# Impact of Work Environment on Nurse's Retention at Hospital: Scoping Review

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## ABSTRACT

**Context:** Nurses play a vital role in creating a safe and healthy environment for patients. However, a poor working environment affects patient care and nursing retention within a health organization.

**Aim:** This review aimed to collect a comprehensive update review about the impact of the work environment on nurses' retention at the hospital.

**Methods:** A systematic review using a specific engine was conducted to examine literature published from January 2011 to August 2021 on the impact of the work environment on nursing retention. Relevant studies were obtained from several electronic databases, and 21studies met the inclusion criteria.

**Results:** A wide range of selected studies focused on nursing leadership and management. Other themes emerging in prior studies include the role of staffing and financial issue on nursing retention. Furthermore, some studies focused on the role of staff and career development opportunities, collegial relations, experience abuse, workplace facility on nursing retention.

**Conclusion:** The findings suggest that nursing retention is affected by multifactor in the hospital work environment. Hence, Healthcare organizations and senior decision-makers should develop strategies that promote an attractive work environment that will enhance nursing retention.

**Keywords:** Work environment, nurse's retention, hospital

## 1. Introduction

The work environment is "the organizational characteristics of a work setting that facilitate or constrain professional nursing practice" *(Lake, 2002).* Nurse workforce researchers are challenged to consider how the nurse work environment might explain clinical outcomes in understudied populations. The growing evidence base supports modifying the nurse work environment to improve patient outcomes for general adult populations, pediatrics, and infants *(Lake et al., 2017).*

Facets of the nurse work environment include nurse manager leadership, staffing, resource adequacy, nurse-physician collegial relations, nurse involvement in hospital affairs, and nursing foundations for quality of care *(Lake, 2002).* However, the hospital work environment produces high stress levels and bad sleep quality, especially for nurses who work night shifts, increasing job dissatisfaction and burnout and impacting nursing retention *(Da Rocha & Martino, 2010).*

Retention has been defined as the capability of an organization or institution to remain and retain its work member by increasing their length of stay in its services *(Müller et al., 2009).* Nurse retention was defined conceptually as the percentage of nurses who remain in their jobs for years (Mrayyan, 2005). Nurses are a crucial part of healthcare as they comprise the largest section of the health profession, although the nursing career continues to face shortages due to high turnover (Haddad et al., 2020).

Effective retention strategies enhance satisfaction and attraction to a nursing career, strengthen the profession, reduce recruitment cost and improve quality outcome and patient satisfaction to care *(Washeya, 2018).* On the other hand, poor retention within organizations and the nursing profession has several consequences on organizations, patients, and society *(Squires et al., 2017).* Therefore, it has been suggested that retention factors require unique enhancement *(Black, 2015).*

## 2. Significance of the study

It is essential to collect a comprehensive update review about the impact of the work environment on nurses' retention at the hospital because more than half of the nurses working in Saudi hospitals indicated that they are planning to leave the hospital within five years due to different reasons such as low salary, low nurse/patient ratio and lack of support from administration *(Al-Ahmadi, 2014).*

Therefore, the purpose of this systematic review was to collect a comprehensive update review about the impact of the work environment on nursing retention. To the author's knowledge, no published review was found at the time of this review focusing on the impact of work environment on nursing retention at sample involving nurses working at hospitals.

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## 3. Aim of the study

This review aimed to collect a comprehensive update review about the impact of the work environment on nurses' retention at the hospital.

### 3.1. Review question

The review question was formulated based on the acronym PICOT (i.e., Population, intervention, comparator, outcome, and time). The PICOT question format was utilized to determine the review question, "What is the impact of work environment on nurse's retention in hospitals?" as well as to conduct the search process in the databases (see Table 1).

**Table (1): PICOT Questions**

| PICOT | CONTENT | PICOT QUESTION |
|---|---|---|
| P | Nurses working at hospitals | What is the impact |
| I | Work environment | of the work |
| C | Not applicable | environment on |
| O | Nursing retention | nurse retention in |
| T | January 2011–August 2021 | hospitals? |

## 4. Subjects & Methods

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were followed in this review. The PRISMA guideline is commonly used to conduct and improve the reporting quality of systematic reviews.

