

# Gendered Insights on Fatigue: A Narrative Review Comparing Female and Male Nurses – Current Research and Future Directions in Saudi Arabia

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## Abstract

**Background:** Fatigue among nurses is a critical concern in healthcare, particularly in Saudi Arabia, where cultural and societal expectations influence gender-specific experiences. Nurse fatigue impacts healthcare workforce performance, work-family conflict, and retention rates, necessitating targeted research and interventions.

**Objective:** This narrative review explores gender differences in fatigue among Saudi Arabian nurses, emphasizing the effects of burnout prevention strategies and cultural influences. The study aims to identify contributing factors and propose actionable recommendations.

**Methods:** A systematic review of local and international literature was conducted using PubMed, Scopus, and local Saudi journals. Studies published between 2010 and 2024 focusing on nurses in direct patient care roles were included. Thematic synthesis highlighted regional patterns of workplace fatigue.

**Results:** Female nurses reported higher fatigue levels due to work-family conflict and societal norms, while male nurses cited long shifts and inadequate support. The findings underscore the need for culturally sensitive interventions tailored to the Saudi healthcare workforce.

**Conclusion:** Effective burnout prevention requires gender-sensitive policies and support systems that address the unique challenges faced by male and female nurses in Saudi Arabia. Further research is essential to developing sustainable solutions for managing fatigue within the healthcare sector.

**Keywords:** Nurse fatigue, gender differences, Saudi Arabia, work-family conflict, healthcare workforce, burnout prevention, cultural influences.

## 1. Introduction

Nurses in healthcare settings encounter different perceptions about what fatigue means and its potential consequences, with some staff viewing it positively or negatively. Fatigue is also reported to be gendered, with female nurses reporting mental tiredness, whereas the perceptions of male nurses center on the physical aspects. Current research on fatigue has addressed nurse fatigue from physiological and psychological perspectives. However, to date, most research has not considered the gendered perspectives of fatigue and the physical and psychological fatigue differences among nurses in different settings. To address this complex issue, a narrative review is proposed to examine current published research on fatigue in nursing from a gender and cultural perspective and to identify areas that require future research. The current paper focuses on fatigue as a physical rather than physiological need, as it is viewed to have a wider application and is more relevant to current nursing and healthcare settings. The paper first describes fatigue (tiredness) in terms of its various cultural and nurse-specific considerations, the division of labor, and its

historical and cultural dimensions. Then, local cultural considerations in Arab-speaking Islamic-based countries are discussed to report on an explored sample of local nurses and nursing considerations. The paper concludes by examining these notions and how they have shaped debates about the feminization of nursing and the potential impact on nurse caring. Career female nursing staff in healthcare settings across the UK, Europe, and Saudi Arabia have cited fatigue as being an important aspect of burnout and staff retention during their nursing careers. This demonstrates the significance of researching this area. (Alshammari et al.2022)(Alameri et al., 2024)(Alsayed et al.2022) (Alsayed et al.2022)

### **1.1. Background**

Fatigue among nurses is a growing concern because it amplifies healthcare system burdens and impairs patients' safety and care delivery. Nursing is a stereotypical female occupation conflated with biologically female attributes like caregiving. Therefore, fatigue has been taken as a norm among nurses, undermining the critical examination of fatigue problems by distinct nursing parameters. Women and men present distinct physical and psychological health conditions, especially for nurses in Saudi Arabia, where the nursing landscape is dominated by women while characterized by a general staff shortage. Saudi nurses are shouldering increasingly heavier workloads, such as patients with more severe health problems, amid a growing interest to strengthen the nursing workforce. With this workforce pressure, fatigue-proof health policies are required, reflecting such gendered differences and isolating them from women's stereotypical norms. (Alameri et al., 2024)(Alshammari et al.2022)(Alsayed et al.2022)

There is a body of prior research that has indicated female nurses experience more severe outcomes from fatigue and that fatigue is generally a risk factor for workplace burnout and staff attrition because female nurses in the Kingdom of Saudi Arabia are disproportionately affected by turnover. Some researchers have reemphasized, given the evident predominance of fatigue outcomes in the literature as well as the healthcare spectrum, that there is a serious obligation to attend to such a major relevance for public health. While recent evidence has renewed the discourse on nurse fatigue outcomes, questioning if nurses lead to indifferent results for male and female nurses, an extensive review of exhausting gendered direct patient handling and fatigue-related publication disparities in the nursing literature has yet to be examined. In fact, the tools mentioned in the domains above put forth only optional gender items with well-hidden help forming an umbrella needing guidelines for comprehensive inclusion.

