



The Open Nursing Journal

Content list available at: <https://opennursingjournal.com>



RESEARCH ARTICLE

Spiritual Well-being and Burnout among Saudi Nurses in Intensive Care Units

Dalyal Nader Al-Osaimi^{1,*}, Afaf Khulaeef Al-Onazi², Noora Mohammed Saad Al-Khammash³, Nadyah Farhan Al-Shakarah⁴, Maryam Khalaf Al-Rashidi² and Hind Mobark Al-Shamry³

¹Department of Nursing, Medical Surgical Nursing College of Nursing, King Saud University, Riyadh, Saudi Arabia

²Department of Nursing, Prince Sultan Military Medical City, Riyadh, Saudi Arabia

³Department of Nursing, Khamis Mushait General Hospital, Khamis Mushait, Saudi Arabia

⁴Department of Nursing, King Saud University Medical City, Riyadh, Saudi Arabia

Abstract:

Background:

Increased nurse shortages impose compounded challenges on intensive care unit staff in delivering high-quality care by causing possible burnout and an intention to leave the unit. Fostering spiritual health among intensive care nurses might serve as a prophylaxis for high burnout levels.

Aim:

This study explores the relationship between burnout levels and spiritual well-being among Saudi intensive care unit nurses.

Methods:

This study adopted a quantitative cross-sectional research design and enrolled 226 intensive care unit nurses using purposive sampling via electronic invitations.

Results:

Saudi intensive care unit nurses had a good spiritual well-being score (80.29 ± 5.25) and an above-average Maslach burnout scale score (3.72 ± 1.00). Burnout and spiritual well-being were negatively and significantly correlated ($P = 0.00$).

Conclusion:

Increased burnout among ICU nurses may be avoided by improved spiritual health, which may also be used as a prophylactic intervention to reduce burnout rates.

Keywords: Intensive care, Nurses, Burnout, Spiritual wellbeing, Spiritual health, Illness.

Article History

Received: October 24, 2022

Revised: January 09, 2023

Accepted: January 11, 2023

1. INTRODUCTION

The management of life-threatening illnesses and the nursing of individuals subjected to these illnesses occur in the intensive care unit (ICU). The main objective of this department is to offer supporting therapies to critically ill patients with difficulties in maintaining physiological parameters who require treatment and to ensure that these individuals are not adversely impacted or are afflicted as minimally as possible by such circumstances. Consequently, a

comprehensive strategy is necessary for the care offered in ICU facilities [1]. In addition to providing excellent and sophisticated acute care and therapeutic treatments, ICU nurses are also responsible for providing corrective, preventive, and reformatory measures and consistently evaluating patients. ICU nursing is a medical specialty that requires extremely specialized procedures and refined expertise [2].

One of the most important components of health is spiritual well-being. An evaluation of spirituality reveals a person's integrity and completeness. Spirituality is a special energy that unites the social, psychological, and physiological facets of an individual [3]. Health services can become insufficient and of lower quality due to the strain in the nursing

* Address correspondence to this author at the Department of Medical Surgical Nursing, College of Nursing, King Saud University, Riyadh, Saudi Arabia; Tel: 0096555521206; E-mail: dalosaimi@ksu.edu.sa

field especially in critical care units. Hence, it is considered important for health services to focus more on the psychological and physical well-being of nurses. Structured solutions with knowledge pertaining to spiritual themes should be considered to lessen the stress and enhance the quality of life of nurses [4]. Numerous studies have demonstrated that a strong spiritual foundation is essential for managing stress. Additionally, research has demonstrated that spiritual practice profoundly impacts cognitive function, attenuates stress, and enhances mental well-being parameters, all of which contribute to satisfaction [5].

Even though the notion of spiritual well-being exemplifies the basic premise of human existence and reason for existence, it is a concept that entails unity between the mind, body, and soul. It also includes the consciousness of the variables that influence people's ways of life, bring importance to their identity, and create a sense of self. In other terms, spiritual well-being is described as a phenomenon that includes biopsychosocial elements. According to Božek *et al.* [6], spiritual health fosters a positive outlook that results in meaningful and productive conduct. Some advantages of spiritual well-being have been outlined as less stress and despair, more tranquility, a greater feeling of faith and optimism, a deeper sense of direction and value, greater social interaction, and greater marital happiness. The capacity to comprehend and synthesize the value and goal of life can be achieved by enhancing one's spiritual well-being [6].

