

An Analysis of Mental Health, Subjective Well-Being, and Self-Efficacy Among Nurses in the Qassim Health Cluster: Identification of Risk Levels

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Introduction: Nurses are the cornerstone of the healthcare system, playing a vital role in delivering consistent, high-quality patient care. However, working in high-stress environments such as hospitals and health clusters exposes them to ongoing well-being, emotional, and psychological challenges. If unaddressed, these factors can significantly compromise their mental health, subjective well-being, and self-efficacy, ultimately affecting workforce sustainability and patient outcomes.

Aim: To assess the mental health, subjective well-being, and self-efficacy of the nursing workforce within the Qassim Health Cluster and identify individuals or groups at elevated risk.

Methods: A cross-sectional correlational study was conducted with 306 nursing staff, recruited through convenience sampling. Data were collected via a standardized electronic survey administered between January to March 2025 across three hospitals in Buraydah city. The survey included the Mental Health Continuum–Short Form (MHC-SF) to assess mental health, the WHO-5 Well-Being Index to measure subjective well-being, and the General Self-Efficacy Scale (GSE) to evaluate perceived self-efficacy.

Results: The majority of participants were female, middle-aged, and holding a bachelor's degree and varying levels of work experience. Overall, nurses demonstrated moderate to high levels of mental health (65.26%), self-efficacy (58.64%), and subjective well-being (69.95%). Mean scores were 45.68 (± 17.26) for mental health (MHC-SF), 30.98 (± 5.70) for self-efficacy (GSE), and 14.66 (± 6.17) for well-being (WHO-5). Significant positive correlations were observed among all variables: mental health was strongly correlated with self-efficacy ($r = 0.671$) and moderately with well-being ($r = 0.510$); well-being was also moderately correlated with self-efficacy ($r = 0.427$).

Conclusion: Nurses' mental health, self-efficacy, and well-being are interrelated and critically impact the quality of patient care. Healthcare organizations should implement targeted interventions, particularly training and stress management programs to support the psychological and subjective health of nurses, with a focus on less experienced staff.

Keywords: health cluster, mental health, nursing workforce, subjective well-being, self-efficacy

Introduction

Nursing is universally acknowledged as one of the most subjectively and emotionally challenging healthcare professions. Globally, nurses are disproportionately affected by mental health concerns, subjective fatigue, and job-related stress when compared to other healthcare providers.¹ Recent statistics reveal that approximately 44% of nurses experience burnout symptoms, and nearly 30% face clinically relevant anxiety or depression.² According to the World Health Organization (WHO), the mental well-being of nurses is a key determinant in ensuring both workforce retention and high-quality

patient care. In the context of Saudi Arabia and particularly within health systems like the Qassim Health Cluster, nurses encounter a distinct combination of stressors.³ Population growth, increased demand for healthcare services, and the lingering impact of the COVID-19 pandemic have intensified the pressures faced by nursing staff. Regional research indicates that over 40% of nurses report moderate to high levels of occupational stress, and more than 35% exhibit symptoms of emotional exhaustion. These issues are further aggravated by extended working hours, understaffing, sociocultural expectations, and the high-intensity nature of clinical care environments.⁴

Subjective well-being continues to be a significant concern within the nursing profession. Nurses are especially vulnerable to a range of health issues, including musculoskeletal disorders, fatigue, and sleep disturbances, which can lead to various comorbid conditions. A study shows that over 70% of nurses globally report experiencing back pain or physical strain at some point in their careers.⁵ These physical ailments not only compromise individual health but are also linked to increased absenteeism, lower job satisfaction, and reduced patient safety. In addition to well-being, self-efficacy plays a critical psychological role in nursing performance. Defined as the belief in one's ability to effectively manage tasks and challenges, self-efficacy strongly influences how nurses cope with stress and make clinical decisions. High levels of self-efficacy are associated with better problem-solving skills, enhanced stress management, and improved patient care outcomes. In contrast, low self-efficacy can contribute to deteriorating mental health and reduced engagement in clinical duties.⁶

In response to these multifaceted challenges, national and international health authorities have implemented initiatives aimed at enhancing the well-being of healthcare workers. In Saudi Arabia, Vision 2030 prioritizes the development of a resilient healthcare workforce by promoting mental health support, work-life balance, and continuous professional training.⁷ Globally, organizations such as the WHO and the International Labour Organization (ILO) have advocated for target investments in the mental and well-being health of health workers, particularly in the post-pandemic era. Despite these strategic efforts, there is a notable lack of region-specific research on the comprehensive well-being of nurses within the Qassim Health Cluster. This study aims to address that gap by exploring the interconnected domains of mental health, subjective well-being, and self-efficacy among nurses in this region. The outcomes are expected to inform evidence-based policies, support targeted interventions, and contribute to building a more sustainable and resilient nursing workforce.⁸