### 4.1. Search Strategy

A search strategy was utilized to find relevant published evidence to answer the review question. The search was conducted in Cumulative Index of Nursing and Allied Health Literature (CINAHL), Medical Literature Analysis and Retrieval System Online (MEDLINE), Education Research Complete, and Arab World Research. The electronic search was completed on August 15, 2021, resulting in 703 records. Initially, 243 articles were excluded, as they were duplicate articles. Four hundred sixty were screened by abstract and title to meet the inclusion criteria.

The title and abstract screening resulted in 40 articles, similar to the study's aim. Later on, the researcher excluded 19 articles, resulting in 21 studies in the review. The researcher applied search limits, including the year of publication (beginning from 2011), until the date of search completion on August 15, 2021, English language, and full-text availability. The Boolean operators "OR" and "AND" were used with key search terms to expand and narrow the search, respectively.

The keywords used for the search included work environment-related terms, such as workplace, job setting, nursing retention-related terms such as nursing turnover, nurses-related terms such as hospital nurses, nursing staff, registered nurse (see Table 2).

The researcher independently assessed possible evidence that met the inclusion criteria. All duplicate studies were excluded from the analyses. The title and

abstract were carefully checked to select relevant studies. In addition, full-text articles were read, and those that met the criteria were included. Some studies on the impact of work environment on nursing retention at hospitals were excluded, and the reasons for elimination were explained (Figure 1).

**Table 2: Search keywords and relevance.**

| | |
|---|---|
| **Participants** | Hospital nurses **OR** Nursing staff **OR** Register nurse. |
| | **And** |
| **Exposure** | Work environment **OR** workplace **OR** job setting. |
| | **And** |
| **Outcomes** | Nursing retention **OR** nursing turnover. |

### 4.2. Criteria for selecting studies

The inclusion criteria were: Studies published between 2011 and 2021; full-text papers; published in English; original primary studies that investigated the impact of work environment on nursing retention at hospitals; studies that included samples of nurses working at hospitals.

The exclusion criteria included: Studies investigating the impact of work environment on nursing retention among nurses working at primary health care, geriatric home care, nurses in teaching faculty, nursing students, and nurses working part-time.

### 4.3. Quality assessment of selected studies

The researcher independently evaluated the quality of included studies using the tool designed by *Hawker et al. (2002)*. The tool was established to assess the risk of bias as well as to evaluate the quality and usefulness of certain elements in research studies such as the abstract and title, introduction and aim, methods and sampling, data analysis, ethics and bias, findings or results, transferability, implications, and usefulness (Table 3).

A Likert scale of 4 points, ranging from 1 "very poor" to 4 "good quality," was used to assess each item. The overall study quality score was the sum of the scores of the nine items, and the final scores ranged from 9-36. Scores ranging from 9-17 are described as poor-quality studies, 18-27 as fair-quality studies, and 28–36 as good quality studies. Most of the selected studies' quality ranged from 17-35, indicating that the selected studies were acceptable and reliable references according to *Hawker et al. (2002)*.