The high level of medical acuity, heavy labor, encountering unanticipated patient death, and apparent conflicts with clients or other team members make ICU nursing staff specifically prone to burnout throughout critical care practice. ICU environments may contribute to burnout because patients with the most serious illnesses are admitted to such units in hospitals. ICU nurses routinely encounter emergency situations while delivering skilled nursing care around the clock, while prioritizing providing high-quality care to increase the chances of patient survival [7]. If these nurses experience the passing of a patient in the final stages of their illness, they have little chance of recuperating. In such instances, these nurses may become more psychologically worn out and burned out [8].

Burnout is a state of psychological and emotional exhaustion caused by stress. It may occur due to persistent, protracted stress response that results in anomalies at the bodily and mental levels. Therefore, nurses compared with other occupational groups experience burnout at higher rates. Burnout among nursing staff is due to several causes, including ongoing nursing deficits and lack of staff, an unfriendly work atmosphere, and an increase in the complexity of patient cases. Tools employed, different scoring systems, occupational stratification, and cultural variations that affect the psychosocial aspects of nurses may justify discrepancies in burnout levels [9]. The frequency of these emotions was recently reported in a study published in the *American Journal of Critical Care*. Some researchers studied 771 nurses belonging to the American Association of Critical-Care Nurses to ascertain the impact of various workplace interventions on psychological and physical well-being. They found that critical

care nurses frequently experience mental health problems; among these problems, anxiety symptoms were reported by 53.2%, depressive symptoms by 39.5%, and stress by 42.2% of the participants [10].

Because burnout is a perceptual sensation reliant on personal attributes and contextual stressors, ICU nurses need to be conscious of their mental health and combat burnout at work. A potential personal burnout preventive element is spiritual wellness, which is characterized by a lack of spiritual suffering and tensions, consistency in one's life, and harmonious relationships with yourself, others, and your surroundings [3]. The physiological, mental, and spiritual well-being of ICU staff nurses should be considered during their routine job, which could subsequently have a positive impact on the critically ill patients they attend to. Several studies have shown a connection between spiritual well-being and burnout in different demographics and nursing population groups, including nursing students, hospice unit personnel, and oncology unit nursing staff [11], but no study has examined this connection in ICU nursing staff, who critically need burnout prophylaxis.

The role of burnout in moderating the link between spiritual well-being and nursing practices has been examined in studies performed overseas, but the direct link between spirituality and burnout among ICU nurses has not been investigated. These studies have only focused on the religious aspect of spirituality although the idea of spiritual well-being includes both existential and religious elements [12]. Unlike religious well-being, which emphasizes religion as the foundation of spiritual equilibrium, existential well-being relates to the underlying spiritual needs of those engaged in exploring the significance and purpose of life on an existential level [13]. Lately, ICU nursing staff have been more interested in burnout prevention strategies. Frequent spiritual interactions could make conditions for end-of-life care less stressful and challenging. The aim of this study was to examine the association between spiritual well-being and burnout among ICU nurses in Saudi Arabia. This study was performed with the hypothesis that spirituality may assist in preventing burnout among ICU nurses and may, thus, be useful in interventions to minimize burnout.

2. MATERIALS AND METHODS

2.1. Study Design and Setting

A quantitative cross-sectional research design was used in this study. This study was conducted at three major hospitals in Riyadh, Saudi Arabia with designated research units that perform research-related practice issues at the institutions.

2.2. Population and Sample

The researchers adopted a purposive sampling technique to recruit ICU nurses working at the approached hospitals. The inclusion criteria were nurses with at least 2 consecutive years of experience in the ICU at the same organization. Any nurse who had previous work experience in a different hospital or ward was excluded from the study. Sample size calculation showed that the number of nurses needed for the study was

198, and the researchers recruited 226 intensive care nurses, thus satisfying the minimum sample size requirement for a representative sample.

2.3. Data Collection Procedures

Purposive sampling *via* electronic email invites was used to recruit the study respondents from the list of critical care unit nurses supplied by the institutions that were contacted. The nursing directors of those institutions were asked to use the contact information from their internal systems to issue an email invitation to potential respondents. The investigators were not given access to the respondents' email addresses, but a Qualtrics hyperlink was used to send the surveys and collect the data. Every participant who accepted the invitation completed an electronic consent form and questionnaires, and they received instructions and the researchers' contact information to address any questions they had. The survey was sent to 242 nurses, and 226 of them filled out the questionnaire, yielding a 93.39% response rate. The nurses' justifications for opting out of the study were related to their personal situations. Data were gathered over 2 months (May 2022–July 2022).

