



The Effectiveness of Nursing Training Program in Reducing Burnout among Nurses Caring for Geriatric Cancer Patients

Amal Hamoud Alamrani¹, Doaa Abd Elhameed Abd Elmawla², Soad Hassan Abd Elhameed^{3,4}.

¹Nursing specialist in king Fahad hospital in Tabuk .

²Professor of Gerontological Nursing, Faculty of nursing, Mansours university, Egypt,

³Professor of Gerontological Nursing , Faculty of nursing Mansours university, Egypt.

⁴Acting Dean of the faculty of nursing new Mansoura university, new Mansoura, Egypt.

Corresponding author: Finsh4@hotmail.com

Abstract

Background: Nurse burnout occurs often and is a serious issue when it comes to geriatric oncology. Both nursing burnout and patient care may be compromised due to negative implications. **Aim:** The aim of this research was to evaluate the impact of a nursing training program in reducing burnout in nurses working in geriatric oncology units. **Method:** The design was based on a quasi study (pre-post interventional) that involved 110 geriatric oncology nurses in King Fahad Specialist Hospital, Tabuk. They were then tested by the demographic based line assessment, Maslach Burnout Inventory (MBI) this instrument evaluates three burnout dimensions; Emotional Exhaustion (EE) that evaluates emotional depletion as a result from excessive workload, Depersonalization (DP) which evaluates the indifferent and impersonal attitude towards patients, and Personal Achievement (PA), measures sense of competence and success in dealing with people. **Result:** The findings demonstrated that there were significant changes in emotional exhaustion, personal accomplishment and depersonalization, the nursing training was effective in decreasing burnout among geriatric oncology nurses. **Conclusion:** The developed training program was effective in reducing burnout in geriatric oncology nurses. This demonstrates the necessity of the specific intervention to help nurses to maintain their psychological health and improve the quality of patient care.

Keywords: Nurse burnout, geriatric oncology, nursing training, emotional exhaustion, burnout reduction.

1. Introduction

Nurses have been facing burnout in today's healthcare set-up along with health consequences for clinicians and patient outcomes. Burnout, characterized by emotional exhaustion, depersonalization and reduced personal accomplishment, has a reliable measure such as the Maslach Burnout Inventory (MBI-HSS), which is recognized as the standard for measuring burnout among health professionals (De Beer et al. 2024; Gonçalves et al. 2024). The data reveals that, especially in the relevant sectors, nurses are very vulnerable to burnout, as almost 50 per cent of the nursing workforce runs the risk of burning out under such conditions (Talebiazar et al., 2024; Mohammed et al., 2020). According to Ma et al. (2023), mental exhaustion among nursing staff over an extended period of time can have an adverse effect on their mental health, job satisfaction, retention and quality of care.

Nurses who work in oncology take care of patients with cancer. Due to high levels of workload, complexity of care, and emotional labour (e.g. distress caused by providing end-of-life care), this clinical specialty is at risk of experiencing burnout. Studies of oncology nurses have fast repeatedly found higher levels of emotional exhaustion and burnout amongst oncology nurses when compared to nurses in other specialties (Pérez et al., 2022; Galassi et al., 2023). Oncology nurses' burnout could pose a threat to patient safety and satisfaction due to more errors and less therapeutic interactions (Guo et al., 2022). The age-related vulnerabilities of the older people along with the cancer treatment-related demands increase the risk of burnout even further, in geriatric oncology (Talebiazar et al., 2024).

Over five years, a variety of strategies has been tried to combat burnout among nurses, including person-directed, organizational and psycho-educational in clinical settings (Yu et al., 2023). The authors of a systematic review and meta-analysis Capezuti et al. (2022) observed that various training programs employing, coping, mindfulness, resilience strategies leads to small but significant decrease in emotional exhaustion and depersonalization. Mindfulness-based and psycho-educational interventions, especially when they are implemented as long-term programs, are effective in improving the coping abilities and resilience of nurses (Yildirim et al., 2023; Blackwell, 2024). In terms of a proactive approach to making the workplace better in clinical environments, the importance of studying burnout prevention is recognized through this research.

There have been many studies done that show the effectiveness of such programs. However, not much research has focused on the applicability of structured training for geriatric oncology nurses and its effectiveness with burnout. The majority of

current research has either involved general nursing populations or specific units, such as ICUs or mental health ones. Apart from a few except for very few quasi-experimental studies on burnout-reduction interventions, most took place in oncology or geriatric settings. (Okafor, 2026). In addition, the variation in intervention designs, durations, and outcome measures suggests that more rigorous quasi-experimental research that is appropriately designed on the needs of specialized care nurses is required to effectively reduce burnout and improve resilience (He et al., 2023).