While numerous studies have explored the mental health, well-being, and self-efficacy of nurses in various global settings, there remains a notable gap in the literature focused on the Arab context, particularly within the Qassim region of Saudi Arabia. Cultural norms, religious values, and societal expectations in Arab countries can significantly influence how nurses perceive and manage psychological stress, personal efficacy, and overall well-being.⁶ In Arab culture, for example, strong family obligations, hierarchical work environments, and community-oriented values may impact coping strategies and attitudes toward mental health. These cultural factors may lead to differences in how stress is experienced and reported compared to Western or other global contexts.² The Qassim Health Cluster, like many global health systems, faces growing pressure on its nursing workforce due to population growth, shifting healthcare demands, and public health crises pandemics. These challenges highlight the urgent need to assess and support nurses' overall well-being. Mental health concerns such as anxiety, depression, and burnout are common and have been linked to reduced job performance, lower satisfaction, and adverse patient outcomes.⁹ Physical issues, including fatigue, musculoskeletal strain, and disrupted sleep, further compromise nurses' ability to deliver safe, effective care.¹⁰ According to Bandura's self-efficacy theory, self-efficacy defined as an individual's belief in their capacity to execute behaviors necessary to produce specific outcomes plays a critical role in how nurses cope with clinical and personal challenges. In this context, higher self-efficacy serves as a psychological buffer, fostering resilience, engagement, and adaptability in high-demand healthcare environments.⁶

Despite these challenges among nurses, there remains a scarcity of published data on institutional interventions within the Qassim Health Cluster. While the Cluster has implemented general wellness initiatives and periodic staff training, structured mental health programs and targeted self-efficacy development strategies remain limited or inconsistently applied across facilities.⁴ The absence of a unified policy addressing psychological support, resilience building, and stress management underscores a critical gap that this study aims to explore. Understanding nurses' current mental health status, well-being, and self-efficacy can inform future institutional policies and interventions tailored to local needs.³

Given the pivotal role of nurses in healthcare delivery, especially in the Qassim region, a comprehensive understanding of these interconnected domains is essential to guide effective policies and ensure workforce sustainability.

Aim

To assess the mental health, subjective well-being, and self-efficacy of the nursing workforce within the Qassim Health Cluster and identify individuals or groups at elevated risk.

Objectives

1. To assess the levels of mental health, subjective well-being, and self-efficacy among nurses working in the Qassim Health Cluster.
2. To identify demographic and occupational characteristics associated with variations in mental health, well-being, and self-efficacy.
3. To determine the relationships between mental health, subjective well-being, and self-efficacy among nurses.
4. To identify individuals or subgroups of nurses at elevated risk for poor mental health, low well-being, or reduced self-efficacy.
5. To provide recommendations for targeted interventions and support strategies aimed at enhancing psychological resilience and performance among nursing staff.

Methods

Design

A cross-sectional correlational study design was employed to conduct an in-depth analysis of the target population and explore the relationships among relevant variables at a single point in time. This approach supports the investigation of potential correlations while maintaining feasibility within the available time and resources.

Setting

The study was conducted across three major hospitals in Buraydah City affiliated to the Qassim Health cluster centre (a major healthcare network in the Qassim region of Saudi Arabia, responsible for overseeing and managing multiple hospitals (20) and healthcare facilities (150) across the area with over 1000 nurse). It involved King Fahad Specialist Hospital, Buraydah Central Hospital, and Erada Psychiatry and Mental Health Hospital. These facilities were selected to ensure diversity in clinical settings and to provide a comprehensive representation of the nursing workforce across different healthcare environments.

Sampling and Population

A non-probability convenience sampling technique was employed to recruit 306 staff nurses who were working at the study settings during the data collection period and successfully completed the survey. Participants were selected based on purposive inclusion criteria, which included voluntary consent, representation of both male and female nurses from various departments and work shifts, and the ability to complete an electronic questionnaire. The requirement for digital access was necessary due to the use of an online survey tool, which ensured efficient data collection across multiple hospital sites within the Qassim Health Cluster. Authors recognize that this criterion may have unintentionally excluded some individuals with limited digital literacy; however, support was offered to those who required assistance in accessing or completing the questionnaire to minimize this effect, nurses who were on leave during the data collection, those who did not respond to questionnaires, and individuals who declined or withdrew their consent of the study.

The required sample size was estimated using the standard formula for proportions: $n = (Z^2 \times p \times (1 - p))/e^2$, where n is the sample size, Z is the Z-value corresponding to the desired confidence level (1.96 for 95%), p is the estimated population proportion (0.5 to maximize sample size), and e is the margin of error (0.05). Based on these parameters, the calculated sample size was approximately 384 participants. However, due to practical considerations and the use of a non-probability convenience sampling technique, a total of 306 staff nurses were recruited from the study settings.