Extracting the data. This step involved extracting pertinent information from the included studies to answer the review question *(Coughlan & Cronin, 2016)*. The primary researcher used a data extraction matrix (Table 4) to extract and summarize the following information on each study: Participants, methods, and main findings, which enhance the reliability and validity and decrease the risk of bias *(Coughlan & Cronin, 2016)*. Thus, data extraction should involve study variables to answer the review question *(Centre for Reviews and Dissemination, 2009)*. Data were extracted from 18 quantitative studies; other data were extracted from two qualitative studies and one mixed-method study (Figure 1).
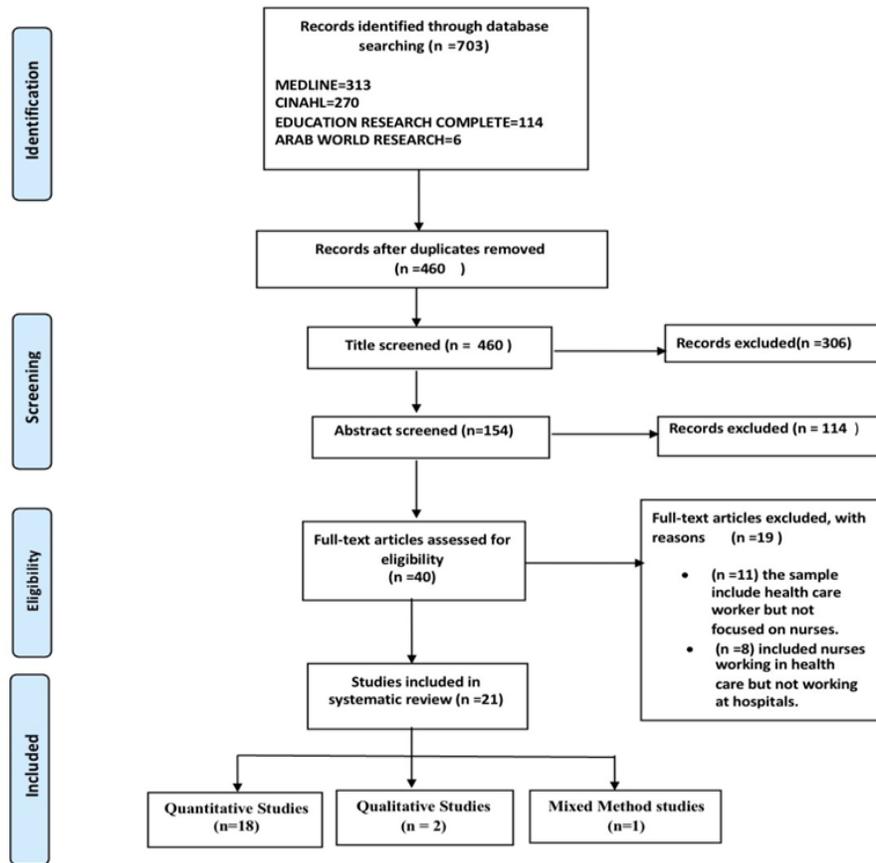
**Figure 1: PRISMA guidelines for included studies** *(Moher et al.,2009).*

**Table (3): Quality assessment of selected studies**

| Authors | Abstract | Method data collection | Introduction and aims | Sampling | Data analysis | Ethics and bias | Finding | Transferability generalizability | Implications usefulness | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Heidari et al. (2017) | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 31 | Good |
| Nowrouzi et al. (2016) | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 28 | Good |
| El-Jardali et al. (2013) | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | 4 | 33 | Good |
| Ulrich et al. (2019) | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | 3 | 33 | Good |
| Al-Ahmadi (2014) | 2 | 4 | 3 | 4 | 4 | 3 | 3 | 3 | 3 | 29 | Good |
| Gibson and Petrosko (2014) | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | 4 | 33 | Good |
| Liaqat et al. (2021) | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 35 | Good |
| Dawson et al. (2014) | 4 | 4 | 3 | 3 | 3 | 4 | 4 | 3 | 3 | 33 | Good |
| Phuekphan et al. (2021) | 3 | 4 | 3 | 4 | 4 | 4 | 4 | 3 | 4 | 31 | Good |
| Kelly et al. (2021) | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 35 | Good |
| Hairr et al. (2014) | 3 | 4 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 29 | Good |
| Breau and Rhéaume (2014) | 3 | 3 | 3 | 3 | 4 | 3 | 3 | 3 | 3 | 28 | Good |
| Hung and Lam (2020) | 4 | 4 | 3 | 4 | 4 | 4 | 3 | 3 | 4 | 33 | Good |
| Aljohani and Alomari (2018) | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 17 | Poor |
| Han et al. (2014) | 4 | 4 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 27 | Fair |
| Hsieh et al. (2019) | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 34 | Good |
| Vévoda et al. (2016) | 3 | 1 | 4 | 2 | 3 | 4 | 3 | 3 | 3 | 26 | Fair |
| Kwon (2019) | 3 | 4 | 3 | 2 | 3 | 3 | 3 | 3 | 3 | 27 | Fair |
| Wang and Yuan (2018) | 3 | 4 | 4 | 3 | 3 | 4 | 3 | 3 | 3 | 30 | Good |
| Yavas et al. (2013) | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 22 | Fair |
| Satoh et al. (2018) | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 34 | Good |

### 4.4. Description of the selected studies

This review presents a description of the characteristics of the included studies, followed by a presentation of the extracted themes. The 21 studies focused on the direct and indirect impact of the work environment on nursing retention. Furthermore, a review matrix was developed to determine the research themes to arrange the extracted studies by theme. This step helped locate common themes emerging from the selected studies while identifying the main argument of the study (Table 4).