The study looks at the ongoing challenge of burnout in geriatric oncology nurses, which has become worse due to high emotional demands and lack of any specific support as reflected in literature (Chen et al., 2025). This research aims at finding out the effectiveness of a nursing training program on the burnout of nurses working with older adults suffering from cancer using a quasi-experimental design.

1.1 Aim of The Study

The aim of this study was to determine the effect of nursing training program in reducing burnout among nurses caring geriatric cancer patients.

1.2 Research Hypothesis

The nursing training program will reduce the burnout among nurses caring geriatric cancer patients.

2. Method

2.1 Research Design

The quasi-experimental pre-post interventional design was selected to determine the effectiveness of the structured educational program,

2.2 Research Setting

The research was carried out in the geriatric oncology unit of the King Fahad Specialist Hospital, Tabuk.

2.3 Research Sample

The sample size of 110 nurses was obtained using purposive sampling and they had to have at least a year of experience in geriatric cancer care. The sample used was chosen on the basis of the availability and willingness to take part in the data collection process.

To ensure statistical power and account for potential dropout, Estimation of sample size was conducted with G*Power version 3.1, menu bar: Tests t- test-paired samples (two- tailed) and pre and post-intervention comparative analysis was performed. Using Cohen's $d = 0.5$, $\alpha = 0.05$, and power = 0.80, the analysis revealed that a minimum of 110 participants were required

2.4 Data collection tools

- Tool I: Demographic Questionnaire was developed to collect socio-demographic information such as age, gender, marital status, nationality, years of experience, and education level.
- Tool II: Maslach Burnout Inventory (MBI): This tool was developed by Maslach and Jackson (1996), this instrument evaluates three burnout dimensions; Emotional Exhaustion (EE) that evaluates emotional depletion as a result from excessive workload, Depersonalization (DP) which evaluates the indifferent and impersonal attitude towards patients, and Personal Achievement (PA), measures sense of competence and success in dealing with people. The scale is composed of 22 items, rated on a 7-point frequency scale (0 = never to 6 = every day). The total score ranged from 0 to 132. A score of ≥ 70 on the total scale represents high burnout.

2.5 Field Work

A. Preparatory phase

- The Faculty of Nursing, Mansoura University issued official letters in the Tabuk regional directorates and subsequently the educational affairs in Tabuk issued an official letter. The head nurse of the oncology and geriatric unit was informed of the study.
- After reviewing the relevant literatures, the study tool I (Demographic Questionnaire) was developed by the researcher.
- Tool II (Maslach Burnout Inventory) adapted and translated into Arabic; validated translation was attained.
- By numbers of experts in the related fields of the study, the study tools were tested for its validity. Accordingly, the required modifications were done.
- Also, used for testing internal consistency and reliability of the MBI. The reliability of the MBI was assured ($\alpha = .90$).
- The training programme was separated into eight sessions, including two educational sessions and six practical sessions, each of 90 minutes and every other session was a weekly occurrence. The training materials were in the form of PowerPoint slides, printed handouts, videos, and a booklet that was prepared by the researcher.
- Fifteen nurses were used in a pilot study to test the clarity of the tools and procedures, their relevance and feasibility. The tools and content were adjusted based on their feedback with the aim of enhancing reliability and validity.

B. Implementation phase

- Data were gathered on the basis of ethical clearance and consent of participants. The data-gathering tools were demographic questionnaire and the Maslach Burnout Inventory (MBI). The data was collected at three time points; pre-intervention, one month post-intervention and three months post-intervention.
- These were gathered in a confidential and convenient space at the oncology-geriatric unit.
- The measurements were made at one month and three months following the intervention to determine both the short and long-term effects of the intervention on burnout.
- The researcher was also available at all times to give guidance and make sure that the data collected was accurate.
- The study was supported and coordinated by the hospital management and the heads of the nursing, which guaranteed the effective communication between the personnel and the participants.

I. Assessment

The aim of the assessment phase was to investigate the current perceived burnout among nurses in geriatric oncology care. This was an important phase for the baseline knowledge of mental and occupational health in those individuals of the nurses prior to the intervention exposure. Maslach Burnout Inventory (MBI) as standardized instruments and demographic questionnaire were used to collect information on background and demographics of participants. The information obtained through this process assisted in identifying nurse needs, informed the content and design of the intervention sessions.

