

Mindfulness- Based Work Stress Reduction Training Program and its Effect on Nurses' Job Burnout: A Quasi Experimental Study

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Abstract:

Background: Nurses are the largest professional group in healthcare sector to deliver safe and high-quality healthcare. However, mindfulness was beneficial through helping nurses how to relax and let go of undesirable thoughts is stressors. These stressors including high patient acuity, heavy workloads, staffing shortages, and emotional demands, can contribute to significant job burnout. Mindfulness-based interventions are identified as an effective strategy to reduce work related stress and prevent job burnout. **Aim:** To evaluate effect of implementing mindfulness-based work stress reduction training program on nurses' job burnout at Sabt Alayal Hospital, Saudi Arabia. **Method:** Quasi experimental (pretest-posttest) research design was used in all inpatient units at Sabt Alayal Hospital on (120) nurses using three tools for data collection namely; Five Facet Mindfulness Questionnaire, Nurses' Perceived Stress Scale (PSS-10), and Maslach Burnout Inventory (MBI) Scale. **Results:** Nurses' mindfulness for reducing work stress is improving and reducing job burnout after implementing training program about mindfulness-based work stress reduction training program. This means that more than a half of the studied nurses (65.0%), have a low level tendency toward mindfulness and (71.7%) of the studied nurse had moderate level of perceived work stress and (59.2%) at moderate level of job burnout in pre implementing mindfulness-based work stress reduction training program, also total nurses' mindfulness for reducing work stress had improved and reducing stress and job burnout among all of them immediate post and follow up of implementing mindfulness-based work stress reduction training program. **Conclusion:** It was concluded that there were highly statistically significant correlations among studied nurses' tendency toward mindfulness, stress and job burnout after implementing mindfulness-based work stress reduction training program at Alayal Hospital, Saudi Arabia. **Recommendations:** Early introduction of mindfulness training during orientation program for fresh graduated nurses to enhance their resilience to maintain primary prevention of burnout.

Keywords: Job Burnout, Mindfulness, Nurses' Work Stress

Introduction

Healthcare organisations strive to use many techniques to retain their competent employees, notably nurses, while motivating them to provide safe, high-quality treatment to different patient groups. Organisations can gain durable and competitive advantages via the appropriate utilisation of nursing staff and other healthcare professionals (Alkorashy & Alanazi, 2023). Nursing is a very challenging profession and nurses are the backbone of any healthcare organisation. They form roughly fifty percent of the world's healthcare workforce and offer over eighty percent of patient care. They are often the first healthcare workers to interact with patients and often the only people a patient may see (Shahbal, et al., 2022) .

Nursing is a high pressure, demanding vocation. Stress in the work place may have a negative effect on the overall well-being of the nurse and their ability to function properly at work. Nurses are important in every hospital or facility and make a large influence on patient care. Direct nursing care requires a high level of nursing expertise, empathy, interaction with the patient, and clear, concise communication and technical abilities and experience. Nurses may be asked to work overtime without enough breaks. Thus, it is not unexpected that nurses experience high levels of stress in their work (Werke & Weret, 2023) .

Work stress is the mental and emotional pressure that a nurse experiences owing to their employment. There are several things that cause stress in the workplace for nurses like lack of personal resources to handle challenges or social support, feeling overwhelmed, dealing with patients with critical diseases, conflicts with physicians or co-workers and being assaulted at work by relatives of patients or co-workers (Liu, Aunguroch, Gunawan, & Zeng, 2021).

The profession is not only physically exhausting from the perspective of human health and functioning but also takes a lot of mental energy. Nurses are often in stressful circumstances, which causes mental fatigue. Globally, nurses face several obstacles, such as high workloads, psychological stress, limited workplace autonomy, lack of personnel, poor society attitudes, low remuneration and undesirable job features (Rahnfeld, Wendsche, & Wegge, 2023). Nurses inside the company may experience stress due to factors such as poor management, nepotism, or excessive workload. Such pressures forces an organization's human resources to perform behaviours and practices that impair the organization's progress towards the accomplishment of its objectives (Babamiri, Heydari, Mortezaipoor, & Tamadon, 2022) .

Mindfulness-based treatments (MBIs) are a recognised cost-effective cognitive treatment for stress management, and may be incorporated in

the policies of any healthcare facility (Catapano et al., 2023). Mindfulness is often understood as the deliberate, non-evaluative attention to the present. The practice of mindfulness was first developed in an Asian culture that emphasised the ideals of existence, non-striving and acceptance of reality. Lately, mindfulness meditation has emerged as a great tool for stress reduction and well-being. It has therefore been widely used in both clinical and nonclinical populations (D'Arro, 2023 & Waddill-Goad, 2023).

Mindfulness is the management of attention, with an open, curious and receptive attitude to one's current experience. Mindfulness techniques may be applied in the workplace in both normal and high-pressure situations (Wang et al., 2023). The continuous practice of mindfulness can lead to the welfare of both person and society. One of the most renowned structured courses for mindfulness practice is Mindfulness-Based Stress Reduction (MBSR) (Mortlock, 2023).