The majority of selected studies were conducted in Asia (n=13), followed by North America (n=6), Europe (n=1), Australia (n=1). The study design of the included studies can be divided into descriptive correlational study (n=12), cross-sectional correlational studies (n=4), cross-sectional descriptive studies (n=2), prospective survey (n=1). Furthermore, studies used qualitative design (n=2), while one study used mixed-method design.

In terms of sample size, (n= 14) articles had a relatively large sample 300 nurses or more *(Heidari et al., 2017; Nowrouzi et al., 2016; El-Jardali et al., 2013; Ulrich et al., 2019; Satoh et al., 2018; Al-Ahmadi, 2014; Dawson et al., 2014; Phuekphan et al., 2021; Kelly et al., 2021; Breau & Rhéaume, 2014; Han et al., 2014; Hsieh et al., 2019; Vévoda et al., 2016; Wang & Yuan, 2018),* whereas (n=7) articles had samples of less than 300 nurses (*Gibson & Petrosko, 2014; Liaqat et al., 2021; Hairr et al., 2014; Hung & Lam, 2020; Aljohani & Alomari, 2018; Kwon, 2019; Yavas et al., 2013).*

A wide range of selected studies focused on the effect of nursing leadership and management. Other studies were focused on the influence of staffing and financial issue on nursing retention. Furthermore, some studies focused on the role of staff and career development opportunities, collegial relations, experience abuse, workplace facility on nursing retention.

All studies involved nurses who worked at hospitals only. Moreover, (n=17) studies included nurses working at different hospitals, while (n=3) studies were specific to nurses who worked at critical care unite. Finally, only one study focused on the impact of the work environment on nursing retention among nurses working in the medical-surgical ward.

The outcome tools used in the selected studies were survey questionnaires, including the nursing retention-adapted tool (n=4) and a tool developed by the researchers (n=10). However, four studies used a modified tool from the original researcher. The outcome tools used to assess nursing retention; most researchers used developed tools to collect the information regarding nurses' intention to turnover from their current job. Moreover, two studies, *Kwon (2019); Yavas et al. (2013),* used a turnover intention questionnaire, while one study used an employee turnover intention scale *(Hsieh et al., 2019)*. Finally, two studies used face-to-face interviews with open questions *Hung and Lam, (2020). Dawson et al. (2014) t*o collect information regarding nursing retention.

## 5. Results

A total of seven themes has emerged from the selected studies, including Staffing, financial issues, staff and career development opportunities, collegial relations, nursing leadership and management, work-related issues, the experience of abuse within work. These themes are examined in more detail in the subsequent sections.

### 5.1. Staffing

Staffing in nursing refers to the number of personnel assigned to work in nursing units at a given time *(Scullion & Collings, 2006)*. It is classified in this review into two categories: Shortage of nursing staff and low nurse/patient ratio.

Regarding the shortage of nursing staff, *Heidari et al. (2017)* reported that retention among nurses in the study was high, and low nursing staff in each shift were mentioned as the effective factors on retention. Furthermore, *Ulrich et al. (2019)* mentioned that 60% of nurses reported absence of appropriate staffing; low staffing is the main reason to plan to leave their current position. Also, nurses reported that better staffing would help to decrease their intent to leave.

Similarly, *Kelly et al. (2021)* found that inappropriate nursing staffing and shortage of staff create an unhealthy work environment, leading to increased job burnout and affecting nursing retention. In line with the previous studies, the study of *Aljohani and Alomari (2018); Dawson et al. (2014)* revealed that shortage of nursing staff and lack of qualified nurses with appropriate skills increase job dissatisfaction which in turn create an unhealthy work environment and increase intent to leave among nurses working at hospitals.

A low nurse/patient ratio was also mentioned in three studies. *Dawson et al. (2014)* showed that inadequate patient-staff ratios produce a poor working environment and affect nursing retention within the hospital. Similarly, *Hairr et al. (2014); Aljohani and Alomari (2018)* stated that increasing the number of patients assigned to each nurse during a work shift is responsible for creating a poor work environment which will increase job disaffection which will affect nursing retention.

### 5.2. Financial issues

Financial issues in the current review referred to salary, financial benefits, and extrinsic rewards (bonuses, paid vacations, paid or unpaid leave) that hospitals offer to their nurses.