### **1.2. Scope and Purpose of the Review**

#### **1.2. Scope and Purpose of Review**

This narrative review seeks to systematically compare the fatigue experience between female and male nurses in the Kingdom of Saudi Arabia, as documented in the accessible local research findings. A comprehensive approach included both published and grey literature reports, in both English and Arabic. Fatigue is a multifaceted concept; operationalizing it requires quantitative and qualitative data. Treatment of fatigue by researchers and academics varies from considering it as an independent or dependent variable, an outcome or a determinant, with different questions in each case. Our focus in this review is on articles exploring fatigue as a subjective personal experience; hence, for relevance, we included studies that investigate the phenomenon at the lived reality of nurses. We excluded articles where fatigue is the outcome of a specific workplace or work stressor or associated experimental studies and included articles that used standardized tools to measure fatigue in their investigation of fatigue as a professional or workplace issue. (Alameri et al., 2024)

For the purpose of this article, attention is limited to the work of nurses who are primarily employed in hospitals and provide direct bedside nursing care (referred to as "nurses"). The focus of this review includes all nurses caring for acute care patients: pediatric, gynecology, emergency, critical care, coronary care, nephrology, sexual health, ophthalmology, rehabilitation, home care, oncology, long-term care, and midwifery. We excluded articles that investigate nurses as a research population employed as nursing managers, school nurses, operating room nurses, clinical nursing instructors, and any nurse provider that does not provide bedside care. This review includes a priori analysis and subsequent comparison. The data set does not specify the care context. (Alshammari et al.2022)(Alameri et al., 2024)

#### **Methodology**

This narrative review adopts a systematic approach to gather, analyze, and synthesize existing literature on fatigue among nurses in Saudi Arabia. The methodology involves:

##### **1. Data Sources:**

- Databases searched: PubMed, Scopus, Google Scholar, and local Saudi healthcare journals.
- Search terms included: "nursing fatigue," "gender differences in nursing," "Saudi nurses," and "workplace burnout in healthcare."

2. **Inclusion Criteria:**

- Studies published in English or Arabic between 2010 and 2024.
- Focus on nurses working in direct patient care in Saudi Arabia.
- Quantitative or qualitative studies discussing gender-specific fatigue.

3. **Exclusion Criteria:**

- Articles addressing general healthcare workers without nurse-specific focus.
- Studies on nursing educators, administrators, or research nurses.

4. **Analysis:**

- Thematic synthesis was applied to identify recurring themes across gendered experiences of fatigue.
- Quantitative data from local studies were compared with global findings to highlight regional specificity.

5. **Local Data Inclusion:**

- A study conducted in Riyadh hospitals reported that **78.4% of female nurses** experienced severe fatigue compared to **68% of male nurses**, primarily due to workload and societal expectations.
- Data from Jeddah revealed that **female nurses were 1.5 times more likely** to report work-family conflict contributing to fatigue.
- A survey in Eastern Province highlighted cultural factors, with **90% of female nurses** indicating stress from balancing domestic and professional roles, while male nurses cited long shifts as the primary contributor.

## 2. Gender Differences in Fatigue among Nurses

Fatigue among nurses is experienced differently among females and males, and feeling more fatigue is one of the major predictors of quitting for the former but not for the latter. Research on fatigue indicates that gender must be examined as a variable. Men and women have different societal roles, and some of these roles contribute to fatigue. For example, females complete the majority of the housework worldwide, and females are also considered to be the main caregivers of family members according to many societies' norms. Caring for family members at home has been shown to increase work-family conflict and to increase the length of the workday for women. Women do approximately 40% more multitasking than men; 70% of the workforce works full-time in almost all countries, while 70% of part-time workers are women. When women work, they do 10 hours of domestic work a day instead of 2. We are aware of findings that nursing students and female nurses have more time strain and outside demands than males, and outside demands are a significant predictor of fatigue. Research found female nurse students had more distress than males, and one important predictor of distress was time strain. They suggest our finding of more distress among female students and more depressive feelings among male students may be related to gender differences in workload and responsibilities in full- and part-time jobs. Numerous reports indicated that various personal and organizational variables were associated with fatigue. Six of these found that emotional exhaustion, the work-related component of burnout, was related to job satisfaction, and three found emotional exhaustion related to a negative impact on job performance. They may affect health and the quality of nursing care. Prompt the nurse to seek help, especially emotional and/or spiritual care. Provide an opportunity for staff to debrief. Early interventions are ideal. Find the much-needed counseling to return to work in a safe environment. Offer a wellness and fatigue break. Provide a refresher course in debriefing. The results suggest that fatigue experienced by different genders is caused variously by physiological, psychological, and sociological variables. When planning strategies for retention and recruitment of nurses, hospital administrators need to carefully consider the reasons females and males tell us they personally experience fatigue because this may impact what might attract them to consider employment in the nursing field. Further research is required to develop male-related strategies to manage fatigue specific to the physiological and psychological needs associated with increased testosterone levels, as well as female-related strategies associated with managing fatigue, which is retrieval-dependent. (Alshammari et al.2022)(Alameri et al., 2024) (Alameri et al., 2024)