The Mindfulness-Based Stress Reduction (MBSR) programme is a health promotion approach which includes training and practice of mindfulness techniques, meditation and Hatha yoga to improve physical and psychological well-being. Mindfulness-based stress reduction (MBSR) programme might be a resource to reduce work-related stress and improve certain health outcomes among professionals, especially nurses (D'Arro, 2023 & Wexler & Schellinger, 2023).

In addition, mindfulness programmes may be beneficial for spiritual well-being. Mindfulness helps you concentrate better and be more open-minded. Mindfulness helps individuals to notice things that they have never paid attention to, and to enjoy life and the connection of life with self (Wang et al., 2023). Mindfulness techniques are about awareness and awareness gives a sense of contentment. Mindfulness meditation can help nurses to regulate their thoughts, views and actions surrounding work-related stress (Catapano, et al., 2023). Burnout is the term used to describe this psychological exhaustion (Parola, et al., 2022).

Burnout is the major manifestation of stress in the nursing profession and can be described as a delayed response to continuous stress connected to work. Nurse burnout is more than being tired or having a bad day at work (McFarland & Hlubocky, 2021). It is the emotional, mental and physical depletion caused by excessive and persistent stress (Waddill-Goad, 2023). If nurses don't have the emotional energy to connect with different patients, they may burn out. The effect of nurse work burnout can be far-reaching to nursing

practice, the patients they serve, and the healthcare facilities (Wu et al., 2021; Abdel Azize et al., 2023).

Extended work stress and burnout can lead to serious physical and psychological health problems among nurses, which can negatively impact the quality of their nursing service. Some of these health problems may include sleep deprivation, endocrine disruption, immune system damage, cardiovascular disease, and obesity (Ahmed et al., 2022; Aljuaid, 2022). Burnout can lead to negative feelings, drug abuse and suicidal thoughts. Burnout can also cause an increase in nursing errors, decreased productivity, and increased turnover rates (Alhafithi et al., 2022; Sullivan et al., 2022).

Stress and exhaustion are also linked to higher patient mortality rates and lower patient satisfaction (Abdel Azize, et al., 2023). Hospital nurses are exhibiting violent conduct due to long-term stress and tiredness. The aforementioned affects reduce the nurse's ability to create a therapeutic relationship with patients, therefore, this increases the risk of negative patient outcomes (Nogueira, et al., 2022).

Situational and/or individual factors may impact nursing burnout (McFarland & Hlubocky, 2021; Jamebozorgi et al., 2022). Situational aspects include position qualities, profession and organisation. Assis, et al. Nurses who are unable to cope with the job demands are more likely to suffer from burnout (2022). Situational concerns might include, for example, role conflicts in the job, problematic relationships, workload and occupational stress. In addition, low and inadequate social support is associated with higher fatigue and burnout (Alkhraishi, et al., 2023).

Many demographic, behavioural and vocational factors may predispose individuals to experience burnout. In addition, individual characteristics such as personality style and socioeconomic status may also be associated with a greater vulnerability to burnout. Personality traits such as high self-efficacy, optimism, and self-esteem are more protective against the development of burnout (Sullivan et al., 2022). Nurses with avoidant coping styles are more susceptible to burnout. Age is related to work experience and younger nurses may be more vulnerable to burnout at the beginning of their careers (Jamebozorgi, et al., 2022). It is crucial to implement mindfulness-based therapies to assist nursing and behavioral sciences in identifying the key factors affecting the adoption of health promotion habits (D'Arro, 2023). Health promotion is defined by complex arrangements of self-motivated actions and perspectives that promote the maintenance or improvement of wellbeing, self-actualization and personal satisfaction (Chipu & Downing, 2022). Nurses can be involved in health promotion and

decrease burnout using the strategies utilized. Mindfulness activities can help nurses to cope with stressful work situations, increase present moment awareness, and improve better emotional control resulting in healthier decisions (Chong & Shorey, 2022; Sawyer et al., 2023).

Significance of Study

workplace stress is, in fact, the response of individuals to workplace demands and pressures that are mismatched to their knowledge and abilities and that threaten their ability to cope (Sullivan, et al, 2022 & Dulko & Kohal, 2022). Stress and burnout in the workplace has been a problem for nurses for a long time (Sullivan, et al, 2022 & Dulko & Kohal, 2022). Stress in the workplace is detrimental to service quality, worker attrition and absenteeism (Werke & Weret, 2023). The nursing profession has many unique stressors such as: heavy workloads, lack of autonomy on the job, long hours, night shifts, unclear roles, unreasonable demands from patients and their families, exposure to potentially life-threatening circumstances, dealing with patients in critical or unstable conditions, patients who are hostile or violent, patients who are sick or dying, and inadequate resources (Charzyńska, et al., 2022). An endemic burn-out syndrome is affecting nurses with as much as 40% of nurses suffering occupational burn-out. Moreover, 82% of nurses attributed their elevated risk of sickness to work-related stress as per the American Nurses Association's Health Risk Appraisal (Assis, et al., 2022). According to the Texas Centre for Nursing Workforce Studies, it is necessary to take action to improve resilience and well-being of nurses and reduce burnout (Abdel Azize, et al., 2023). Mindfulness is thought to have a wide range of consequences on human functioning and behaviour, with implications on mental health, well being, physical health, self-regulation and interpersonal. Over the last decade, mindfulness-based programmes (MBPs) have become of interest to leaders and employers throughout the world and to policy makers. There was no study conducted at Sabt Alayal Hospital in Saudi Arabia on the application of mindfulness training programme as a method to decrease stress and burnout among nurses. It is anticipated that this study will assist to explore the influence of mindfulness-based work stress reduction programme on reducing nurses' work burnout at Sabt Alayal Hospital, Saudi Arabia.