2.4. Data Collection Tools

2.4.1. Sociodemographic Questionnaire

A demographic data sheet was used to collect information about the participants' gender, age, academic level, marital status, and salary.

2.4.2. Spiritual Health Assessment Scale

This study utilized the Spiritual Health Assessment Scale (SHAS) adopted by Gaur and Sharma [14]. The following are the three subscales that are included in this questionnaire: 1) Self-Development, 2) Self-Actualization, and 3) Self-Realization. Each subscale consists of seven items, and the respondents were asked to rate their replies on a five-point Likert scale, with 1 representing "never," 2 representing "rarely," 3 representing "seldom," 4 representing "often," and 5 representing "very often." The overall score for spiritual health varies from 21 to 105, with each subscale score ranging from 7 to 35. A spiritual health score from 21 to 49 is considered poor spiritual health, from 50 to 77 is considered fair spiritual health, and from 78 to 105 is considered good spiritual health. The Cronbach's alpha for this scale was calculated as 0.89.

2.4.3. Maslach Burnout Inventory

Maslach Burnout Inventory, created by Maslach and Jackson, was used to quantify burnout [15]. The measure consists of 22 items evaluating personal accomplishment, depersonalization, and emotional exhaustion. Each question was answered on a 7-point Likert scale, from never = 0 to daily = 6. Three distinct scores, one for each subscale, and a total score were calculated as the outcomes of this assessment. A

high level of burnout is indicated by a combination of high emotional exhaustion and depersonalization scores and a low personal accomplishment score. A score of 3.3 or less indicates high burnout, a score of 3.4-3.9 indicates moderate burnout and a score greater than 4.0 indicates low burnout. The scale's Cronbach's alpha reliability in this study was 0.87.

2.4.4. Data Processing and Analysis

The Statistical Package for Social Science, version 26 (IBM, 2103) was used to analyze the data after inputting them into the software. Each questionnaire's total and subscale scores were calculated. A P-value of 0.05 was set as the level of statistical significance. The data were summarized using descriptive statistics including frequencies, percentages, averages, and standard deviations. Bivariate correlational analysis was conducted to assess the relationship between the study variables.

2.4.5. Ethical Approval and Consent

The Research and Ethics Committee granted the researchers permission (ECO-R-165) to perform this study. The nurses were informed of all the research facts before recruitment and were not coerced into participating in the study, in accordance with the principles and criteria of the International Declaration of Helsinki. The nurses who chose not to participate in this study did not face any drawbacks, and informed consent was acquired from all the participants.

3. RESULTS

3.1. Participant Characteristics

A total of 226 intensive care nurses (males: 59 [26.1%]; females: 167 [73.9%]) working at different hospitals in Riyadh, Saudi Arabia were recruited. Descriptive statistics showed that most nurses held a bachelor's degree in nursing (67.3%), 40 (17.7%) held a diploma in nursing, and 34 (15%) held either a master's or a PhD degree in nursing. In addition, 82 (36.3%) of the nurses were single, 126 (55.8%) were married, and 18 (8%) were divorced. Moreover, the majority of the nurses (144, 63.7%) of the nurses had a monthly salary of 10,000 SAR or more. The mean age of the nurses was 33.65 ± 5.67 years, their mean years of working experience was 8.88 ± 5.39 years, and the mean number of children was 1.64 ± 1.82 (Table 1).

3.2. Spiritual Well-being

Descriptive analysis was performed to determine the level of the spiritual well-being of the participants. The nurses scored the highest on the self-development subscale of SHAS, which reflects the development of the self to achieve spiritual well-being (28.35 ± 5.60), followed by the self-actualization subscale, which reflects how much people know themselves (27.3 ± 5.67), and the self-realization subscale, which reflects how much people realize their spiritual state and satisfaction (24.64 ± 6.86). The participants scored a good mean on the total spiritual well-being score (80.29 ± 5.25) (Table 2).

Table 1. Participant characteristics.

