical City and Imam Al-Hassan Al-Mujtaba Teaching Hospital in Karbala, Iraq from 7th June to 13th November 2024. The target audience consisted of critical care nurses with a minimum of one year of experience in intensive care units or coronary care units. The sample size was 90 nurses, constituting 76.3% of the qualifying population. Proportional distribution facilitated participation throughout both hospitals and units, yielding 33 ICU and 21 CCU nurses from Al-Hussein Medical City, and 20 ICU and 16 CCU nurses from Imam Al-Hassan Al-Mujtaba Teaching Hospital. During the intervention period, two individuals voluntarily withdrew, resulting in a final sample of 88 critical care nurses. The sample was randomly allocated into two groups: an intervention group (Mindfulness-Based Cognitive Therapy) and a control group. Both males and females nurses with a minimum of one year of professional experience in critical care environments were included. Critical care nurses were excluded if they had previously engaged in Mindfulness-Based Intervention (MBI) training programs, had psychosocial or psychiatric therapy, or did not complete the questionnaire were excluded.

The data of critical care nurses, including demographic factors such as age, gender, residency, and monthly income, alongside clinical features like employment type, years of experience, shift pattern, and patient load. Personal accomplishment subscale of the Maslach Burnout Inventory–Human Services Survey (MBI-HSS) for medical personnel to evaluate the sensation of personal accomplishment was recorded. Responses were evaluated using a seven-point Likert scale from 0 (never) to 6 (every day), enabling participants to indicate the frequency of thoughts, emotions, or actions associated with personal success.The reliability was evaluated by the test–retest procedure, and the findings were analyzed utilizing the Pearson Correlation Coefficient (PCC). The reliability coefficient was 0.81, above the widely recognized criterion of 0.70, therefore indicating good dependability.

Data were evaluated with SPSS-25. Inferential statistics, including independent and paired-samples t-tests, were used to assess group differences, while analysis of variance (ANOVA) with Tukey's HSD post-hoc testing was utilized for variables having three categories, such as age and monthly income. Alongside p-values, effect sizes were computed to provide a more explicit representation of the intervention's effect. Cohen's d was used, with values of $d < 0.5$ signifying a modest impact, $0.5 \leq d < 0.8$ a medium effect, and $d \geq 0.8$ a big effect.

RESULTS

The most common level of education was a bachelor's degree or higher. Most nurses worked 40 hours or less a week, and the majority handled 1-2% patients per shift (Table 1). Prior to the intervention, 55.8% of participants reported low accomplishment, while 30.2% had moderate levels. After the intervention, 51.1% of participants were classified as high personal accomplishment (low burnout), and 20.9% in moderate burnout, with a mean score of 37.2, compared to the control group, which showed minimal change (Table 2).

After the intervention, the experimental group showed a significant improvement in personal accomplishment, with a mean score of 37.2±5.9, compared to the control

group's slight decrease of 30.9±7.4. This difference was statistically significant and associated with a moderate between-group effect size (0.71). The experimental group also showed a notable mean change from pretest to posttest, compared to the control group's minimal change (0.511±10.2). The within-group effect size was large for the experimental group (0.63), reflecting a moderate practical effect, while the control group had a negligible effect size (0.07). The percentage change in personal accomplishment was significantly greater in the experimental group (13.4%) compared to the control group (1.5%) [Table 3]

Nurses from nuclear families (husband/wife) reported a pre-test mean of 28.71±6.42 and improved to 39.57±2.99 post-intervention, achieving a significant p-value of 0.035. With respect to the differences in other clinical variables, none of these variations demonstrated statistical significance (Table 4).