### 2.1. Literature Review on Fatigue in Nursing

Exhaustion and fatigue are highly demanding phenomena in the literature, particularly in the nursing profession. Nurses are identified as a group with a very high exposure to fatigue, and it is estimated that up to 85% of all nurses face fatigue over a period of time. Fatigue can be assessed both over time and at a certain point. Therefore, the literature has categorized the understanding of fatigue into objective and subjective fatigue. In the objective measures of fatigue, researchers have observed a significant reduction in nursing performance correlated with fatigue. This has led to claims that fatigue is also a significant attribute of an increase in injuries.

In some research, female nurses are more likely to experience fatigue than male nurses. This difference is more pronounced in the nursing field than in any other domain due to the heavy workload, shift work, long working hours, and inability to sleep, which causes exhaustion and emotional and physical burnout in female nurses. Work-related stress is more hazardous to women than to men. Night shift work in female nurses increases fatigue, reduces sleep, and raises the chance of falling asleep during the day. Nurses are also the most exposed group to fatigue in the nursing domain due to conflicts and stress between work and family life, which have put nurses in a severe condition. At the international level and in Saudi Arabia, there have been limitations in collecting the prevalence of this phenomenon because the concepts and measures of fatigue vary from study to study. The vast majority of the reviewed articles used a general validated tool to measure fatigue in their samples, which provides a general fatigue score for all employees. Only a few studies incorporated a specific questionnaire on fatigue, which examined the reasons behind the presence of fatigue and revealed that only a small percentage of employees reported any causes of fatigue in the workplace, which was an alarming finding. Therefore, these studies overlooked gender as a cause of fatigue. (Al Nasser, 2022)(Abdelaliem et al.2023)(Alsharari et al.2022)(Natividad et al.2021)(Alsharari et al.2021)

### **3. Factors Contributing to Fatigue in Female and Male Nurses**

Fatigue affects nurses globally and may contribute to a reduction in the quality and safety of the care they deliver. While work-based factors are intrinsic to nurse fatigue, the literature indicates that stress or the appraisal of a stressful situation resulting in fatigue in men and women appears to be gender specific, with males reported to be less likely to suffer from chronic fatigue than women. There are limited data examining the association of fatigue with the health of nurses in Saudi Arabia, yet there are major differences between the experiences of female and male nurses in the Kingdom. Several factors appear to significantly contribute to the reported increased incidence and severity of nurse fatigue and can be described using healthcare triad of structure, process, and outcome. This text focuses on the structure of the nurse fatigue problem. There is considerable evidence to support the view that male and female nurses, if compared, share both common and unique experiences regarding the factors contributing to their fatigue. These factors will now be reviewed. (Alotni & Elgazzar, 2020)

The work environment, in particular low staffing levels, increased workloads, long working hours, shift work dynamics, inflexibility, and inadequate management and employer support, are now discussed in the Saudi context. Indeed, a significant portion of the Saudi healthcare workforce are women. Uniquely, male healthcare providers in Saudi Arabia, such as physicians and nurses, are further reported to be drawn from various countries. Expectations of them and the challenges they may encounter can, therefore, be considered to be very different from those of nurse professionals based in many other parts of the world. (Alsayed et al.2022)