Variable	Category	N	%
Gender	Male	59	26.1
	Female	167	73.9
Educational degree	Diploma	40	17.7
	BS	152	67.3
	MS/PHD	34	15.0
Marital Status	Single	82	36.3
	Married	126	55.8
	Divorced	18	8.0
Salary	<5,000 SAR	2	.9
	5,000–<10,000	80	35.4
	10,000 SAR and more	144	63.7
-	Mean	SD	-
Age	33.65	5.67	-
Years of experience	8.88	5.39	-
Number of children	1.64	1.82	-

Table 2. Spiritual well-being subscales.

-	N	Min	Max	Mean	SD
Self-Development	226	7	35.00	28.35	5.6
Self-Actualization	226	7	35.00	27.3	5.67
Self-Realization	226	7	35.00	24.64	6.86
Spiritual Well-being	226	21	105	80.29	5.25

Table 3. Burnout subscales.

-	N	Min	Max	Mean	SD
Emotional Exhaustion	226	0	6.00	3.90	1.14
Depersonalization	226	0	6.00	3.63	1.25
Personal Accomplishment	226	0	6.00	3.64	1.00
Total Burnout	226	0	6.00	3.72	1.00

3.3. Burnout

Further descriptive analysis was conducted to examine the level of burnout recorded among the participants. The nurses scored above average levels of burnout, where they scored the highest at the level of emotional exhaustion (3.90 ± 1.14), followed by depersonalization (3.63 ± 1.26). However, the nurses also scored above average levels on the personal accomplishment subscale (3.64 ± 1.00), which reflects less burden of burnout. Overall, the nurses scored above average scores on the total burnout score (3.72 ± 1.00) (Table 3).

3.4. Bivariate Analysis

A bivariate correlational analysis was performed to evaluate the relationships between the study variables and the participants' characteristics. The results showed significant

correlations between the burnout subscales and personal characteristics. A highly significant negative correlation was found between emotional exhaustion and age ($P = 0.00$), and a similar correlation was found between depersonalization and experience ($P = 0.00$) as well as income ($P = 0.05$). In addition, significant correlations were found between the spiritual well-being subscales and personal characteristics, such as between self-realization and age ($P = 0.00$) and experience ($P = 0.00$) (Table 4).

Another Pearson's correlation analysis was conducted to determine if there was a significant relationship between spiritual well-being and burnout subscales. The results showed a significant negative correlation between almost all the subscales of both variables, where the correlations were negative, implying that as burnout scores increased, spiritual well-being scores decreased (Table 5).

Table 4. Correlation between study variables and participant characteristics.

-		Gender	Age	Experience	Income	Education	Marital Status
Emotional Exhaustion	R-value	0.21	-0.14	-0.12	-0.17	-0.12	0.00
	P-value	0.00	0.04	0.07	0.01	0.08	1.00
Depersonalization	R-value	0.15	-0.29	-0.26	-0.13	-0.07	-0.02
	P-value	0.02	0.00	0.00	0.05	0.32	0.75
Personal Accomplishment	R-value	0.06	-0.07	-0.08	-0.09	-0.03	-0.01
	P-value	0.41	0.32	0.26	0.17	0.68	0.94
Self-Development	R-value	-0.06	-0.13	-0.17	0.05	-0.14	-0.01
	P-value	0.34	0.06	0.01	0.44	0.03	0.94
Self-Actualization	R-value	0.04	-0.15	-0.19	-0.06	-0.15	-0.04
	P-value	0.60	0.02	0.00	0.39	0.03	0.60
Self-Realization	R-value	-0.03	-0.20	-0.27	0.03	-0.16	-0.11
	P-value	0.63	0.00	0.00	0.64	0.01	0.10
Spiritual Wellbeing	R-value	-0.02	-0.19	-0.25	0.01	-0.18	-0.06
	P-value	0.72	0.00	0.00	0.86	0.01	0.35
Total Burnout	R-value	0.16	-0.19	-0.18	-0.15	-0.08	-0.01
	P-value	0.02	0.00	0.01	0.03	0.22	0.88

Table 5. Correlation between burnout and spiritual well-being.