According to a study by *Heidari et al. (2017)*, low salary, reward, and benefit were mentioned as the effective factors on retention. Furthermore, *El-Jardali et al. ( 2013)* found that low extrinsic rewards will increase job dissatisfaction and affect nursing retention within the hospital. In line with the previous studies, *Ulrich et al. (2019); Al-Ahmadi (2014); Breau and Rhéaume (2014); Vévoda et al. (2016); Wang and Yuan (2018)* reported that low salaries lead to decrease job satisfaction and produce

unhealthy work environment which will affect nursing retention.

### 5.3. Staff and career development opportunities

Staff development in the current review referred to continuing education and training opportunities provided by the workplace toward nurses. While career development refers to having the opportunity to be promoted to a higher position

In this review, staff development opportunities were mentioned in two studies. According to *Nowrouzi et al. (2016)* absence of staff development in the organization through continued education and training impacts nursing retention. Similarly, *Wang and Yuan (2018)* mentioned that lack of education affects staff development and nursing retention.

Regarding career development opportunities, *Phuekphan et al. (2021)* mentioned that lack of development opportunities for professional growth contributes to job dissatisfaction and affects nursing retention. In addition, *Hung and Lam (2020)* stated that inadequate career development opportunities contributed to nurses' decisions regarding job resignation and career turnover. In contrast, the study of *Al-Ahmadi (2014)* found that promotion and professional development were not among predictors of anticipated turnover.

### 5.4. Collegial relations

Collegial relations refer to the relationship between nurses and co-workers working as one team inpatient care. A study by *El-Jardali et al. (2013)* revealed that most nurses were most satisfied with the 'relationship with co-workers' aspect of work, which improved the work environment and enhanced nursing retention within the organization. Similarly, *Breau and Rhéaume (2014)* mentioned that the group work inside the critical care unit was high among nurses and other colleagues who will produce a positive work environment that promotes good nursing retention.

Furthermore, *Vévoda et al. (2016)* revealed that cooperation with other professions is not a negligible factor for nurses when deciding to leave their current employer. In contrast, a study by *Phuekphan et al. (2021)* revealed that having conflicts with a colleague creates a poor work environment and affects nursing retention. However, *Hung and Lam (2020)* stated that problems between colleagues generate a negative atmosphere and affect nursing retention.

### 5.5. Nursing leadership and management

In the current review, nursing leadership and management roles of nursing professionals who direct nursing staff, oversee the organizational structure of medical processes, and lead nursing teams in providing patient care. It is classified into three categories: Leadership issues, lack of support, decision making.

Regarding leadership issues, *Ulrich et al. (2019)* mentioned that unappropriated nursing leadership and poor

respect from administration and frontline management increase intent to leave among nurses. Moreover, *Al-Ahmadi (2014)* reported that poor nursing supervision and lack of appreciation of nurses are major predictors for nursing turnover. However, *Gibson and Petrosko (2014)* found that trust in nursing leaders impacted both job satisfaction and intent to leave directly.

Furthermore, *Han et al. (2014)* found that frequent nursing leadership exchange was associated with higher turnover intention among study participants. Finally, *Kwon (2019); Wang and Yuan (2018)* found that poor organizational commitment and management dissatisfaction affect nursing retention.

Support from leadership and administration was mentioned in three studies. According to *Yavas et al. (2013)*, lack of organizational support leads to job dissatisfaction, affecting nursing retention and creating an unsupportive work environment. *Hung and Lam (2020); Breau and Rhéaume, 2014)* mentioned that low support and motivation from the organization and nursing leadership are reasons that increase their intent to leave the job.

According to *Dawson et al. (2014)*, low nursing involvement in decision-making creates feeling undervalued and disempowered, which in turn affects nursing retention. In addition, *Kelly et al. (2021)* stated that ineffective decision-making creates an unhealthy work environment, leading to increased job burnout and affecting nursing retention.

### 5.6. Work-related issues

Work-related issues in the current review referred to working hours and overtime, workplace facility (hospital location, instrument, and equipment within the workplace). The working hour and overtime were mentioned in three studies, according to *Nowrouzi et al. (2016); Kwon (2019); Wang and Yuan (2018)*, who conducted studies to examine factors related to the retention of registered nurses. The studies above emphasized that working overtime for more than four hours, working long hours affects nursing retention.

Regarding workplace facility study of *Aljohani and Alomari (2018)* revealed that bad hospital nurses' dormitory affects the quality of life, thus affecting nursing retention. Furthermore, a study by *Vévoda et al. (2016)* mentioned that availability of modern technical equipment and instruments when handling patient affects nursing retention. In addition, *Yavas et al. (2013)* reported that insufficient job resources are the best predictors of turnover intention. Finally, studies by *Heidari et al. (2017); Satoh et al. (2018)* shows that hospital location and distance between home and hospital play a greater role in nursing retention.