Aim of the Study

This study aimed to evaluate the effect of implementing mindfulness-based work stress reduction training program on nurses' job burnout at Sabt Alayal Hospital, Saudi Arabia.

Research Hypotheses:

The specific research hypotheses were:

H1. Nurses' mindfulness improves after implementing of mindfulness-based work stress reduction program at Sabt Alayal Hospital, Saudi Arabia.

H2. Nurses' perceived job stress reduces after implementing of mindfulness-based work stress reduction program at Sabt Alayal Hospital, Saudi Arabia.

H3. Nurses' job burnout reduces after implementing of mindfulness-based work stress reduction program at Sabt Alayal Hospital, Saudi Arabia.

Method

Design:

Quasi experimental (pretest–posttest) research design was used to achieve the aim of this study.

Setting:

This study conducted in all inpatient units at Sabt Alayal Hospital that affiliated to Ministry of Health, Saudi Arabia. The hospital consisted of two floors with total bed capacity of 100 beds.

Participants:

A convenient sample of (120) nurses who are working in all inpatient units at the previous mentioned study setting who are available during the period of data collection, have at least one year of experience and are willing to participate in the study.

Tools of data collection

Three tools were used for data collection in the present study namely; Five Facet Mindfulness Questionnaire, Nurses' Perceived Stress Scale (PSS-10), and Maslach Burnout Inventory (MBI) Scale.

Tool I. Five Facet Mindfulness Questionnaire (FFMQ): It consisted of two parts

Part 1: Personal characteristics of nurses such as age, sex, marital status, educational qualifications, years of experience and attending training program about mindfulness.

Part 2: Five Facet Mindfulness Questionnaire (FFMQ):

It was developed by Baer et al., (2006), and it was modified by the researchers to assess nurses' tendency toward mindfulness. It consisted of 39 items divided into 5 dimensions as observing (8 items), describing (8 items), acting with awareness (8 items), non-judging of inner experience (8 items) and non-reactive to inner experience (7 items). All items were rated on a 5-point Likert scale ranging from (1-5) as follows; never or very rarely true (1), rarely true (2), sometimes

true (3), often true (4), and very often or always true (5).

Scoring system:

The total scores of mindfulness questionnaire were summed up (ranges from 39-195) where the higher score indicating the greater tendency toward mindfulness. The total scores categorized based on cutoff point 50 % as:-

- ◆ Low level of mindfulness if total score <50 %.
- ◆ Moderate level of mindfulness if total scores 50-<75%.
- ◆ High level of mindfulness if total scores ≥75%.

Tool II. Nurses' Perceived Stress Scale (PSS-10)

It was developed by Cohen, Kamarck & Mermelstein, (1983) to identify the level of perceived stress among nurses. PSS-10 scale is the most widely used psychological instrument for measuring the perception of the cognitive aspects of stress and coping – appraising the effectiveness of coping strategies. Respondents were asked to indicate the frequency of their feelings and thoughts using a 5-point Likert scale ranging from (1-5) as follows; never=1, almost never=2, Sometime=3, fairly often=4 and very often=5. The score was reversed for the following statements; 4, 5, 7 and 8.

Scoring system:

The total scores of perceived stress were summed up (ranges from 10-50) and categorized based on cutoff point 50 % as:-

- ◆ Low level of perceived stress if total score 50 % .
- ◆ Moderate level of perceived stress if total scores 50%-<75%.
- ◆ High level of perceived stress if total scores ≥75%.

Tool III. Maslach Burnout Inventory Scale

It was developed by Maslach et al., (1996) to assess nurses' burnout level. The instrument is comprised of 22 questions that help to assess the levels of emotional exhaustion subscale (9 items), depersonalization subscale (5 items) and personal accomplishment one may be experiencing subscale (8 items). Respondents are asked to indicate the frequency of experiencing work-related feelings using a 7-point Likert scale ranging from (1-5) as follows; never=1, almost never=2, Sometime=3, fairly often=4 and very often=5.

Scoring system:

The total scores of perceived stress were summed up (ranges from 22-110) and categorized based on cutoff point 50 % as:-

- ◆ Low level of burnout if total score<50%.
- ◆ Moderate level of burnout if total scores 50%-<75%.
- ◆ High level of burnout if total scores ≥75%.