- Background data of every nurse was gathered using a demographic questionnaire which included age, marital status, professional experience and professional education.
- Maslach Burnout Inventory (MBI) was used to assess burnout among the nurses, in a numeric value for the quantification of low, moderate or high burnout.
- All instruments were conducted in their Arabic's translated copies were elaborated well to the participants.

II. Planning

The componential stage is the grouping of all components necessary for an effective and efficient interview.

- The training program, consisting of eight sessions, including two theoretical sessions and six practical sessions, was designed to be delivered twice a week for one month of hospital days working with the hospital staff to schedule not working over the nurses shifts and to provide them full time for the education sessions.
- Educational materials – including PowerPoint slides, pamphlets, Case studies, role plays, videos and demonstrations - were developed by the researcher and a produced educational booklet was printed for each participant.
- The classroom setting of the oncology geriatric unit was prepared with seating, audiovisual equipment, and privacy for a focused, interactive learning environment; equipment were tested to avoid any technical difficulties.
- A collaborative process, involving hospital administrator and unit managers was undertaken to verify the site and to inform staff of the study time, and to access support to incorporate the group sessions without interference of patient care.
- Printed copies of the consent forms, demographic sheets and the pre/post questionnaires were pre-prepared and encrypted in coded folders for each participant for ease of data tracking and to preserve participants' confidentiality.
- The researcher had time to practice delivering sessions, including mock sessions to develop the flow of instruction, manage the timing of sessions, and increase confidence in how to manage participant's engagement and question.
- A system for monitoring intervention delivery, which included recording the number of sessions attended, level of engagement of participants and problems during the sessions, was designed and these data were noted in a logbook for reflective adaptation of the intervention across the intervention period.
- Contingent plans (e.g., extra handouts, extra forms, emergency teaching artifacts) that would preempt participant or technical “no-shows” held at the time of the planned sessions.

III. Intervention

The intervention program was implemented over a period of four weeks and consisted of eight sessions, including two theoretical sessions and six practical training sessions. Each session lasted 90 minutes and was conducted twice per week. The program focused on stress management through education, relaxation techniques, problem-solving skills, and effective communication strategies.

Participants were first provided with theoretical knowledge about stress, coping mechanisms, relaxation, and communication skills. This was followed by practical training sessions where participants actively practiced techniques such as deep breathing, progressive muscle relaxation, mindfulness, problem-solving, and communication skills through role-play and group activities.

The sessions were delivered using a variety of teaching methods, including lectures, group discussions, demonstrations, role-playing, and guided practice to enhance engagement and skill acquisition. Participants were divided into smaller groups to facilitate effective learning and interaction.

IV. Evaluation

The intervention achieved its effectiveness by measuring burnout with the MBI at two times; one month and three months after intervention. This evaluation was aimed at determining the short term and long-term impacts of the intervention.

2.6 Ethical Considerations

The Ethical Research Committee of the Faculty of Nursing, Mansoura University granted ethical approval of the study and the Institutional Review Board (IRB) of the Ministry of Health, Tabuk did the same. All participants were provided with written informed consent, and informed that they could pull out of the study any time without incurring any penalty. The anonymity of participants was guaranteed with the help of personal codes, and all the data were safely stored.

2.7 Statistical Analysis

Data was analyzed using the Statistical Package for Social Sciences (SPSS) version 23. Descriptive statistics were used to summarize demographic characteristics and baseline variables, including measures such as mean, standard deviation, and range. Inferential statistical tests were applied to examine changes in burnout levels before and after the intervention. A paired t-test was used to compare pre- and post-intervention burnout scores, while repeated measures ANOVA was conducted to assess variations in burnout levels over time. A p-value of less than 0.05 was considered statistically significant.

3. Results

Table 1 Demographic Information of Study Participants (N = 110)

Demographic characteristics		Frequency (N = 110)	Percentage (%)
Age	Less than 25 years	36	32.7
	25 to 35 years	35	32.0
	More than 35 years	39	35.3
Marital status	Married	43	38.7
	Single	40	36.7
	Divorced	24	22.2
	Widowed	3	2.7
Education level	Diploma in nursing	31	28.0
	Bachelor's degree in nursing	63	57.3
	Graduated Studies	16	14.7
	1 to 5 years	79	72.0
	More than 5 years	31	28.0
Nursing perception of Burnout training programs	Yes, I know	31	28.0
	No, I don't know	79	72.0
Do you think Nurses need training programs to reduce burnout?	Yes	47	42.7
	No	63	57.3

Note: f = frequency, % = percentage.