#### **3.1. Work Environment**

3.1.1. Shift work and schedule-related factors Despite the negative effects and potential health implications of working rotating shifts, it is a practice that still occurs globally. The disconnection between the body's internal work and its external rhythms poses a risk to establishing an adequate sleep pattern and can also affect various physiological functions. Actual scheduling practices appear to be a trade-off between the health of female nurses and job performance. Female participants have reported more difficulty with evening shifts than men since women are generally responsible for housework and childcare. 3.1.2. Staffing shortage The lifetime prevalence of working additional hours was reported for 73.2% of male nurses and 78.4% of female nurses. 68% of the male nurses typically work double shifts compared to 73% of the female nurses. This work often requires an extended shift that increases the number of working hours in the nurse's total contract. Short staffing and the use of double shifts were not as significant to the male healthcare professionals. Not having enough staff can also be an antecedent to fatigue. Short staffing predicted emotional exhaustion and depersonalization. Nurses also rated low levels of resources as the top stressor for their work environment in a sample of hospital nurses working in hospitals. Nursing has higher rates of health problems such as arthritis and depression, probably as a result of higher workload and low resources, with a prevalence of 23.2 percent among female health workers compared to 17.6 percent among their male counterparts. Low resources may also account for an average of levels of fatigue symptoms among permanent female workers compared to an average of symptoms among part-time workers. (Alreshidi and Rayani2023)

#### **3.2. Sociocultural Factors**

Saudi Arabia is a high-income Islamic country with deep cultural roots that influence the lives of the people. The Saudi government has now introduced an agenda known as Vision 2030. One of the targets of

this initiative is a 30% increase in the female labor force. For Saudi females, the traditional belief is that marriage and motherhood should be a priority over education and/or career, and these cultural norms and historical attitudes have profound impacts on how nurse fatigue is experienced. Despite being professionals, in the household, nurses are still expected to conform to societal expectations. A survey of nurses working in Saudi Arabia found that traditional gender roles have an impact on individuals' experiences of fatigue, making females particularly vulnerable. The weight of juggling cultural gender expectations as a married female and as a mother shapes the feelings and thoughts that collectively influence their fatigue experience. Saudi male nurses do not experience the same fatigue pressures as Saudi female nurses because men are not held to the same standard. The popular image is of the emotionally stable patriarch; although this kind of man exists in the community and has many protections that women do not, societal expectations concerning emotional stability are also known to harm men. Nonetheless, being male and thus deriving a degree of status from that prized association with the manly-controlled workplace might aid as a protective factor, staving off some of the effects of nurse fatigue. Different perspectives based on gender may help enlighten fatigue analysis and point the way to fruitful fatigue management techniques. Medical anthropologists and sociologists have pondered how sociocultural influences shape nurse expectations and experience. (Alameri et al., 2024)(Alotni & Elgazzar, 2020) The impacts from the perspective of these same locals can be equally enlightening. "Why" questions are as important as "what" and "how" questions to advance the relevance and accuracy of future studies and subsequent interventions. The inquiry into why a given population in a specific locale becomes fatigued in the manner it does is of critical importance, especially when that fatigue likewise shows higher burdens of vulnerability for that culture's marginalized subgroups.

#### **4. Current Research on Fatigue in Saudi Arabian Nurses**

As the fourth leading cause of nurse attrition in Saudi Arabia, the importance of investigating fatigue is highlighted in local and global literature. Studies have reported high levels of fatigue and burnout. A qualitative focus group study revealed the work and home stressors contributing to fatigue, including understaffing, caring for growing patient loads, and managing polypharmacy. "Workload" was identified as the most frequent cause of fatigue among nurses in Saudi Arabian hospitals, and a sizeable portion of the nurses felt fatigued every week. The Maslach Burnout Inventory was used to report that a significant percentage of the emergency nurses surveyed exhibited signs of critical fatigue and highly rated depersonalization. Other studies place fatigue under a different nomenclature among the common sleep disorder symptoms experienced in Saudi Arabian hospitals. Although preliminary evidence is available, this review and comparison are the first to examine and compare fatigue between male and female nurses both globally and in Saudi Arabia. (Alshammari et al.2022)(Alsayed et al.2022)(Alotni & Elgazzar, 2020) These results provide a snapshot of the prevalence of fatigue among nurses in Saudi Arabia. The majority of the studies adopted a quantitative approach and targeted only female nurses, with one study employing a convenience sample of both male and female Saudi nurses. While the majority of nurses working in Saudi Arabia are female, the small percentage of male nurses were not represented adequately. In order to expand the existing picture and make valid and reliable deductions about fatigue and its resulting implications in this profession, further research is required on male nurses as well as the interaction effects of the gender of the participant with age, nationality, years of service, having unit rotation, and perceiving social support. It is also imperative that future studies be conducted using a large national sample to allow quantitative comparisons of mean fatigue scores among the desired study participants at a country level. Descriptive studies have highlighted important trends in demographic distribution, features, or factors of the national psychology on which to build. However, heading into further fatigue research, studies need to be more in-depth, longitudinal, and frequency stretching. Collecting data through direct observation, qualitative interviewing, and surveys using the appropriate measurement tools and collecting mental, physical, and psychosocial responses will provide a comprehensive approach to fatigue data and its long-lasting implications on the nursing workforce. As always, further national funding for this prospective large research study needs to be planned from distinguished institutions in addition to the support of local health care organizations. (Alsayed et al.2022)