Study Procedure

To implement the current study, the researchers followed a structured and ethical research process, detailed as follows:

Ethical Approval and Administrative Coordination

Prior to the initiation of data collection, ethical approval was obtained from the Ethics Committee of the Qassim Health Cluster. All necessary documentation and study materials were submitted for formal review to ensure adherence to ethical standards. In addition, administrative coordination was established by securing official permissions and cooperation from designated representatives at the participating hospitals King Fahad Specialist Hospital, Buraydah Central Hospital, and Erada Psychiatry and Mental Health Hospital in Buraydah. This step ensured institutional support and facilitated smooth implementation of the study across the selected sites.

Implementation Phase

Following ethical and administrative approvals, the researchers coordinated with the participating hospitals to schedule appropriate times for informing staff nurses about the study. Eligible participants were briefed on the study's objectives, confidentiality safeguards, and the voluntary nature of their involvement. Informed consent was obtained prior to participation. A secure link to the electronic questionnaire, developed using Microsoft Forms, was distributed through institutional communication platforms. This method allowed participants the flexibility to complete the survey at their convenience, in a setting of their choice. All procedures were conducted in accordance with the policies, standards, and ethical protocols of the Qassim Health Cluster, ensuring regulatory compliance and encouraging active participation.

A pilot study was conducted by distributing the electronic Microsoft Forms link to 10% of the study participants ($n = 32$ nurses), who were later included in the final sample. The objective of the pilot phase was to assess the clarity, effectiveness, and feasibility of the data collection tools in the study context and to estimate the time required to complete the questionnaire, which was approximately five minutes. The tools, based on a comprehensive review of relevant literature, were finalized and formatted electronically. Participants received instructions on the study's purpose, guidance for completing the questionnaire, clarification of any questions, and the estimated completion time. The questionnaire for the pilot study was administered in English within January 2025. We have explicitly stated that no major modifications were made to the instrument following the pilot study and therefore included in the final analysis.

Data Collection

Data were collected through a structured, standardized, electronically and confidential self-administered online questionnaire over three months, from January to March 2025. It is composed of valid, and reliable three main sections: Section (1) Demographic Information: This section captures participants' basic information, including age, gender, educational level, years of experience, current workplace, and previous training related to mental health. Section 2: Mental Health Continuum – Short Form (MHC-SF): This tool to assesses participants' levels of positive mental health across three domains: emotional, psychological, and social well-being. It contains 14 items, rated on a 6-point Likert scale ranging from: 0 = Never, 1 = Once or twice, 2 = About once a week, 3 = About 2–3 times a week, 4 = Almost every day, 5 = Every day. The MHC-SF categorizes mental health into three levels: Flourishing: High levels of emotional, psychological, and social well-being, Languishing: Low levels of well-being in these domains, and Moderate Mental Health: Individuals who do not meet the criteria for either flourishing or languishing. The MHC-SF consists of 14 items: 3 for emotional well-being, 6 for psychological well-being, and 5 for social well-being. Respondents rate the frequency of symptoms over the past month on a 6-point Likert scale from 0 (never) to 5 (every day). Classification criteria involved Flourishing: High well-being, scoring “every day” or “almost every day” on at least one emotional item and at least six psychological and social items. Languishing: Low well-being, scoring “never” or “once or twice” on at least one emotional item and at least six psychological and social items. Moderate Mental Health: Those not meeting the criteria for flourishing or languishing.¹¹

Section (3) WHO-5 Well-Being Index: This index measures subjective well-being over the past two weeks using 5 items, each scored on a 6-point Likert scale 5 = All the time, 4 = Most of the time, 3 = More than half the time, 2 = Less than half the time, 1 = Some of the time, 0 = At no time. Raw scores range from 0 to 25. To convert to a percentage score, the raw score is multiplied by 4, yielding a total between 0 and 100. Interpretive guidelines are Raw Score ≤ 13 :

Poor well-being; possible depression (clinical assessment recommended); and Raw Score > 13: Good well-being.¹² Section (4) General Self-Efficacy Scale (GSE): This scale is used to assess the self-efficacy level of participants and consists of 10 items rated on a 4-point Likert scale: 1 = Not at all true, 2 = Hardly true, 3 = Moderately true, 4 = Exactly true. The total score ranges from 10 to 40 points. Levels of Self-Efficacy: Although the original GSE manual does not define fixed cut-off points, researchers typically categorize scores as follows 10–20: Low self-efficacy; 21–30: Moderate self-efficacy; and 31–40: High self-efficacy.¹³

Validity and Reliability of Tools

Since the study employed internationally recognized and psychometrically validated assessment instruments, including tools endorsed by the World Health Organization, no additional evaluation or expert validation was required. However, a pilot study (10%) of the recruited nurses was conducted to assess the tools' applicability and feasibility in the context of the Kingdom of Saudi Arabia. The results demonstrated strong internal consistency, with Cronbach's alpha values of 0.86 for the Mental Health Continuum – Short Form (MHC-SF), 0.85 for the WHO-5 Well-Being Index, and 0.89 for the General Self-Efficacy Scale (GSE). These findings confirm the reliability and appropriateness of the instruments for the target population.