### 5.7. Experience of abuse

Abuse in the current review referred to verbal or physical and psychological abuse either from co-workers or patients. Different type of abuse was found in included studies such as bullying, violence, and discrimination. The role of workplace bullying in nursing retention was

discussed in four studies. According to *Liaqat et al. (2021)*, the prevalence of workplace bullying was 8.02% among nurses. Also, they reported a significant relationship between workplace bullying and nurses' turnover intention. Similarly, studies of *Hung and Lam (2020); Han et al. (2014); Hsieh et al. (2019)* bullying at the workplace between colleagues was positively correlated with an intention to leave.

Regarding violence within the workplace, *Hung & Lam (2020)* conducted a study to identify the antecedents and contextual factors that contribute to the decisions of occupational turnover from the clinical duties of registered nurses in public hospitals. The result revealed that nurses reported that exposure to violence within the work environment affects their decision to stay in their current job.

The role of discrimination was mentioned in one study only by *Aljohani and Alomari (2018)* in Saudi Arabia to identify factors influencing the termination of Filipino nurses in hospitals and record nurse recommendations to improve retention. The result showed that exposure to verbal discrimination within the work environment from patients and hospital administration makes nurses feel undervalued and effect nursing retention.

## 6. Discussion

The current review presents all evidence on the factors found in a work environment that impact nursing retention in the hospital setting, including staffing, financial issues, staff and career development opportunities, collegial relations, nursing leadership and management, work-related issues, and experience abuse.

This review reveals that nursing retention is a multifactorial phenomenon that might arise due to inappropriate distribution of nurses, lack of trained and qualified nurses, an increased number of patients assigned to each nurse. This result may be because unappropriated staffing and low nurse-patient ratio create heavy workloads and increased patient demands on nurses, increasing job dissatisfaction and creating a poor working environment. All those elements made nurses search for other opportunities with a comfortable work environment. This result is similar to the findings of a study conducted by *Mchugh and Ma (2014)* and another study conducted by *Newman et al. (2002),* who found that low nurse/patient ratio, shortage of nurses, and staffing had a major influence on nursing retention.

Furthermore, the review outlined the role of financial aspects such as low nursing wages, low or lack of financial rewards, unpaid leaves on nursing retention. This finding may be because low salaries and rewards do not meet the nurse's and their families' daily requirements and affect nurse life quality, leading to producing unfavorable workplace and impact job satisfaction, which in turn influences nurses to leave their current job. This result is confirmed in studies conducted by *Mokoka et al. (2011): Albougami et al. (2020): Mrayyan (2005),* who found that low salary did not meet the nurse's social needs, which lead

to increased job burnout and affect nursing retain in hospitals.

The hospital's continuous staff and career development were found as major elements that influence nursing retention within hospitals. This result may be because the absence of well-designed programs about clinical nursing practice and career pathways leads to increase feelings of frustration and not being valued by the hospital to the nursing profession. This fact has been approved with studies of *El-Jardali et al. (2013); Weymouth et al. (2007); Sellers et al. (2019),* who found that nurses stated that there is a restricted chance for professional and career development and additional education is demotivating and frustrating them and affecting on their retention.

In addition, this review highlights the impact of abuse and mistreatment on nursing retention. Some authors reported that less than ten percent of nurses expose to bullying within the workplace from their co-workers. This finding is because the experience of abuse and bullying makes the nurse feel insecure and low self-esteem, increasing burnout and job dissatisfaction. It ultimately affects nursing retention. This result is in line with the findings of studies conducted by *Yom et al. (2017); Kim and Lee (2021),* who found a significant positive relationship between the experience of bullying within the work environment and increased nurse's intent to leave.

The current review found that conflict and tension between colleagues play an essential role and affect nurses' retention at the hospital. This finding may be due to that bad team relationships, and continuous tensions and problems within the work environment lead to a lack of teamwork and create a negative work climate and increase job dissatisfaction which affects nursing retention.