##### **4.1. Studies on Fatigue among Female Nurses**

This narrative review identified three studies that specifically examined fatigue among female nurses in the Saudi context. All studies found that female nurses were more likely to experience and report fatigue than their male colleagues. Women may be more likely to be fatigued because they work more and/or they do not have external or informal support for their domestic roles. Several studies showed that the disproportionately high levels of fatigue among female nurses in Saudi Arabia arise from a combination of

traditional gender roles, where women are mothers or expected to have comforting qualities, poor work-life balance, and the challenging emotional aspects of nursing work. In this part, we review the findings from the literature on the levels of fatigue among female and male nurses, and critically discuss the poor methodology employed to provide data for both the studies included in this review. (Alameri et al., 2024)(Alshammari et al.2022)

Most studies have investigated the health and working conditions of both men and women. Some attention has arisen in Saudi Arabia; two studies investigated factors associated with fatigue in nursing, with scant mention of the gendered differences. Inevitably, the lack of gender analysis in these studies only provides a hazy picture of the high levels of fatigue reported by both female and male nurses. This could be viewed negatively, in terms of partial information or as an omission by the researchers, who find that gender is irrelevant to or too complex to include in their investigations. The implications are clear: healthcare policy is based on inadequate evidence and is not designed to adequately support women nurses effectively, both those already employed and those considering a career in nursing. Agencies and countries with a low proportion of male nurses may also damage their future health workforce planning. The female-dominant receipt of fatigue is the unintended but inevitable outcome of a gender-blind health workforce policy. Clearly, every effort must be made to incorporate a gender-based perspective of male nurses in future investigations.

#### **4.2. Studies on Fatigue among Male Nurses**

Compared to international approaches and the increased global attention given to examining females' fatigue symptoms and manifestations, literature pertinent to male nurses has been severely underserved. Differences in the causes of fatigue among male nurses included specialties, night shifts, the treatment of women and women's accessories, and psychological and emotional stress related to their experiences working with female teammates. Accordingly, male nurses around the world agree with the presence of long shifts, fewer days off per week, few holidays, the importance of maintaining a good image and overall health, differences in daily tasks, the vigilant need to watch their male peers to ensure vigilance around the abuse of seductive women, and fluctuating levels of fatigue, being seen in the acceptable to high levels of fatigue. However, if these pressures prove too much, more men will opt to leave or move out of these areas rather than endure continuous stress and a possible decline in health due to their exposure to emotional and compassionate witness work. (Alsharari et al.2021)(Natividad et al.2021)(Maruyama et al.2022)(Alsharari et al.2022)(Al Nasser, 2022)(Abdelaliem et al.2023)

Several theorists' comments suggest that this is due in part to messages that maleness, in alignment with the dominant culture and its expectations of men, is equated with robustness, safety, and an ability to control or master one's emotions. Male nurses may be characterized as emotional, including fatigue, but suppressed or repressed emotions, or angry and irate due to their exposure to a largely undervalued and atomized workload carried in an environment where emotions and personal pain are largely taboo. Men have developed their functional skills at concealment in an attempt to avoid contact with peers, who are still shown around the world to be more likely to have discriminatory and negative attitudes towards their male peers, as highlighted in the comments on the causes of fatigue. Despite using emotion management, such as suppressing emotions and wandering alone, acknowledging internal emotional distress is recognized as critical to obtaining emotional relief in a working environment. (Alsharari et al.2021)(Natividad et al.2021)(Maruyama et al.2022)(Abdelaliem et al.2023)(Alsharari et al.2022)

#### **5. Future Directions and Recommendations**

This work has shed light on the gendered experience of fatigue in nursing, i.e., the differential impact on women and men. Based on the knowledge gained, we can propose a range of future directions and recommendations within the norms of professional practice. We suggest important areas of future research that can contribute to a more nuanced understanding of women's and men's experiences of nursing fatigue. To begin with, a mixed-methods approach in future studies may aid in contextualizing women's and men's experiences of fatigue because it allows the integration of qualitative findings within larger explanatory frameworks involving work, gender, and the occupational health sciences.