-		Self-development	Self-actualization	Self-realization	Spiritual Wellbeing
Emotional Exhaustion	R-value	-0.16	-0.27	-0.15	-0.22
	P-value	0.02	0.00	0.02	0.00
Depersonalization	R-value	-0.09	-0.20	-0.13	-0.16
	P-value	0.18	0.00	0.05	0.02
Personal Accomplishment	R-value	0.17	0.27	0.30	0.29
	P-value	0.01	0.00	0.00	0.00
Total Burnout	R-value	-0.16	-0.28	-0.21	-0.25
	P-value	0.02	0.00	0.00	0.00

4. DISCUSSION

The management of life-threatening illnesses and the treatment of individuals subjected to these illnesses are provided in the ICU. The main objective of these facilities is to offer supporting therapies to critically ill individuals who have challenges with maintaining their physiological parameters and require treatment and to ensure that these individuals are not adversely impacted or are influenced as little as possible by such life-threatening circumstances [16]. Thus, an interdisciplinary strategy is necessary for the treatment offered in such facilities. In addition to having ICU high-tech equipment, staff working in the ICU usually receive training on these devices. One of the most vital and significant components of this team is the ICU nursing staff [17].

ICU nurses are responsible for assessing clients in these units, consistently overseeing patients, developing rapport with clients and their family members, applying high-quality, cutting-edge focused care and therapeutic interventions, and implementing necessary treatments. Additionally, ICU nursing is a medical specialty that requires extremely specialized procedures and education. The distinctive framework of the ICU sets it apart from other units in the hospital. Therefore, ICU nurses experience more job-related stressors, which increase work strain and burnout [18]. According to previous

research, caring for critically ill patients, encountering mortality frequently, using complicated equipment, and getting into a dispute with hospital administration are all stressors experienced by ICU nursing staff. The confluence of these elements, which can cause excessive levels of stress and unpleasant working circumstances, may cause mental illnesses among ICU nurses [19].

Studies on critical care nurses demonstrate that work engagement, burnout, quality of work-life, mental condition, and spiritual well-being are strongly related to work stressors; however, these studies relatively explored these factors individually. Additionally, it was difficult to locate a study in Saudi Arabia that examined the connection between burnout and spiritual health among critical care/ICU nurses [12]. Most respondents in this study were female, and their average years of working experience were greater than five. The gender, age, and experience distributions among the study participants were comparable to the national proportions [20].

ICU nursing staff in this study had a burnout rating of 3.72 out of 5, which is greater than that of South Korean nursing staff in cancer treatment units and regular wards [21] who were assessed using the same scale. It is challenging to interpret this rating because there are no defined cut-offs for the constructs. Compared with research parallels conducted abroad, ICU staff

in this study had higher degrees of burnout than that had by Turkish nursing staff who used the same measure [34]. Even though the measures employed in different countries and our study are distinct, increased levels of burnout have also been observed among ICU personnel in the United States [22], Spain [23], and England [24]. These increased levels among ICU nurses could be due to the specialty, which involves providing care to critically ill patients, and the ongoing experience of patient mortality. The spiritual well-being scores of ICU nurses were higher in this study than in documented reports of cancer unit personnel and student nurses [25] in South Korea but fairly low when compared with studies published in other countries, such as oncology ICU nurses in Canada [26] and student nurses in the UK [27].

The results of our study showed that spiritual well-being and burnout were negatively correlated, thus supporting our research hypothesis. According to Espinoza [28], spiritual well-being is a state of mind that promotes protective effects. Studies have demonstrated that the spiritual rewards of spiritual well-being include decreased worry and depressive symptoms, increased calmness, increased hope and faith, a greater sense of value and direction, increased social engagement, and improved family cohesion [29]. The overall well-being and degrees of burnout of nurses were found to be favorably impacted by spiritual well-being in a study by Choi *et al.* [30] involving 131 emergency care nursing staff. Additionally, independent of the care setting, a separate study found a favorable correlation between spiritual well-being and nurses' levels of emotional fatigue and burnout among nursing staff in a hospital, thus supporting the results of our study, which showed that an increase in burnout levels reduced spiritual well-being status [31].

In a previous study by Kim and Yeom [3], a regression analysis showed a significant association between spiritual well-being and burnout, as anticipated. Particularly, increased levels of burnout among ICU nurses were linked to poorer rates of spiritual well-being, thus supporting the findings of our research. This assumption is based on the philosophical presumption that spirituality helps ICU nursing staff to maintain internal tranquility and mental equilibrium, which may attenuate the impact of work-related stress on burnout. Research on the function of spirituality in reducing burnout among employees that provide end-of-life care in different environments has shown inconsistent results in a variety of cultural subgroups [32]. These results suggest that the associations between these factors are intricate and that additional regression models may be crucial for comprehending burnout among ICU nurses. Our study's cross-sectional, descriptive methodology, however, made it impossible to establish a causal link between these factors. Other extraneous factors potentially associated with burnout should be assessed in further studies to better comprehend the complicated interactions between spiritual wellness and burnout in ICU staff nurses. It is also necessary to use a more detailed systematic dynamic model with a larger number of factors to assess if spiritual well-being is a significant mediator between end-of-life patient care and burnout.