Validity and reliability:

Study tools were tested for its face and content validity by five experts (three professors and two assistant professor) in the field of Nursing Administration. Based on the opinion of panel of expertise minor modifications were done as paraphrasing for some items and arranging it into domains, and then the final form was developed and used for data collection. Reliability was tested statistically to assure that the tools were reliable before data collection. To test the internal consistency of the study tools, Cronbach's Alpha Coefficient was used. The reliability values for the Five Facet Mindfulness Questionnaire, Nurses' Perceived Stress Scale and Maslach Burnout Inventory Scale are 0.87, 0.92 & 0.85 respectively.

Pilot study:

Pilot study was conducted on (12) nurses who representing 10% of study nurses to test the clarity and applicability of the study tool and time needed for filling it out. Nurses involved in the pilot study were excluded from the study as they were from the resting staff. This pilot study was done in two weeks before starting the study.

Ethical considerations:

After outlining the study's goal and data collecting plan, the scientific research and ethics council of the Faculty of Nursing, Mansoura University (IRB 984) and the director of Sabt Alayal Hospital, Saudi Arabia accepted the study. The researcher met with participants to explain the study goal and acquire their consent. The researcher notified those who qualified of the study's goal. They provided anonymity and confidentiality and advised participants they might withdraw from the research at any time. The study methods do not harm individuals.

Data Collection:

The collection of data and implementation of the training program was carried out from beginning of October 2024 to end of June 2025. The process of data collection was achieved three phases:

First phase:

The period before the intervention was around two months, from October 2024 to the end of November 2024. The researcher met the participants in person and explained the purpose of the study and secured their agreement to participate. Data collection was carried out three days a week (Saturday, Monday and Tuesday) in both morning and afternoon shifts (9:00 AM – 3:00 PM) for the clarification and dissemination of data collection questionnaires (Five Facet Mindfulness Questionnaire, Nurses' Perceived Stress Scale and

Maslach Burnout Inventory Scale) at the end of each shift. It took around 20 to 30 minutes for each nurse involved to answer the questions .

Phase 2

Following the pre-program evaluation, the researcher devised and implemented the Mindfulness-Based Work Stress Reduction Training Programme for all participating nurses. The programming timetable was executed from the beginning of December 2024 to the end of March 2025. A total of 120 nurses participated in the study. Accordingly they were divided into eight groups. Each of the eight groups consisted of fifteen nurses. The 10 hours provided for the training were broken down into five sessions of two hours each, spanning across three days of the week .

The researcher delivered the training using the use of easily available resources, relevant content and instructional approaches for each session. Instructional strategies included PowerPoint presentations, brainstorming, group discussions, and lectures. On the first day, the researcher provided a handout (an educational leaflet) to the participants. The three data collection tools were provided to the participants at the end of the training course.

Third stage:

In the follow-up phase of this study, the researcher started to track the suggested improvement after the programme via analysing the post-test results against the baseline data gathered during the pretest evaluation using each of the three data collection tools. An assessment was conducted three months after the completion of the training curriculum for each of the nurses involved. The follow-up data collection was conducted over a period of roughly three months, from early April 2025 to late June 2025.

Statistical analysisThe data obtained were structured, presented in tabular form and subjected to statistical analysis using the Statistical Package for the Social Sciences (SPSS) version 27 and Microsoft Excel version 2016. Quantitative data are presented as mean and standard deviation (SD) and qualitative data are presented as frequency and percentage. The following tests were used: Paired t-test to compare the means of two matched quantitative variables; Marginal Homogeneity test to test for differences between non-parametric paired qualitative data with more than two categories; Friedman Test (Friedman's two-way ANOVA) to analyse the differences between three repeated matched measures of ordinal non-parametric variables; Chi-Square (χ^2) independence test to test for relationships between independent categorical variables; and Spearman correlation coefficient to evaluate

the strength and direction of correlation between ordinal non-parametric variables. The statistical differences or associations were classed as Non-significant (NS) for p values > 0.05 , Significant (S) for p values < 0.05 and Highly Significant (HS) for p values ≤ 0.001 .

Results

Table (1): Personal characteristics of the studied nurses at Sabt Alayal Hospital (120).

Characteristics	No.	%
Age years		
• 23-30	28	23.3
• >30-40	54	45.0
• >40-50	30	25.0
• >50-62	8	6.7
Mean±SD	37.18±8.66	
Years of Experience		
• 1-5	36	30.0
• >5-10	22	18.3
• >10	62	51.7
Mean±SD	7.44±4.15	
Sex		
• Male	52	43.3
• Female	68	56.7
Educational qualification		
• Diploma of nursing	33	27.5
• Bachelor of nursing	67	55.8
• Master/Doctorate	19	15.8
• Other	1	0.8
Marital status		
• Single	29	24.4
• Married	88	73.3
• Divorced	3	2.5
Unit		
• Medical	58	48.3
• Surgical	15	12.5
• Emergency	45	37.5
• ICU	2	1.7
Attending training programs about mindfulness		
• Yes	46	38.3
• No	74	61.7

Table (1) shows personal characteristics of the studied nurses at

Sabt Alayal Hospital, Saudi Arabia. According to the table, less than half (45.0%) of the studied nurses had age ranged from more than 30 to 40 and (51.7%) of them had more than 10 years of experience. Also, more than half (56.7%) were female and nearly three quarter (73.3%) of them were married. As well as more than half (55.8%) of studied nurses had bachelor degree of nursing and (48.3%) of them worked in medical unit and less than two third (61.7%) of them didn't attend previous training program about mindfulness.