Statistical Design

The data were analyzed using IBM SPSS software version 20.0 (Armonk, NY: IBM Corp, released 2011). Categorical data were presented as frequencies and percentages. For continuous data, the normality of distribution was assessed using the Kolmogorov–Smirnov test. Descriptive statistics for continuous variables included range (minimum and maximum values), mean, standard deviation, and median. The following statistical tests were applied Mann–Whitney *U*-Test used to compare two independent groups for non-normally distributed quantitative variables. Kruskal–Wallis *H*-Test used to compare more than two independent groups for non-normally distributed quantitative variables. Spearman's Rank Correlation Coefficient (*r*) used to assess the strength and direction of the correlation between two non-normally distributed continuous variables. All statistical tests were conducted with a significance level set at $p \leq 0.05$.

Discussion

This comprehensive analysis of the nursing workforce within the Qassim Health Cluster provides valuable insights into the demographic characteristics, mental health, well-being health, and self-efficacy of nurses, offering a holistic understanding of their overall well-being and job performance. The findings (Table 1) reveal that the nursing workforce is predominantly female (90.2%), with a significant portion of nurses being middle-aged professionals (49.7%). Most

Table 1 Distribution of the Studied Nurses According to Demographic Data. (n = 306)

Variables	No.	%
Age (years)		
21 – 30	105	34.3
31 – 40	152	49.7
≥41	49	16.0
Gender		
Male	30	9.8
Female	276	90.2
Educational level		
Diploma	38	12.4
Bachelor's	249	81.4
Master's degree	19	6.2

(Continued)

Table 1 (Continued).

Variables	No.	%
Work experience		
0 – 5 years	80	26.1
5 – 10 years	117	38.2
10 – 15 years	63	20.6
≥16 years	46	15.0
Workplace		
BCH	131	42.8
KFSH	113	36.9
Erada- Alamal Psychiatric Hospital	62	20.3
Receiving related training courses		
No	183	59.8
Yes	123	40.2

Notes: Table 1 the demographic data of the studied nurses (n = 306) indicates a predominantly female workforce (90.2%). The majority of participants are between 31 and 40 years old (49.7%). In terms of education, a significant portion holds a bachelor's degree (81.4%), while only a small proportion have attained a master's degree (6.2%). Regarding work experience, the largest group has 5–10 years of experience (38.2%), followed by those with 0–5 years (26.1%). The workplace distribution shows that most nurses work at BCH (42.8%) and KFSH (36.9%), with fewer from Erada-Alamal Psychiatric Hospital (20.3%). Notably, more than half (59.8%) had not received such training.

nurses (81.4%) hold a bachelor's degree, and their work experience is diverse, with notable representation of both early-career nurses (38.2%) and mid-career nurses (26.1%). This demographic profile aligns with findings from recent studies on the nursing workforce, which highlight the influence of gender, age, education, and experience on health services and workforce dynamics. Additionally, a growing body of research points to the increasing importance of nurses, as evidenced by trends in nursing demographics and the rising proportion of older nurses, which could signal potential workforce shortages.¹⁴ Education levels are also evolving, with more nurses attaining advanced degrees, which subsequently enhances patient care outcomes.¹⁵ Furthermore, the varied levels of experience within the workforce contribute to both its stability and the effectiveness of training programs, which are essential to meeting the increasing healthcare demands.¹⁶

These demographic characteristics suggest a well-educated and experienced nursing workforce, with ample opportunities for professional development and advanced education. Additionally, work satisfaction and organizational commitment play crucial roles in determining nurses' intentions to remain in their roles, which are closely tied to their levels of self-efficacy.¹⁷ Mental health nurses, in particular, face unique challenges regarding their self-efficacy and the overall quality of their professional life, especially when exposed to workplace violence.¹⁸ Research has established a direct link between nursing effectiveness and patient safety, ultimately impacting the quality of care provided.¹⁷ Therefore, understanding the relationship between self-efficacy, subjective well-being, and mental health among nurses is critical for enhancing their workplace experiences.¹⁹ A systematic review has emphasized the trends of professional burnout and job satisfaction, underlining the importance of addressing these issues to improve retention rates within the nursing profession.²⁰ These findings can serve as valuable input for nursing workforce planning, education, and training initiatives.