Although associations were discovered between burnout

and participant characteristics, such as age, our results did not demonstrate any variations in burnout associated with socioeconomic information. Our findings are contrary to that of Kim *et al.* [3], which showed that burnout was more common among nurses below 20 years and those with less than 5 years of working experience. However, younger and inexperienced nursing personnel should be given more attention as a vulnerable population in ICU settings. Neonatal ICU (NICU) personnel may experience a more difficult work ecosystem, possibly due to the challenge associated with using sophisticated devices and offering compassionate care to sick babies and their families. According to a previous study, nurses working in NICUs disclosed higher levels of burnout than that reported by nurses working in other types of ICUs, implying that NICU nurses may encounter more difficulties at work [33].

5. LIMITATIONS

This study had some limitations. It was challenging to identify a direct causal relationship between burnout and nurses' spiritual wellness as well as other factors that could influence this relationship since this study used a cross-sectional design. Observational studies can offer concrete support for a causal theory. Additionally, a bigger and richer sample drawn from other institutions nationwide would aid in the generalization of the current data. Future studies should assess other unrelated variables that could be related to burnout to further the understanding of the interaction between spiritual well-being and burnout among nursing practitioners.

CONCLUSION AND RECOMMENDATIONS

The spiritual well-being scores of Saudi ICU staff nurses were good, and they were strongly correlated with the number of recorded burnout. Improved spiritual health may prevent the increase in burnout among ICU nurses and may be employed as a preventative measure. Future studies should include a variety of contextual variables in regression analysis and determine whether spiritual well-being may have a mitigating influence on the association between those contextual factors and burnout in ICU nurses. This study urges the development and execution of strategies and initiatives in healthcare institutions that can guarantee significantly high levels of spiritual well-being among ICU nurses. These regulations and initiatives must be focused on fostering an environment in institutions that value and support the spiritual aspect of the work-life of healthcare professionals. According to our survey, nurses value having a workplace that may offer them spiritual encouragement in times of need. Furthermore, the participants cherished the spiritual support they received from their peers and superiors. Therefore, nursing leadership should work to offer spiritual support to nurses to motivate and inspire nurse practitioners and improve their spiritual well-being to perform their duties successfully amidst challenges. Finally, hospital administration must emphasize the improvement in the spiritual well-being of nurses and other healthcare professionals during these difficult times of nursing shortage in Saudi Arabia to ensure that nurses are comprehensively cared for and to verify that they are fit to deliver the greatest quality of patient care.

LIST OF ABBREVIATIONS

- ICU = Intensive Care Unit
SHAS = Spiritual Health Assessment Scale

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The Research and Ethics Committee granted the researchers permission (ECO-R-165). The nurses were informed of all research facts before recruitment and were not coerced into participating in the study

HUMAN AND ANIMAL RIGHTS

No animals were used in this research. All procedures performed in studies involving human participants were in accordance with the ethical standards of institutional and/or research committee and with the 1975 Declaration of Helsinki, as revised in 2013.

CONSENT FOR PUBLICATION

Informed consent was obtained from all participants.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

Not applicable.

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest financial or otherwise.

ACKNOWLEDGEMENTS

The authors would like to acknowledge the efforts of the research assistant who helped in the data collection and publishing of this paper.