Table (2): Tendency toward mindfulness levels of the studied nurses through training program phases at Sabt Alayal Hospital (n=120).

Tendency toward mindfulness	Total tendency toward mindfulness level of the studied nurses through training program phases						x ² test p value
	Pretest		Posttest		Follow up		
	No.	%	No.	%	No.	%	
- Low level (39-116)	78	65.0	12	10.0	24	20.0	121.145 0.0001*
- Moderate level (117-155)	40	33.3	43	35.8	43	35.8	
- High level (156-195)	2	1.7	65	54.2	53	44.2	
Total Tendency Toward Mindfulness scores (39-195)							
Range	54-176		78-195		39-195		
Mean±SD	109.63±22.29		156.49±31.64		145.12±35.79		
x ² value	112.496						
p value	0.0001**						

*Statistically significant (p<0.05) ** highly statistically significant (p<0.01)

Table (2) shows the nurses' overall inclination towards mindfulness across training programme phases at Sabt Alayal Hospital in Saudi Arabia. It demonstrated that training programme phases resulted in a highly statistically significant improvement in the overall propensity towards mindfulness level. Nurses' mindfulness was low in the pretest

phase (65.0%), while it was high in the immediately posttest and three-month follow-up test phases (54.2% and 44.2%, respectively).

Table (3): Levels of perceived stress by the studied nurses through training program phases at Sabt Alayal Hospital (n=120).

Perceived stress	Levels of perceived stress by the studied nurses through training program phases						x ² test p value
	Pretest		Posttest		Follow up test		
	No.	%	No.	%	No.	%	
- Low level (10-29)	14	11.7	99	82.5	105	87.5	183.934 0.0001*
- Moderate level (30-39)	86	71.7	19	15.8	15	12.5	
- High level (40-50)	20	16.7	2	1.7	0	0	
Total perceived stress scores (39-195)							
Range	25-50		14-47		10-34		
Mean±SD	34.81±4.79		25.01±5.95		22.35±5.12		
x² value	195.692						
p value	0.0001**						

Table (3) shows the nurse's reported stress during Sabt Alayal Hospital's training programme. The results indicated a very statistically significant variation in felt stress levels across the phases of the training programme. During the pretest phase, 71.7% of the nurses exhibited a moderate level of perceived work stress, however in the immediate post-training programme and after a three-month follow-up, the majority of nurses reported low levels of stress at 82.5% and 87.5%, respectively.

Table (4): Total job burnout levels by the studied nurses through training program phases at Sabt Alayal Hospital (n=120).

Job burnout	Total job burnout level by the studied nurses through training program phases						x ² test p value
	Pretest		Posttest		Follow up test		
	No.	%	No.	%	No.	%	
Low level (22-65)	13	10.8	104	86.7	101	84.2	

Moderate level (66-87)	71	59.2	13	10.8	19	15.8	194.197
High level (88-110)	36	30.0	3	2.5	0	0	0.0001*
Total job burnout scores (22-110)							
Range							
Mean±SD	46-110		26-97		22-86		
	79.80±13.09		50.10±15.41		52.17±13.12		
x² value	179.830						
P value	0.0001**						

Table (4) displays total levels of the studied nurse's job burnout through training program phases at Sabt Alayal Hospital, Saudi Arabia. It showed that there was statistically significant improvement in total job burnout level through training program phases. In pretest phase nurses' job burnout was at moderate level (59.2%), while in immediately posttest and after 3 months follow up test phases was at low level (86.7%) and (84.2%) respectively.

Table (5): Correlation between total scores of job burnout and total scores of tendency toward mindfulness among the studied nurses through training program phases at Sabt Alayal Hospital (n=120).

Variables	Total burnout among the studied nurses pre and post program					
	Pretest		Immediate posttest		Follow up	
	r	p value	r	P value	r	p value
Total tendency toward mindfulness scores	-0.087	0.345	-0.890	0.0001*	-0.848	0.0001*

***Statistically significant (p<0.05) ** highly statistically significant (p<0.01)**
r=Correlation Coefficient

Table (5) illustrates the link between total job burnout ratings and total mindfulness tendency scores among the nurses investigated during the training programme phases at Sabt Alayal Hospital. The table indicates

a highly statistically significant negative connection between overall job burnout scores and total mindfulness tendency scores across all programme phases.

Table (6): Correlation between total scores of tendency toward mindfulness and perceived stress among the studied nurses at Sabt Alayal Hospital, Saudi Arabia pre and post training program (n=120).