Regarding the distribution of scores (Table 2 and Figure 1) on the MHC-SF, WHO-5, and GSE scales, the nurses in this study exhibited moderate to high levels of mental health (65.26%), self-efficacy (58.64%), and overall well-being (69.95%). The average scores indicated a generally positive mental health profile: 45.68 ± 17.26 on the MHC-SF, 30.98 ± 5.70 on the GSE scale, and 14.66 ± 6.17 on the WHO-5 Well-Being Index. These moderate to high scores in mental health, self-efficacy, and overall well-being are fundamental in shaping health outcomes and significantly impact patient

Table 2 Distribution of the Studied Nurses According to Mental Health Continuum Short Form (MHC-SF) Score, Subjective Well-Being Index (WHO-5) Score and General Self-Efficacy Scale (GSE) Score. (n = 306)

Mental Health Continuum Short Form (MHC-SF) Score		General Self-Efficacy Scale	Well-Being Index
Min. – Max.	1.0–70.0	11.0–40.0	0.0–25.0
Mean $\pm$ SD	45.68 $\pm$ 17.26	30.98 $\pm$ 5.70	14.66 $\pm$ 6.17
Median	50.0	30.0	15.50
Total Score	(0–70)	(10–40)	(0–25)
Average Score (0–5)			
Mean $\pm$ SD	3.26 $\pm$ 1.23	3.10 $\pm$ 0.57	2.93 $\pm$ 1.23
Median	3.57	3.0	3.10
Percent Score			
Mean $\pm$ SD	65.26 $\pm$ 24.66	58.64 $\pm$ 24.69	69.95 $\pm$ 18.99
Median	71.43	62.0	66.67

Notes: The results from Table 2 indicate that the studied nurses demonstrate moderate to high levels of mental well-being, self-efficacy, and general well-being. The Mental Health Continuum–Short Form (MHC-SF) showed a mean score of 45.68 $\pm$ 17.26 (65.26%), while the General Self-Efficacy Scale (GSE) yielded a mean score of 30.98 $\pm$ 5.70 (58.64%), and the WHO-5 Well-Being Index showed a mean of 14.66 $\pm$ 6.17 (69.95%).

Abbreviation: SD: Standard deviation.

care. The cultural values and social expectations within the Arab context play a significant role in shaping nurses' experiences and coping strategies. Research suggests that nurses with high mental well-being exhibit enhanced emotional resilience, which improves their ability to manage stress and foster positive interpersonal relationships with patients.²¹ Factors such as supportive work environments, access to mental health resources, and continuous professional development programs are essential in achieving these positive results, highlighting the crucial role of institutional support in the