Moreover, this finding is supported by *Cheng et al. (2013); Estryn-Béhar et al. (2007)*, who found that a bad relationship between nurses affects teamwork, leading to increased burnout and increased nursing turnover. The review also outlined the role of hospital facilities and work conditions such as working hours, lack of modern equipment, dirty wards on nursing retention in hospitals. This result may be due to increasing work hours, besides the nature of work and poor work sanitation, creating an unattractive work environment and causing a decline in nurses' life quality, affecting nursing retention. This finding agrees with a study conducted by *Darkwa et al. (2015); El-Jardali et al. (2009),* who reported that poor work sanitation and insufficient modern medical equipment besides long working hours influence nurses' retention within hospitals.

Finally, this review showed an association between lack of encouragement and appreciation from nursing leadership beside limited involvement of nurses in hospital decisions influenced nursing retention. This finding may be because a weak role for nursing administration creates an unsupportive work environment and increases job dissatisfaction, affecting nursing retention. This finding is similar to *Loveridge's (2017; Blake et al. (2013) finding,* who found that lack of support and ineffective nursing

leadership has significant relations with nurses' decisions about staying in their current job.

## 7. Study strengths and limitations

Several limitations emerged from the selected studies in this review, such as some selected studies used self-reports and self-developed questionnaires. In addition, other studies have not clearly mentioned the tools used to assess the work environment and nurse retention, while others failed to report the validity and reliability of the tools used in their studies. The main strength of this study is that it represents a comprehensive examination of the whole work environment in the hospital setting that could affect nursing retention. Also, the exclusion of nurses' personal and social issues and only focusing on work environment conditions and nursing retention role.

## 8. Conclusion

This review amid to identify the impact of the work environment on nursing retention. A total of 21 studies from different electronic databases were included in this review. The results of the current review show that unappropriated staffing, lack of educational opportunities and career advancement, poor nursing leadership and management, insufficient salary and rewards, exposure of abuse, tensions, and problems between co-workers create an unattractive work environment which influences nursing retention in hospital.

## 9. Recommendation

Certain recommendations have been developed from the current review, which includes:

- Establishing a unified financial salary for nursing as an attraction strategy to enhance nursing retention within the hospital.
- Enhance nursing staffing through hiring newly qualified nurses and offering a flexible work schedule.
- Encourage teamwork within hospitals' units and manage the staff conflict through direct discussion and allowing expression of negative feelings.
- Increase nurse involvement in the hospital and unit's decision to raise the feeling of support and empowerment.
- Nursing leaders can play an important role in communicating that bullying behavior will be replaced with respect while the perpetrators receive help, thus creating a safe working environment for nurses.
- Provide career mapping with each nurse to determine what his or her goals and aspirations are. The focus of this program is to make sure that nurses are finding satisfaction where they work and do not leave because they cannot transfer to another department within the facility.
- In terms of future work would be interesting to conduct several quantitative studies that represent the prevalence of workplace bullying among nurses and describe

associated factors and strategies to decrease this phenomenon within the work environment.

## 10. References

*Al-Ahmadi, H. (2014).* Anticipated nurses' turnover in public hospitals in Saudi Arabia. *The International Journal of Human Resource Management*, *25*(3), 412–433. https://doi.org/10.1080/09585192.2013.792856.

*Albougami, A. S., Almazan, J. U., Cruz, J. P., Alquwez, N., Alamri, M. S., Adolfo, C. A., & Roque, M. Y. (2020).* Factors affecting nurses' intention to leave their current jobs in Saudi Arabia. *International Journal of Health Sciences*, *14*(3), 33. https://pubmed.ncbi.nlm.nih.gov/32536847/.

*Aljohani, K. A., & Alomari, O. (2018).* Turnover among Filipino nurses in Ministry of Health hospitals in Saudi Arabia: Causes and recommendations for improvement. *Annals of Saudi Medicine*, *38*(2), 140–142. https://doi.org/10.5144/0256-4947.2018.140.

*Black, P. (2015).* Developing an enhanced perspective of turnover and retention of nurses and health care aides in long-term care homes. *Perspectives the Journal of Gerontological Nursing Association, 38*(2), 25-30.

*Blake, N., Leach, L. S., Robbins, W., Pike, N., & Needleman, J. (2013).* Healthy work environments and staff nurse retention: The relationship between communication, collaboration, and leadership in the pediatric intensive care unit. *Nursing Administration Quarterly*, *37*(4), 356–370. https://doi.org/10.1097/NAQ.0b013e3182a2fa47.