Variable	Total tendency toward mindfulness scores of the studied nurses pre and post program					
	Pretest		Immediate posttest		Follow up	
	r	p-value	r	p-value	r	p-value
Total Perceived Stress scores	-0.022	0.808	-0.866	0.0001**	-0.986	0.0001**

*Statistically significant ($p < 0.05$) ** statistically significant ($p < 0.01$)

r=Correlation Coefficient

Table (6) illustrates the link between total scores of mindfulness tendency and perceived stress among the nurses tested during the phases of the training programme at Sabt Alayal Hospital. The table indicates a very statistically significant negative association between total scores of mindfulness tendency and experienced stress at the immediate posttest ($r = -0.866$, $p = 0.0001$) and after the three-month follow-up test phase ($r = -0.986$, $p = 0.0001$). There was no statistically significant link between total scores of mindfulness tendency and perceived stress during the pretest phase ($r = -0.022$ & $p = 0.808$).

Table (7): Correlation between total scores of burnout and total scores of perceived stress among the studied nurses at Sabt Alayal Hospital, Saudi Arabia through training program phases.

Variables	Total Burnout among the studied nurses pre and post program					
	Pretest		Immediate posttest		Follow up	
	r	p value	r	p value	r	p value
Total Perceived Stress scores	0.346	0.0001*	0.968	0.0001*	0.966	0.0001*

***Statistically significant ($p < 0.05$) ** highly statistically significant ($p < 0.01$)**

r=Correlation Coefficient

Table (7) illustrates the link between total job burnout scores and total perceived stress scores among the nurses investigated during the phases of the training programme at Sabt Alayal Hospital. The table indicates a highly statistically significant positive association between overall job burnout scores and total perceived stress ratings.

Discussion

Health personnel are under stress and burnout especially during pandemics and mindfulness training are increasingly being recognized as important to implement in healthcare companies. The MBSR Programme gives nurses the ability to be aware of how they react to stressful situations. Nurses can recognise that they may not always change the reality of a scenario, but they can change their reactions to it. The MBSR programme practically increased mindful awareness to reduce stress and burnout. The MBSR training will help behavioural healthcare staff cope with difficult work settings, improve health and wellbeing, cultivate compassion, build resilience, and reduce stress and burnout (Khalil, 2025).

Findings of the current study suggested that the majority of the nurses studied had a weak tendency for mindfulness before the implementation of the training programme. This may be due to the fact that nurses are in a very stressful environment where they must always multitask and hence cannot be conscious of the present moment. The significant emotional strain of patient care might compromise thoughtful reflection due to compassion fatigue. The findings show that nurse leaders need to identify the variables affecting their nurses' mindfulness levels and work on these issues through evidence-based treatments to improve mindfulness and hence reduce the negative impacts of reduced mindfulness.

This study supports Noor et al. (2023), who found that more than three-fifths of nurses in their study "The Effect of Mindfulness Training for Nurses on Decreasing Stress and Improving Well-Being" had low mindfulness before the programme. The paper "The Effect of Mindfulness Exercises on Female Nurses' Self-efficacy: An Experimental Study" by Barkhordari & Fallah (2023) supports this. Before mindfulness exercises, 60% of nurses exhibited low mindfulness. This conclusion is also supported by Elanges (2023), who

examined the effects of mindfulness intervention on nurse burnout and found that over 60% of nurses exhibited high mindfulness before the training. Hayajneh et al. (2026) showed that two-thirds of nurses had low mindfulness before the intervention in their study “Effect of Mindfulness Intervention on Compassion Fatigue Among Nurses”.

The general tendency for mindfulness was significantly enhanced from the post-intervention programme. The results can be attributed to the mindfulness training curriculum which improved the nurses' knowledge and provided them with practical tools to enhance awareness and attention to mindfulness activities. Nursing management should examine the role and mechanism of positive psychology and develop targeted interventions to raise the awareness of nurses, reduce negative emotions, boost their sense of professional satisfaction, and so guarantee the quality and safety of nursing care. The findings are congruent with Khalil (2025) who evaluated the impact of mindfulness training on emotional resilience and job engagement of NICU and PICU nurses working in Saudi Arabia and Egypt. The research proved considerable growth of mindfulness in both groups after the intervention. Abd El-Maksoud et al. (2024) found that a mindfulness training programme improved emergency nurses' mental well-being and mindfulness in description.

The results of the present investigation showed that more than two-thirds of the nurses included in the study had moderate stress levels before the application of the training programme. This conclusion is supported by the well-known fact that nursing is a tough profession with many pressures, such as complex job demands, high expectations, big duties, and restricted power. The findings also show that, from the researcher's perspective, the hospital authorities should aid nurses to cope with stresses and give opportunities for professional growth to diversify and improve their stress coping methods.