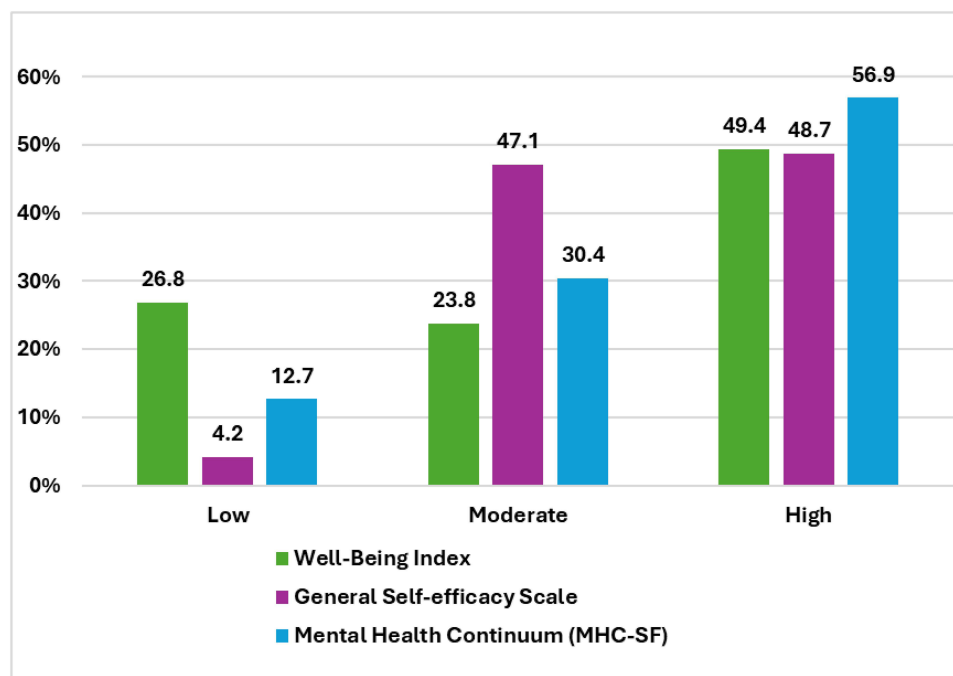


Figure 1 Level of the studied nursing workforce according to mental health continuum short form (MHC-SF) score, well-being index (WHO-5) score and general self-efficacy scale (GSE) score. (n = 306). The results presented in Figure 1 reveal that the majority of the studied nurses demonstrated moderate to high level scores across the three psychological scales. For the Mental Health Continuum – Short Form (MHC-SF), 64.7% fell within the moderate mental well-being category, while 21.2% were classified as having high mental well-being, and 14.1% were in the low mental well-being category. Regarding the WHO-5 Well-Being Index, 58.5% of nursing workforce showed moderate well-being, 25.5% reported high well-being, and 16.0% were identified as having low well-being levels. In terms of the General Self-Efficacy Scale (GSE), 55.9% had moderate self-efficacy, 28.8% demonstrated high self-efficacy, and 15.3% were classified in the low self-efficacy range.

nursing workforce.²² Furthermore, integrating health training, both human and assisted, into nursing practice has shown promise in maintaining mental health, well-being, and self-efficacy, ultimately benefiting patient engagement and lifestyle management.²¹ The correlation between well-being, self-efficacy, and patient care underscores the importance for health systems to adopt holistic approaches that support the mental health of nursing professionals.²³

The implications of these findings for nurses are significant for both their professional performance and personal health. Research indicates a strong correlation between mental well-being and self-efficacy, particularly in high-stress professions such as nursing. The MHC-SF offers a valuable tool for assessing the mental well-being of individuals in this field. Nurses with higher MHC-SF scores generally demonstrate better coping mechanisms, which enhance their ability to manage the emotional demands of their profession and reduce burnout rates.²¹ Additionally, general self-efficacy, as measured by the GSE scale, plays a crucial role in how nurses approach challenges and perceive their abilities. High GSE scores are associated with improved stress management and adaptability in adverse clinical situations.²² This positive self-perception not only benefits nurses' well-being but also impacts patient care, as nurses with greater self-efficacy tend to engage more effectively with patients and collaborate better with colleagues. The WHO-5 Well-Being Index is another important metric used to assess overall well-being, focusing on emotional and psychological states. Nurses with high WHO-5 scores report greater life satisfaction and vitality, which often translates into improved patient outcomes and enhanced work performance.²³

Consequently, enhancing these dimensions of wellness in the nursing workforce through targeted interventions could foster healthier work environments and improve the overall quality of healthcare. The study further revealed significant (Table 3) correlations between mental health, well-being, and self-efficacy among nursing staff. Specifically, mental health was strongly correlated with self-efficacy ($r=0.671$) and moderately with well-being ($r=0.510$), while well-being also showed a moderate correlation with self-efficacy ($r=0.427$). This suggests that better mental health is associated with improved well-being and increased self-confidence. These findings align with previous research, which indicate that the mental health of nursing staff significantly influences both their general well-being and self-efficacy in healthcare settings, highlighting that professional stress may serve as a precursor to mental health issues among nurses, with self-efficacy acting as a moderating factor.²⁴ Additionally, another study found that enhanced self-efficacy is correlated with better mental well-being among hospital nurses,²⁵ underscoring the critical role of mental well-being in supporting self-efficacy, particularly during crises such as the COVID-19 pandemic.²⁶ The impact of social support on nurses' self-efficacy and psychological health has also been explored, with findings indicating that perceived social support can enhance both self-efficacy and well-being.²⁷ Furthermore, research highlights the positive association between self-

Table 3 Correlation Between Mental Health Continuum Short Form (MHC-SF) Score, vs Subjective Well-Being Index (WHO-5) Score and General Self-Efficacy Scale (GSE) Score of the Studied Nurses. (n = 306)

Items	r_s	p
MHC-SF vs WHO-5	0.510*	<0.001*
MHC-SF vs GSE	0.671*	<0.001*
WHO-5 vs GSE	0.427*	<0.001*

Notes: r : Spearman coefficient. *Statistically significant at $p \leq 0.05$. Table 3 show that there were statistically significant positive correlations among mental health (MHC-SF), well-being (WHO-5), and self-efficacy (GSE) scores. Mental health showed a strong correlation with self-efficacy ($r = 0.671$) and a moderate correlation with well-being ($r = 0.510$). Additionally, well-being was moderately correlated with self-efficacy ($r = 0.427$). These results suggest that better mental health is associated with higher well-being and greater self-efficacy among nursing workforces.