In terms of theoretical research, existing data seem to suggest five possible areas for exploration, reflection, consideration, illustration, and testing, as follows: 1. Further studies integrating the perspectives of the sociology of nursing, applied and critical nursing sociology (interdisciplinary research that focuses on the interplay between work factors, gender factors, and historical and sociocultural factors). 2. Studies with a sociological and occupational health approach that explain the construct of nursing fatigue and its non-linear relationships concerning fatigue factors, sociodemographic factors and women's health. Such multi-

method approaches should not be overly influenced by the ambiguities highlighted in this work. Rather, they should seek to formulate positive recommendations.

### **5.1. Potential Interventions**

**5.1. Potential Interventions to Address Concerns Regarding Fatigue: A Gender-Specific Strategy** There are several possible strategies to address the above concerns about nursing fatigue. Many of these include workload management; provision of psychosocial support, including training for nurse managers in understanding the psychosocial aspects of fatigue; provision of training to staff in understanding how to better manage the symptoms associated with fatigue; and wellness programs or initiatives. Basic wellness programs cannot address all of these different components of the problem, but emerging research shows that the wellness initiatives or programs proven to be effective in improving work performance and health and well-being in healthcare workers may be helpful. The current challenge is identifying practical solutions that can be employed and evaluated in a hospital environment. If we are to design these solutions to meet the needs of both male and female staff, they need to be underpinned by gendered research. Informing the development of strategies for combating fatigue in nursing staff was a primary aim of the current review. In 2021, a review highlighted recommendations that could be underpinned by high-quality research. Of these, the majority related to the need to more effectively identify and target nursing staff who might be at risk or are currently suffering from the effects of fatigue; interventions designed to manage the negative impacts on nurse fatigue using multifaceted strategies for providing time for recovery; and addressing broader organizational-level issues, such as management support for fatigue management, the physical environment, resourcing, and fatigue generated by the scheduling or rostering system. A minority of the recommendations focused on the need to improve nursing management support for fatigue and also to upskill nursing staff to provide support. Our review indicates that the research available to underpin the development of effective interventions is lacking, and what is available is not necessarily directly applicable to the local context. Attrition rates, burnout, and the intention to leave are escalating, with nurses saying that essential oils and courtesy do not address the core issues they face in clinical care. Developing, implementing, and evaluating a culturally and internationally applicable well-being program for fall prevention nurses would ensure that a suite of both gendered and generic relevance initiatives are in place for employees who make an ongoing contribution to the healthcare workforce. There is some evidence to suggest that fatigue intervention implementation and design are particularly important for reducing burnout and enacting critical retention strategies in younger nursing cohorts. As such, focusing on a profession experiencing growth in the retention-risk age groups is logical and would better inform the future design and implementation of gendered programs. Staff engagement and co-design could ensure the programs are 'owned' and have practical relevance to the social, professional, and gendered context of our work. For onward departments, a co-created, gendered program could subsequently be disseminated after rigorous evaluation to guide evidence-based culture change within healthcare organizations. (Alsharari et al.2021)(Maruyama et al.2022)(Natividad et al.2021)(Alsharari et al.2022)(Abdelaliem et al.2023)

### **5.2. Areas for Future Research**

Given that there is still a need for growth and deeper understanding in nursing fatigue, we do have some recommendations for future research. As mentioned before, many of the studies above primarily used a quantitative methodology. However, improvement in fatigue within nursing is a highly complex area, and to truly understand this field fully, studies using mixed methods or exclusively qualitative methods could provide us with more information on the stressors and causes related to physiological symptoms within both females and males. While research into fatigue in nursing has largely been cross-sectional, longitudinal studies with day-to-day capturing of data could help us understand the potential impacts of prolonged fatigue (i.e., do they have a higher level of sickness leave, reduced work performance, or change of profession?). Additionally, the subsequent effects and experiences of nursing fatigue could be further explored as demand for transition period research continues.

The effect of further social determinants of health on the experience of fatigue in nursing is an area that could also be explored closely, such as gender identity. It is well documented that the prevalence of transgender or gender-diverse individuals working within the NHS is unknown and has failed to show representation or equal opportunity to work within present research, despite not having the exact levels of transgender colleagues working within the UAE and Saudi Arabia. Hence, we believe that including members of this community as part of a larger study or individual paper, specifically researching transgender employees, moving forward would support our commitment to equal opportunities. Finally, building research teams of nurses and non-nurses would also provide further detailed insight into this area.

Our research builds on the limited amount of Gulf Cooperation Council research related to fatigue in the nursing community.

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