This is in line with the findings of Elsherif & Sabra (2022) in their research titled “Compassion, Self-Efficacy, and Perceived Stress Among Nurses Working at Tanta Mental Health Hospital” that indicated that more than two-thirds of the nurses involved in the study were somewhat stressed. These results also validate the work of Alnaiem et al. Mohammed, et al. (2023) investigated the impact of a work stress management program on compassion fatigue among nurses. They observed that over two-fifths and one-fifth of nurses experienced moderate to severe stress levels prior to the session. In posttest, three-fifths and over one-quarter of nurses reported mild to moderate levels

of stress respectively. This conclusion is inconsistent with the findings of Shawwat et al. (2023) who assessed job satisfaction and work stress among nurses at AL-Muthanna Governorate Hospital and found that there is a moderate work stress among the nurses in that hospital .

According to Siannato (2023), nurses are among the health workers who are with the patients 24/7; hence, their position in healthcare services is vital. Nurses who are economically, socially, mentally and spiritually rich will provide the optimal nursing service. Provision of welfare benefits for nurses is very important as appropriate pay greatly influences their motivation and enthusiasm and thus overall performance .

The results of this study revealed that more than fifty percent of the participating nurses suffered from moderate degrees of job burnout before the implementation of the training programme. This may be due to the fact that nurses require training classes on mindfulness and stress management which have a favourable impact on the levels of job burnout in nurses .

The study results are consistent with Shahin et al. (2025), who studied burnout among critical care nurses in the eastern part of Saudi Arabia, found that the majority of nurses had experienced moderate levels of job burnout. This finding is consistent with the finding of Jumaa et al. (2025) that more than half of the nurses had experienced moderate work burnout. This finding is supported by the finding of Krishna et al. (2025) that more than three-fifths of the total sample had displayed a moderate degree of burnout. This data was supported in a study by Sanad et al. (2025) on nurses burnout and its influence on the adoption of evidence-based nursing practices. The results showed that more than half of the nurses who participated in the study had a moderate level of burnout.

The present study's results are consistent with those of Tomaszewska, Kowalczyk, Kadučáková et al. (2024) who studied the incidence of stress and professional burnout among nurses employed in mental and somatic institutions. Respondents at the somatic hospital had moderate average levels of occupational burnout, emotional tiredness, depersonalisation and feeling of personal success. Newman et al. (2020) reported that most of the nurses had minor occupational burnout, yet they were confident in their profession and enjoyed their work. According to Spaan, van den Boogert et al. (2024) and Gómez-Urquiza, Velando-Soriano et al. (2023), professional burnout, stress, sleep quality and depressive symptomatology are correlated in the nursing profession. Villarante, O'Donoghue, Medeiros et al. (2023) studied nurses in intensive care units and found that the work environment is

a significant contributor to stress and burnout. In the present study, moderate levels of burnout were recorded. This was dissimilar to the study conducted by Papazian, Hraiech, Loundou, Herridge, and Boyer (2023) that examined burnout among physicians and nurses in adult ICU by systematic review and metaanalysis. The level of burnout was significantly high among ICU nurses, and emotional exhaustion was the most important component. In the study of Galanis et al. (2023) at King Fahd Specialist Hospital in Qassim, job burnout and job satisfaction were compared in the nurses with the other healthcare professionals post-COVID-19 pandemic. The results revealed that nurses had higher levels of burnout and lower levels of job satisfaction compared to other healthcare professionals after COVID. (2025) explored the burnout of hospital nurses in Kazakhstan and discovered that nursing staff display signs of burnout. The numbers confirm that burnout is a very common problem for nurses. These findings have implications for additional research on the effect of burnout characteristics on nurses' performance and for developing therapies to reduce potential health hazards to nursing personnel and to improve the quality of nursing care. In the study by Wang, Luo, Ding, et al. (2024) in China, most nurses had symptoms of burnout. In the same vein, a study carried out in Greece by Mavrovounis, Mavrovouni, Mermiri, et al. (2022) indicated that most of the respondents showed signs of burnout throughout the period of the survey.

Contrarily, the results of this study are inconsistent with Alhafithi et al. In (2022) two-thirds of the participants were at a high level of burnout. The results of the present study are inconsistent with the results of El-Fatah et al. (2025) studied the relationship between burnout and psychological distress in paediatric oncology nurses and found that more than fifty percent of the nurses were at moderate levels of burnout. Additionally, the programme stages indicated a significantly large improvement in decreasing the total level of burnout in the stages of the training course. This may be explained by the positive influence of job burnout, indicating that mindfulness considerably improves the well-being of the nurses investigated through better understanding, acceptance and capacity to adjust or substitute unpleasant mood states.

This finding is consistent with the finding of Sulosaari et al. Likewise, Othman et al. (2023) reported that MBI sessions effectively lowered the levels of burnout among nurses. The results of the present study are in line with the study of Talebiazar et al. (2025) titled "Does mindfulness-based stress reduction training affect the occupational burnout and stress experienced by nurses? A randomised controlled trial" which

found that the intervention group showed significant differences in burnout subscale ratings compared to the control group after the intervention. Klatt et al. (2025) found a statistically significant decrease in the average overall burnout score for nurses after the intervention. Chianeh et al. (2026) also found a statistically significant decrease in burnout in the experimental group after the intervention with mindfulness versus the control group. However, this finding was contrary to the findings of Wedster & DiBenedetto (2025) who did not find a statistically significant decrease in burnout after the intervention.