Table 1 show the sociodemographic sample of study participants. 25 (32.7%) years, and older than 35 years (35.3%). The majority of the respondents were married (38.7%) and Bachelor of Degree Nursing holders (57.3%). Only a very high proportion (72%) had no idea of available burnout training programs and 42.7% felt that nurses require these programs.

Table 2: Impact of nursing training program on reducing burnout among nurses caring for geriatric cancer patients (N=110)

Variable	B	CI (95% CI)	β	t	p
(Constant)	1.87	[0.45, 3.29]	–	2.62	.01*
Emotional Exhaustion (EE)	– 0.02	[–0.04, –0.01]	–0.32	–2.82	.01**
Personal Accomplishment (PA)	0.02	[0.01, 0.04]	0.29	2.64	.01**
Depersonalization (DP)	– 0.01	[–0.03, –0.01]	–0.27	–2.42	.01*

Note: $p < .05$ = significant (*), $p < .01$ = highly significant (**)

Table 2 Table shows the regression analysis revealed that there were significant effects of the training program in that the emotional exhaustion ($b = -0.32$, $p = .01$) and personal accomplishment ($b = 0.29$, $p = .01$) and depersonalization ($b = -0.27$, $p = .01$) were significantly better after the training program.

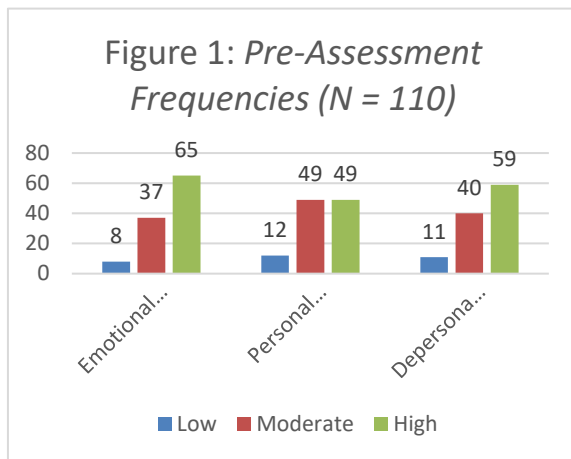


Figure 1 illustrates that the pre assessment of Level of burnout.

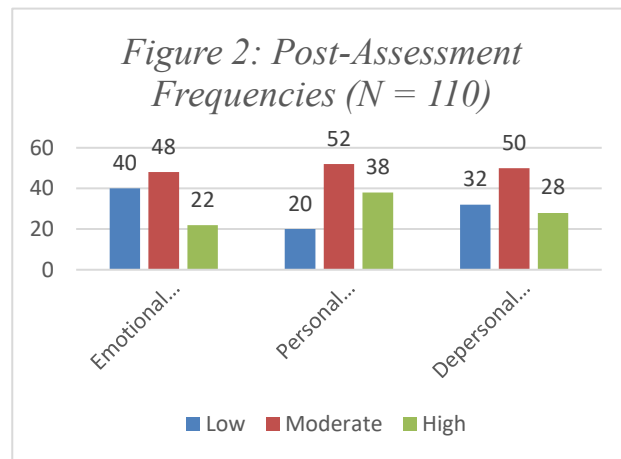


Figure 2 illustrate that the post assessment of level Of burnout after one month

Figur1&2 As seen in figure1. prior to the program, high burnout levels dominated the sample, with 65 nurses (59.1%) experiencing high emotional exhaustion, 49 (44.5%) low personal accomplishment, 59 (53.6%) high depersonalization, after one month, Figur2 demonstrates substantial improvement across all dimensions: the number of nurses with high emotional exhaustion dropped sharply to 22 (20.0%), low personal accomplishment adjusted to 20 (18.2%), and high Depersonalization significantly decreased to 28 (25.5%). conversely, the low-burnout categories across all dimension witnessed a notable increase, indicating the program had positive impact.

Table 3: Paired Sample t-Test Comparing Pre- and Post-Test Scores on Burnout (N = 110)

Variable	Pre-Test M (SD)	Post-Test M (SD)	T	Df	p	Cohen's d
Emotional Exhaustion (EE)	48.40 (6.62)	41.20 (6.95)	10.72	149	< .001	0.88
Personal Accomplishment (PA)	40.14 (5.63)	44.76 (5.22)	-8.45	149	< .001	0.69
Depersonalization (DP)	25.91 (3.71)	21.35 (4.01)	9.23	149	< .001	0.75

Note: $p < .05$ = significant (*), $p < .01$ = highly significant (**).