REFERENCES

- Han P, Duan X, Zhao S, Zhu X, Jiang J. Nurse's psychological experiences of caring for severe COVID-19 patients in intensive care units: A qualitative meta-synthesis. *Front Public Health* 2022; 10: 841770. [http://dx.doi.org/10.3389/fpubh.2022.841770] [PMID: 35387188]
- Sasidharan S, Dhillon H. Intensive care unit stress and burnout among health-care workers: The wake-up call is blaring! *Indian J Psychiatry* 2021; 63(6): 606-9. [http://dx.doi.org/10.4103/indianjpsychiatry.indianjpsychiatry_464_21] [PMID: 35136262]
- Kim HS, Yeom HA. The association between spiritual well-being and burnout in intensive care unit nurses: A descriptive study. *Intensive Crit Care Nurs* 2018; 46: 92-7. [http://dx.doi.org/10.1016/j.iccn.2017.11.005] [PMID: 29625870]
- Babapour AR, Gahassab-Mozaffari N, Fathnezhad-Kazemi A. Nurses' job stress and its impact on quality of life and caring behaviors: A cross-sectional study. *BMC Nurs* 2022; 21(1): 75. [http://dx.doi.org/10.1186/s12912-022-00852-y] [PMID: 35361204]
- Badanta B, Rivilla-García E, Lucchetti G, Diego-Cordero R. The influence of spirituality and religion on critical care nursing: An integrative review. *Nurs Crit Care* 2022; 27(3): 348-66. [http://dx.doi.org/10.1111/nicc.12645] [PMID: 33966310]
- Bożek A, Nowak PF, Blukacz M. The relationship between spirituality, health-related behavior, and psychological well-being. *Front Psychol* 2020; 11: 1997. [http://dx.doi.org/10.3389/fpsyg.2020.01997] [PMID: 32922340]
- Maunder RG, Heeney ND, Strudwick G, Danielle Shin H, O'Neill B, Young N. Burnout in hospital-based healthcare workers during COVID-19. *Science Briefs of the Ontario COVID-19* 2021; 2 (46).
- Sivakumar MN, Hisham M, Saravanabavan L. Stress and burnout among intensive care unit healthcare professionals in an Indian tertiary care hospital. *Indian J Crit Care Med* 2019; 23(10): 462-6. [http://dx.doi.org/10.5005/jp-journals-10071-23265] [PMID: 31749555]
- Shah MK, Gandrakota N, Cimiotti JP, Ghose N, Moore M, Ali MK. Prevalence of and factors associated with nurse burnout in the US. *JAMA Netw Open* 2021; 4(2): e2036469. [http://dx.doi.org/10.1001/jamanetworkopen.2020.36469] [PMID: 33538823]
- Melnyk BM, Tan A, Hsieh AP, *et al.* Critical care nurses' physical and mental health, worksite wellness support, and medical errors. *Am J Crit Care* 2021; 30(3): 176-84. [http://dx.doi.org/10.4037/ajcc2021301] [PMID: 34161980]
- Jarden RJ, Sandham M, Siegert RJ, Koziol-McLain J. Intensive care nurses' well-being: A systematic review. *Aust Crit Care* 2020; 33(1): 106-11. [http://dx.doi.org/10.1016/j.aucc.2018.11.068] [PMID: 30679048]
- De Diego-Cordero R, Iglesias-Romo M, Badanta B, Lucchetti G, Vega-Escañó J. Burnout and spirituality among nurses: A scoping review. *Explore (NY)* 2021. [PMID: 34429263]
- Villani D, Sorgente A, Iannello P, Antonietti A. The role of spirituality and religiosity in subjective well-being of individuals with different religious status. *Front Psychol* 2019; 10: 1525. [http://dx.doi.org/10.3389/fpsyg.2019.01525] [PMID: 31354566]
- Gaur KL, Sharma M. Measuring spiritual health: Spiritual health assessment scale (SHAS). *Int J Innov Res Dev* 2014; 3(3): 63-7.
- Maslach C, Jackson SE. *Maslach Burnout Inventory Manual*. 2nd ed. Palo Alto, California: Consulting Psychologists Press 1986.
- Kelly LA, Johnson KL, Bay RC, Todd M. Key elements of the critical care work environment associated with burnout and compassion satisfaction. *Am J Crit Care* 2021; 30(2): 113-20. [http://dx.doi.org/10.4037/ajcc2021775] [PMID: 33644798]
- Verderber S, Gray S, Suresh-Kumar S, Kercz D, Parshuram C. Intensive care unit built environments: A comprehensive literature review (2005–2020). *HERD* 2021; 14(4): 368-415. [http://dx.doi.org/10.1177/19375867211009273] [PMID: 34000842]
- Larsson IM, Aronsson A, Norén K, Wallin E. Healthcare workers' structured daily reflection on patient safety, workload and work environment in intensive care. A descriptive retrospective study. *Intensive Crit Care Nurs* 2022; 68: 103122. [http://dx.doi.org/10.1016/j.iccn.2021.103122] [PMID: 34362657]
- Ahmadi N, Sasangohar F, Yang J, *et al.* Quantifying workload and stress in intensive care unit nurses: Preliminary evaluation using continuous eye-tracking. *Hum Factors* 2022. Online ahead of print [http://dx.doi.org/10.1177/00187208221085335] [PMID: 35511206]
- AlYami M, Watson R. An overview of nursing in Saudi Arabia. *J Health Special* 2014; 2(1): 10-2. [http://dx.doi.org/10.4103/1658-600X.126058]
- Kwon CY, Lee B, Kwon OJ, Kim MS, Sim KL, Choi YH. Emotional labor, burnout, medical error, and turnover intention among South Korean nursing staff in a University Hospital setting. *Int J Environ Res Public Health* 2021; 18(19): 10111. [http://dx.doi.org/10.3390/ijerph181910111] [PMID: 34639412]
- Zangaro GA, Dulko D, Sullivan D, *et al.* Systematic review of burnout in US nurses. *Nurs Clin North Am* 2022; 57(1): 1-20. [http://dx.doi.org/10.1016/j.cnur.2021.11.001] [PMID: 35236600]
- Torrente M, Sousa PAC, Sánchez-Ramos A, *et al.* To burn-out or not to burn-out: A cross-sectional study in healthcare professionals in Spain during COVID-19 pandemic. *BMJ Open* 2021; 11(2): e044945. [http://dx.doi.org/10.1136/bmjopen-2020-044945] [PMID: 33627353]
- HaGani N, Yagil D, Cohen M. Burnout among oncologists and oncology nurses: A systematic review and meta-analysis. *Health Psychol* 2022; 41(1): 53-64. [http://dx.doi.org/10.1037/hea0001155] [PMID: 35113585]
- Yun SY. Convergent relationship between spiritual well-being, spiritual nursing competence, and attitude toward death of nursing students. *J Korea Converg Soc* 2022; 13(3): 371-8.