efficacy and general health in the nursing population.²⁸ Overall, these results underscore the importance of promoting mental health and self-efficacy to enhance the well-being of nurses.²⁹

The analysis (Table 4) highlights significant differences in mental health, well-being, and self-efficacy scores among nurses based on demographic factors, underscoring the implications for clinical practice. Nurses over 40 years of age ($p < 0.001$ for MHC-SF and GSE, $p = 0.002$ for WHO-5), those with more experience ($p < 0.001$ for MHC-SF), and those who received relevant training ($p < 0.001$ for MHC-SF) scored higher in these areas. Furthermore, nurses from specific hospitals ($p < 0.001$ for MHC-SF and GSE) and those with certain educational qualifications ($p < 0.001$ for MHC-SF) also demonstrated better scores, while gender did not significantly impact the results ($p > 0.05$). These findings align with previous research, which suggests that demographic factors significantly influence nurses' mental health, self-efficacy,

Table 4 Relation Between Total Score of Mental Health Continuum Short Form (MHC-SF) with Demographic Data of the Studied Nurses. (n = 306)

Demographic Data	N	Total Score of MHC-SF	Total Score of WHO-5	Total Score of GSE
		Mean $\pm$ SD.	Mean $\pm$ SD.	Mean $\pm$ SD.
Age (years)				
21 – 30	105	36.80 $\pm$ 17.17	13.10 $\pm$ 6.10	28.08 $\pm$ 4.78
31 – 40	152	48.17 $\pm$ 15.87	15.45 $\pm$ 5.97	32.45 $\pm$ 5.49
More Than 40	49	57.0 $\pm$ 11.81	15.53 $\pm$ 6.45	32.65 $\pm$ 5.82
H (p)		52.772* (<0.001*)	12.921* (0.002*)	52.722* (<0.001*)
Gender				
Male	30	41.63 $\pm$ 19.46	13.63 $\pm$ 6.96	29.17 $\pm$ 6.39
Female	276	46.12 $\pm$ 16.99	14.77 $\pm$ 6.09	31.18 $\pm$ 5.59
U (p)		3666.0 (0.303)	3599.50 (0.239)	3291.50 (0.064)
Educational level				
Diploma	38	56.24 $\pm$ 13.48	13.97 $\pm$ 7.50	31.82 $\pm$ 5.80
Bachelor's	249	43.55 $\pm$ 17.24	14.65 $\pm$ 6.06	30.84 $\pm$ 5.62
Master's degree	19	52.47 $\pm$ 15.36	16.16 $\pm$ 4.66	31.16 $\pm$ 6.59
H (p)		24.034* (<0.001*)	1.417 (0.492)	3.054 (0.217)
Work experience				
0 – 5 years	80	39.69 $\pm$ 18.64	13.96 $\pm$ 6.19	29.31 $\pm$ 5.61
5 – 10 years	117	44.31 $\pm$ 16.37	14.64 $\pm$ 6.05	31.07 $\pm$ 5.55
10 – 15 years	63	46.95 $\pm$ 16.60	14.75 $\pm$ 6.12	30.98 $\pm$ 6.23
Above 15 years	46	57.87 $\pm$ 10.82	15.80 $\pm$ 6.57	33.67 $\pm$ 4.42
H (p)		36.114* (<0.001*)	3.046 (0.385)	20.527* (<0.001*)
Workplace				
BCH	131	44.21 $\pm$ 18.57	14.11 $\pm$ 7.04	30.70 $\pm$ 5.87
KFSH	113	40.27 $\pm$ 16.10	14.25 $\pm$ 5.13	29.43 $\pm$ 5.45
Erada- Alamal Psychiatric Hospital	62	58.66 $\pm$ 6.99	16.58 $\pm$ 5.64	34.40 $\pm$ 4.23
H (p)		50.157* (<0.001*)	9.162* (0.010*)	38.024* (<0.001*)
Receiving related training courses				
No	183	41.99 $\pm$ 17.28	14.21 $\pm$ 6.18	30.42 $\pm$ 5.86
Yes	123	51.18 $\pm$ 15.77	15.33 $\pm$ 6.13	31.82 $\pm$ 5.36
U (p)		7612.0* (<0.001*)	9824.50 (0.059)	9460.50* (0.018*)