The aggregate scores of burnout and mindfulness of the nurses examined during all phases of the training course were statistically significantly and negatively correlated. Such findings support mindfulness as a personal resource to counteract burnout at work. This is in line with the findings of Al-Hammouri et al. (2022) found a negative relationship with mindfulness and stress. These findings are consistent with Klatt et al. (2025) who found a statistically significant negative relationship between levels of burnout and mindfulness in nurses. The conclusion is consistent with Talebiazar et al. (2025) who found a highly statistically significant negative relationship between levels of burnout and levels of mindfulness in nurses. This finding is consistent with Moore et al. (2025) who studied the relationship between mindfulness and anxiety, burnout, perception of stress, and job satisfaction in early-career nurses and found an inverse relationship between mindfulness and degrees of job burnout in nurses.

The overall scores of perceived stress and job burnout levels of examined nurses at pretest phase, immediately posttest, and at the three-month follow-up test phase had a highly statistically significant positive link. These results can be explained by the well-known fact that the main contributor to burnout is stress and increasing levels of stress result in increasing degrees of burnout.

The results are consistent with those of Alnaiem et al. (2022) who studied the effect of stress levels and burnout on the quality of care and patient satisfaction among critical care nurses and reported a significant positive correlation between stress levels and total burnout levels. The findings are in line with the results of Tatala et al. (2025) who found a significant positive correlation between total burnout and total psychological distress among nurses. Also, the results are consistent with the results of El-Fatah et al. (2025) who found a positive and significant relationship between stress and burnout in nurses. This finding is in line with Yousif and Sadeq (2025) who found that nurses' stress had a favourable prediction for their burnout. Furthermore, our

results are in line with the findings of Du et al. (2026) who reported a significant positive correlation between felt stress and burnout among nurses.

The current study showed a statistically significant negative association between the overall score of mindfulness and perceived stress ratings among the studied nurses immediately after implementation of the mindfulness training programme and after 3 months of follow-up. These findings suggest that the role and mechanisms of positive psychology should be acknowledged by nursing managers and specific intervention strategies should be adopted to increase nurses' mindfulness to reduce negative emotion and increase nurses' sense of professional fulfilment and thereby ensure the quality and safety of nursing care.

These findings are consistent with ElKayal & Metwaly (2022) who found that mindfulness levels were negatively correlated with stress symptoms. The results were in line with Yu et al. Chen et al. (2023) found that nurses with higher stress levels had lower levels of mindfulness and vice versa. In addition, Alfurjani et al. (2024) found a negative association between the levels of mindfulness and the levels of stress among nurses during all stages of the implementation of intervention. (2022) found a negative relationship between perceived stress and total mindfulness score. Similarly, Moore et al. (2025) found a significant negative correlation between mindfulness and nurses' reported stress.

Term End Assessment

The aim of the current study is to analyse the influence of a mindfulness-based work stress reduction training course on job burnout among nurses at Sabt Alayal Hospital, Saudi Arabia. This study showed that nurses' mindfulness is improving the stress management and reducing the job burnout after the introduction of a mindfulness-based work stress reduction training programme. More than half of the nurses questioned had low mindfulness propensity and moderate felt stress and job burnout levels before implementing a mindfulness-based work stress reduction training course. After the session, the general mindfulness of the nurses was improved substantially, leading to a decrease in stress and job burnout immediately after the implementation and in follow-ups. There were also highly statistically significant connections between the nurses' tendency for mindfulness, stress and job burnout after the introduction of a mindfulness-based work stress reduction training programme at Alayal Hospital, Saudi Arabia.

Recommendation

Based on the study results the following recommendations were suggested:

For nursing directors

- Early introduction of mindfulness training during orientation program for fresh graduated nurses to enhance their resilience to maintain primary prevention of burnout.
- Performing periodically assesses stress and job burnout levels among nurses to identify high risk individuals and develop tailored interventions .

For head nurses

- Promoting supportive environment that enhances open communication and emotional support for nursing staff
- Continuous monitoring sign of job burnout among nurses for providing timely appropriate interventions such as counseling, flexible time schedule and workload adjustment.

For staff nurses

- Adopting self-care strategies including time management and adequate rest time to prevent job burnout and improve work life balance.
- Peer supporting and reflective practices are encouraged for allowing nurses to share their experiences and discuss stressful situations in supportive environment.
- Participating in stress management training program is recommended for nurses to enhance their coping strategies and maintain their psychological well-being.

For Further Research

- Replicating the current study in another setting with larger sample to ensure generalization of results.
- Evaluating the long-term impact of mindfulness-based stress reduction program on nurses' job satisfaction, performance, resilience, enhancing wellbeing of behavioral healthcare staff and patients care outcomes
- Replicate the study in different healthcare settings to enhance the generalization of results.

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