- [26] Rogers M, Lamarche K, Miller M, *et al.* Global emotional and spiritual well-being and resilience of advanced practice nurses during the COVID-19 pandemic: A cross-sectional study. *J Adv Nurs* 2022; 78(5): 1483-92. [http://dx.doi.org/10.1111/jan.15161] [PMID: 35266578]
- [27] Juanamasta IG, Aunguroch Y, Gunawan J, Fisher ML. Postgraduate and undergraduate student nurses' well-being: A scoping review. *J Prof Nurs* 2022; 40: 57-65. [http://dx.doi.org/10.1016/j.profnurs.2022.03.001] [PMID: 35568460]
- [28] Espinoza J. The relationship between spiritual well-being, burnout, and job satisfaction among mental health professionals working with trauma in community settings. Doctoral dissertation May 2021
- [29] Wagner RJ. Assessing the effectiveness of training in spiritual leadership theory on nurse manager spiritual well-being, job satisfaction, and burnout. Garrett-Evangelical Theological Seminary ProQuest Dissertations Publishing 2021; 28412339.
- [30] Choi SY, Kim H, Park KH. Experience of violence and factors influencing response to violence among emergency nurses in South Korea: Perspectives on stress-coping theory. *J Emerg Nurs* 2022; 48(1): 74-87. [http://dx.doi.org/10.1016/j.jen.2021.07.008] [PMID: 34538520]
- [31] Durmus M, Alkan H. Investigation of the relationship between quality of work life, burnout and spiritual well-being in intensive care nurses. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi* 2021; 10(2): 264-72.
- [32] Ntantana A, Matamis D, Savvidou S, *et al.* Burnout and job satisfaction of intensive care personnel and the relationship with personality and religious traits: An observational, multicenter, cross-sectional study. *Intensive Crit Care Nurs* 2017; 41: 11-7. [http://dx.doi.org/10.1016/j.iccn.2017.02.009] [PMID: 28408074]
- [33] Barr P. Moral Distress and Burnout in NICU Nurses. *J Obstet Gynecol Neonatal Nurs* 2022; 51(4): 441-9. [http://dx.doi.org/10.1016/j.jogn.2022.04.007] [PMID: 35661651]

© 2023 Al-Osaimi *et al.*

This is an open access article distributed under the terms of the Creative Commons Attribution 4.0 International Public License (CC-BY 4.0), a copy of which is available at: <https://creativecommons.org/licenses/by/4.0/legalcode>. This license permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.