Notes: p: p value for comparing between the categories studied. *Statistically significant at $p \leq 0.05$. Table 4 presents that the analysis reveals statistically significant differences in mental health (MHC-SF), well-being (WHO-5), and self-efficacy (GSE) scores based on various demographic factors. Older nurses (over 40 years) scored higher in mental health, well-being, and self-efficacy compared to younger nurses ($p < 0.001$ for MHC-SF and GSE, $p = 0.002$ for WHO-5). Diploma holders had the highest mental health scores, but education level did not significantly impact well-being or self-efficacy ($p > 0.05$ for WHO-5 and GSE). More experienced nurses (those with over 15 years) had higher scores in mental health and self-efficacy ($p < 0.001$), although well-being was not significantly affected by work experience ($p = 0.385$). Nurses at Erada-Alamal Psychiatric Hospital showed the highest scores in all three measures ($p < 0.001$ for all scales). Nurses who received related training had significantly higher mental health and self-efficacy scores ($p < 0.001$ for MHC-SF and $p = 0.018$ for GSE), although well-being was not significantly affected by training ($p = 0.059$). However, gender showed no significant impact on any of the three scores ($p > 0.05$).

Abbreviations: SD, Standard deviation; U, Mann Whitney test; H, H for Kruskal Wallis test.

well-being, and work performance. Age, in particular, is linked to variations in self-efficacy, with younger nurses often facing higher levels of occupational stress and lower mental health outcomes, as they struggle to adapt to high-stress environments.²⁶ Experience plays a key role, as more experienced nurses tend to exhibit greater resilience and self-efficacy, reducing the mental health issues associated with workplace stress.²⁵ Additionally, training interventions have proven effective in improving self-efficacy and mental well-being among nursing staff.²⁸ Hospital affiliation can further impact these variables, with institutional support systems promoting positive mental health states.²⁴ Lastly, educational background correlates with self-efficacy, with higher education levels being associated with improved coping mechanisms and psychological resilience.^{27–30} The study limitation: A cross-sectional correlational design is appropriate for identifying associations, but the design limits causal inference. Additionally, the use of a non-probability convenience sampling technique may affect the generalizability of the findings. The reliance on self-reported data may have introduced response bias, particularly due to potential fears of stigma or job-related consequences associated with disclosing mental health concerns. Moreover, the unique cultural and institutional context of the study setting may limit the generalizability of the findings to other regions.

Conclusions

The study reveals that the nursing workforce in the Qassim Health Cluster is predominantly female, middle-aged, and holds bachelor's degrees, with varying levels of experience. Nurses' mental health, self-efficacy, and well-being are crucial for quality patient care, with better mental health linked to higher resilience, stress management, and stronger patient relationships. The study also found significant correlations between mental health, well-being, and self-efficacy, influenced by factors like age, experience, training, and education. It recommends prioritizing mental health support and training programs, particularly for younger and less experienced nurses, to improve their overall well-being and effectiveness.

The study implication: The study emphasizes the importance of supporting nurses' mental health, self-efficacy, and well-being to improve patient care and workforce stability. Recommendations include providing mental health support programs, emotional resilience training, the need for health policymakers to prioritize mental health in workforce planning and creating a supportive work environment. Mentorship for younger nurses, holistic health initiatives, and regular mental health assessments are also crucial. Encouraging work-life balance and ensuring gender-inclusive policies will further enhance nurses' well-being. The study's implications highlight that improving nurses' mental health and self-efficacy leads to better patient outcomes, reduced turnover, and increased job satisfaction, making it essential for healthcare organizations to prioritize these areas for a more resilient and effective nursing workforce. Moreover, cultural values gender, age and social expectations within the Arab context play a significant role in shaping nurses' experiences and coping strategies. Therefore, any intervention strategies must be culturally sensitive and contextually appropriate. Future research should continue to explore these cultural dimensions and evaluate the effectiveness of targeted mental health interventions to ensure a sustainable, healthy nursing workforce.

Abbreviations

WHO, World Health Organization; ILO, International Labour Organization.

Data Sharing Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Informed Consent Statement

The aim of the study was clarified to the participants. Written informed consent was obtained from all participants before data collection with the ability to withdraw from the study neither penalty nor award. The authors granted that all data were kept confidentially.

Institutional Review Board Statement

This study obtained ethical approval from the Ethics Committee for Research of Qassim Health Cluster Center (1/2025. Ref: 607/46/8775). Participants provided their written informed consent by signing a consent form before they were

allowed to complete the questionnaire. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki.

Acknowledgments

The researchers would like to thank the Deanship of Graduate Studies and Scientific Research at Qassim University for financial support (QU-APC-2025). We would like to thank all the participants who agreed to participate in this study. Deep appreciation is extended to all colleagues at the study settings, especially Mr. Bander J. B. Alharbi from the Nursing Department at Buraydah Central Hospital, for his valuable contributions and support in data collection.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

Funding

The Deanship of Graduate Studies and Scientific Research at Qassim University for financial support (QU-APC-2025).

Disclosure

The authors declare no conflicts of interest in this work.

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