Table 3 as seen the paired t -tests showed that there were significant changes in emotional exhaustion (M = 48.40 to 41.20, $p < .001$, Cohen d = 0.88) and depersonalization (M = 25.91 to 21.35, $p = .001$, Cohen d = 0.75) and there was an increase

4. Discussion

The ongoing problem of burnout among nurses, especially in the area of geriatric oncology, continues in healthcare. Findings of the present study, which was conducted in the oncology and geriatric departments of King Fahd Hospital in Tabuk, Kingdom of Saudi Arabia, provide evidence that an intervention based on nursing training can reduce the burnout rate in geriatric cancer nursing personnel. The results coincide with the existing literature indicating the ability of different interventions to enhance emotional exhaustion, depersonalization and burnout among healthcare employees (Abd Elhameed & Abd Elmawla, 2018; Eche et al., 2023). One of the burnout indicators, emotional exhaustion, was reduced after the implementation of the program, which reflects its positive effect in reducing burnout, a finding that is further supported by Özdemir and Taşcı (2023).

The other aspect that improved remarkably (25.91 to 21.35) was depersonalization that refers to the detachment that nurses show from their patients. This suggests that due to the training program, nurses' emotional involvement with patients increased. The study results are consistent with available literature, indicating that depersonalization is lessened when nurses spend more time interacting with their patients, thus enhancing the patient-care provider relationship and, in turn, care quality (Truscott et al., 2022; Moghadam et al., 2024). Also, personal accomplishment which diminishes with burnout also saw a big boost (40.14 to 44.76). The study suggests that the intervention alleviated burnout for nurses while increasing their professional fulfillment and efficacy (Sarmiento et al., 2022).

It further indicates that the training program was effective based on regression analysis. The training was effective positively, since there were significantly negative changes in emotional exhaustion ($r = -0.32$, $p = 0.01$) and depersonalization ($r = -0.27$, $p = 0.01$). In addition, there was a significant positive change in personal accomplishment ($r = 0.29$, $p = 0.01$). According to the findings, other researchers also claimed that proper training can reduce burnout and improve job satisfaction

among healthcare professionals (Abdullah Sharin et al., 2025). The findings also draw attention to the relevance of intervention in highly demanding context such as oncology where emotional psychological strains are acute (Zuber et al, 2026).

The training program incorporated skills and strategies related to emotional resilience and managing self so as to get positive results from the study. This finding is consistent with prior research showing that interventions benefit the mental health and well-being of nurses (Abdullah Sharin et al. 2025). Nonetheless, burnout is a tough nut to crack. Thus requires efforts within the healthcare system at various levels for a sustainable solution (Zhang et al., 2022; Bağçivan et al., 2025).

Besides lessening burnout, the study shows how a workplace must strive to achieve a setting that supports emotions, has colleague interaction and proper staffing. Burnout is a systemic issue, caused by excessive workload and insufficient organizational support rather than an individual problem (Elkafrawy et al., 2019DN et al., 2022; Jelen et al., 2024). So, tackling burnout needs an approach that takes personal intervention, like training programs, and an organizational approach so that working conditions improve and burnout reduces.

Even though the training was effective, the results indicate that follow-up sessions may be needed to sustain the benefits of the training over time. Because burnout is a repetitive issue, future research should evaluate the impact of the intervention after a longer duration and the importance of ongoing support to prevent the recurrence of burnout (Wasmani et al., 2022; Aytaç et al., 2023). The study of this research offers a first step towards research aimed at realizing a healthy workplace through long-term multi- component interventions and organizational changes to reduce burnout.

5. Conclusion

Geriatrics oncology nurses showed low burnout from the training program. They reported improved emotional exhaustion, depersonalization and personal accomplishment. According to the study, there is a need to provide systematic, targeted interventions to enhance nurse well-being in high-demand specialties. To achieve long-term gains, the future research should examine the utility of ongoing support and organizational improvements to supplement individual interventions to reduce burnout more sustainably.

6. Recommendations;

- Establishment structured stress- reduction program: implement continuous, evidence- based practice interventions- such as mindfulness and coping strategy training specialty tailored for nurses working in high- stress oncology environments.
- Enhancing institutional support system by Developing organizational counselling and mental health support services.
- Integrate burnout prevention into nursing Education: incorporate specialized stress management modules into the continuous educational curricula and orientation protocols for newly hired geriatric care nurses.
- Foster positive work environment: Adjust administrative scheduling and workload distribution to prevent relapse into high burnout levels.

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