Table No. 1: Demographic and clinical characteristics of the participants

Variables		Experimental Group (N=43)		Control Group (N=45)		P value
		No.	%	No.	%	
Age (years)	22-26	24	55.8	23	51.1	0.552 NS
	27-31	11	25.6	16	35.6	
	32-36	8	18.6	6	13.3	
Gender	Male	23	53.5	22	48.9	0.666 NS
	Female	20	46.5	23	51.1	
Marital status	Single	23	53.5	29	64.4	0.296 NS
	Married	20	46.5	16	35.6	
Type of family	Nuclear (Father/Mother)	21	48.9	23	51.1	0.480 NS
	Nuclear (Husband/Wife)	15	34.9	17	37.8	
	Extended	7	16.2	5	11.1	
Monthly income	Sufficient	19	44.2	23	51.1	0.554 NS
	Sufficient to some extent	17	39.5	18	40.0	
	Insufficient	7	16.3	4	8.9	
Academic qualification	Bachelor degree or Higher	22	51.2	24	53.3	0.776 NS
	Nursing diploma	14	32.6	16	35.6	
	Nursing secondary school	7	16.2	5	11.1	
Type of work	Government hospital only	29	67.4	34	75.6	0.399 NS
	Govt. and private hospital	14	32.6	11	24.4	
Current area of assignment	Intensive Care Unit	25	58.1	27	60.0	0.859 NS
	Coronary care Unit	18	41.9	18	40.0	
Years of experience	1-3	34	79.1	32	71.1	0.389 NS
	4-6	9	20.9	13	28.9	
Shift time	Morning	21	48.8	23	51.1	0.831 NS
	Evening	22	51.2	22	48.9	
Weekly hour work	<40 h	25	58.1	27	60.0	0.859 NS
	> 40 h	18	41.9	18	40.0	
Patient load	1-2	39	90.7	38	84.4	0.375 NS
	3-4	4	9.3	7	15.6	

Table No. 2: Comparison of overall personal accomplishment burnout levels among critical care nurses in both study groups before and after the program (Pretest and Posttest)

Variable			Experimental Group (N 43)				Control Group (N=45)				P value
Domains		Score	No.	%	Mean	SD	No.	%	Mean	SD	
Personal Accomplishment (8Q)Min=0, Max= 48	Pre-Test	Low burnout (40-48)	6	14	32.8	7.91	6	13.3	31.4	6.83	0.539 NS
		Moderate burnout (9-30)	13	30.2			12	26.7			
		High burnout (0-33)	24	55.8			27	60			
	Post-Test	Low burnout (40-48)	22	51.1	37.2	5.9	5	11.1	30.9	7.4	0.012 Sig

		Moderate burnout (9-30)	9	20.9			14	31.1			
		High burnout (0-33)	12	28			26	57.8			
Paired testP value			0.024 Sig				0.637 NS				

Table No. 3: Comparison of personal accomplishment burnout before and after the program in both studied group

Time Point	Experimental Group (N=43)		Control Group (N=45)		Effect size between groups	P value
	Mean	SD	Mean	SD		
Pre Test	32.8	7.91	31.4	6.83	0.21	0.539 NS
Post Test	37.2	5.9	30.9	7.4	0.71	<0.001 Sig
Mean difference Pre-Post	-4.34	7.53	0.511	10.2		<0.001 Sig
Effect size within group	0.63	0.07				<0.001 Sig
Percentage change	13.4%	1.5%				<0.001 Sig
P. Value	<0.041sig		0.963			

Table No. 4: Comparison of personal accomplishment scores across sociodemographic and clinical subgroups at pre- and post-test in the experimental group

Variables		Pre-Test (N=43)		Post-Test (n=45)		P value
		Mean	SD	Mean	SD	
Age Group	22-26	33.75	5.98	38.00	5.40	0.982 NS**
	27-31	31.45	4.63	36.18	6.69	
	32-36	32.25	9.25	36.37	6.80	
Sex	Male	32.57	7.05	38.17	5.92	0.244 NS*
	Female	33.25	5.52	36.15	5.88	
Type of family	Nuclear (Fa/Mo)	33.67	6.07	36.24	6.75	0.035 Sig**
	Nuclear (Hus/Wife)	28.71	6.42	39.57	2.99	
	Extended	33.73	6.26	37.53	5.66	
Monthly Income	Sufficient	33.42	6.37	35.95	5.95	0.374 Ns**
	Sufficient to some extent	32.41	6.54	38.35	4.70	
	Insufficient	32.57	6.50	38.00	8.42	
Academic qualification	Bachelor degree or Higher	32.00	8.46	35.71	4.57	0.115 NS**
	Nursing diploma	32.43	6.13	40.14	5.94	
	Nursing secondary school	33.45	5.95	35.86	5.83	
Type of work	Government hospital only	33.59	6.39	38.14	5.81	0.803 NS*
	Government and Private hospital	31.43	6.14	35.36	5.93	
Current Area of Assignment	Intensive Care Unit	34.48	5.54	35.56	6.19	0.061 NS*
	Coronary care Unit	30.67	6.81	39.56	4.78	
Years of Experience	1-3	33.85	6.01	37.41	5.88	0.185 NS*
	4-6	29.22	6.47	36.56	6.38	
Shift time	Morning	32.52	4.94	36.90	6.17	0.979 NS*
	Evening	33.23	7.51	37.55	5.87	
Weekly hour work	40 h or less	34.48	6.68	38.04	6.13	0.425 NS*
	More than 40 h	30.67	5.17	36.11	5.60	
Patient load.	1-2 pt	33.21	6.41	37.23	6.03	0.386 NS*
	3-4 pt	29.75	4.92	37.25	5.50	

*Paired t-test, **ANOVA

DISCUSSION

The study revealed that 55.8% of participants reported diminished levels of personal accomplishment, indicating a markedly high prevalence of burnout. This proportion is considerably greater than the 31% and 28.9% reported by Bruyneel et al[19] and Montoya et al[20] respectively. Such a disparity suggests that the

pressures experienced in CCU environments characterized by relentless demands, intensive patient care, and ongoing emotional strain may exert an especially detrimental effect on nurses' sense of professional fulfillment in the present context. Over time, these conditions erode personal accomplishment and contribute to the broader syndrome of burnout.

In the present study, pretest findings confirmed homogeneity between the experimental and control groups in demographic characteristics, occupational data, and baseline levels of personal accomplishment (32.8±7.91 vs. 31.4±6.83; p = 0.539). This comparability minimizes the risk of confounding influences, thereby strengthening the internal validity of the study and ensuring that post-intervention differences can be attributed to the intervention. Following the intervention, the experimental group demonstrated a significant improvement in personal accomplishment, with mean scores increasing to 37.2±5.9, corresponding to a mean change of 4.34±7.53 and a percentage increase of 13.4%. By contrast, the control group exhibited only a minimal increase of 1.5%. Effect size analysis further substantiated these findings: the between-group effect size (Cohen's d = 0.71) and within-group effect size for the experimental group (Cohen's d = 0.63) both fell within the medium range, indicating that the change was not only statistically significant but also of practical relevance. The control group, in contrast, showed a negligible effect (d = 0.07), reinforcing the absence of meaningful improvement without the intervention.

The observed enhancement in personal accomplishment may be attributed to the role of MBCT in cultivating mindfulness of pleasant emotions, encouraging positive introspection, and broadening cognitive flexibility. By fostering greater awareness of positive experiences, MBCT may expand individuals' perspectives on choices and coping strategies, enabling more adaptive responses to occupational stressors. These findings are consistent with previous research. Xie et al[21], in China, demonstrated that MBCT-based interventions significantly enhanced personal accomplishment and resilience. Similarly, Mealer et al[22] reported improved resilience and reduced burnout symptoms among ICU nurses following an adapted MBCT program, while Mathew et al[23] concluded in their systematic review that mindfulness-based training reduces stress and enhances psychological well-being among nurses. By contrast, Calais[24] reported no significant improvement in personal accomplishment after a six-week mindfulness program, suggesting that intervention duration and contextual factors may influence outcomes.

This study showed that nurses from nuclear families demonstrated substantial improvements in personal accomplishment, with mean scores increasing from 28.71±6.42 to 39.57±2.99; p = 0.035). This study aligns with previous research highlighting the importance of mindfulness-based interventions in alleviating stress and anxiety. Nurses from nuclear families may have fewer inherent support systems compared to those from extended or joint families. Consequently, mindfulness may serve as an additional internal coping resource, rendering its benefits more pronounced.[25] This result may reflect the greater ease of practicing MBCT in quieter environments, with clearer household boundaries and stronger direct family support, compared to extended family settings where competing demands and distractions may hinder engagement.

CONCLUSION

Mindfulness-based cognitive therapy significantly improves personal accomplishment among critical care nurses and the practical value in promoting resilience, psychological well-being, and professional fulfilment. Contextual factors, such as family structure, may influence the effectiveness of MBCT, with nurses from nuclear families showing greater improvements.

Author's Contribution:

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