*Breau, M., & Rhéaume, A. (2014).* The relationship between empowerment and work environment on job satisfaction, intent to leave, and quality of care among ICU nurses. *Dynamics*, *25*(3), 16–24. https://www.researchgate.net/publication/272883906_Relationships_between_empowerment_work_environment_on_job_satisfaction_intent_to_leave_and_quality_of_care_among_ICU_nurses.

*Cheng, C., Bartram, T., Karimi, L., & Leggat, S. G. (2013).* The role of team climate in the management of emotional labour: Implications for nurse retention. *Journal of Advanced Nursing*, *69*(12), 2812–2825. https://doi.org/10.1111/jan.12202.

*Coughlan, M., & Cronin, P. (2016).* Doing a literature review in nursing, health, and social care (Second edition) Coughlan Michael and Cronin Patricia Doing a Literature Review in Nursing, Health and Social Care (Second edition) 184pp £19.99 Sage Publishing 9781412962049 1412962048*. Nurs Res, 24*(4), 8. https://doi.org/10.7748/nr.24.4.8.s3.

*Da Rocha, M. C. P., & Martino, M. M. F. D. (2010).* Stress and sleep quality of nurses working different hospital shifts. *Revista Da Escola de Enfermagem Da USP*, *44*, 280–286. https://doi.org/10.1590/s0080-62342010000200006.

*Darkwa, E. K., Newman, M. S., Kawkab, M., & Chowdhury, M. E. (2015).* A qualitative study of factors influencing retention of doctors and nurses at rural healthcare facilities in Bangladesh. *BMC Health Services Research*, *15*(1), 1–12. https://doi.org/10.1186/s12913-015-1012-z.

*Dawson, A. J., Stasa, H., Roche, M. A., Homer, C. S., & Duffield, C. (2014).* Nursing churn and turnover in Australian hospitals: Nurses perceptions and suggestions for supportive strategies. *BMC Nursing*, *13*(1), 1–10. https://doi.org/10.1186/1472-6955-13-11.

*Centre for Reviews and Dissemination, (2009).* CRD's guidance for undertaking reviews in health care: Systematic reviews. *University of York, Layerthorpe*. https://www.york.ac.uk/media/crd/Systematic_Reviews.pdf

*El-Jardali, F., Alameddine, M., Jamal, D., Dimassi, H., Dumit, N. Y., McEwen, M. K., Jaafar, M., & Muray, S. F. (2013).* A national study on nurses' retention in healthcare facilities in underserved areas in Lebanon. *Hum Resour Health, 11*(1), 49. https://doi.org/10.1186/1478-4491-11-49.

*El-Jardali, F., Merhi, M., Jamal, D., Dumit, N., & Mouro, G. (2009).* Assessment of nurse retention challenges and strategies in Lebanese hospitals: The perspective of nursing directors. *Journal of Nursing Management*, *17*(4), 453–462. https://doi.org/10.1111/j.1365-2834.2009.00972.x.

Estryn-Béhar, M., Van der Heijden, B. I., Ogińska, H., Camerino, D., Le Nézet, O., Conway, P. M., Fry, C., & Hasselhorn, H.-M., NEXT Study Group (2007). The impact of social work environment, teamwork characteristics, burnout, and personal factors upon intent to leave among European nurses. Medical Care, 45(10), 939–950. https://doi.org/10.1097/mlr.0b013e31806728d8.

*Gibson, D., & Petrosko, J. (2014).* Trust in leader and its effect on job satisfaction and intent to leave in a healthcare setting. *New Horizons in Adult Education and Human Resource Development*, *26*(3), 3–19. https://doi.org/10.1002/nha3.20069.

*Haddad, L. M., Annamaraju, P., & Toney-Butler, T. J. (2020).* Nursing shortage. *StatPearls [Internet]*. https://pubmed.ncbi.nlm.nih.gov/29630227/.

*Hairr, D. C., Salisbury, H., Johannsson, M., & Redfern-Vance, N. (2014).* Nurse staffing and the relationship to job satisfaction and retention. *Nursing Economics*, *32*(3), 142–147. https://pubmed.ncbi.nlm.nih.gov/25137811/.

*Han, M. R., Gu, J. A., & Yoo, I. Y. (2014).* Influence of workplace bullying and leader-member exchange on turnover intention among nurses. *Journal of Korean Academy of Nursing Administration*, *20*(4), 383–393. https://doi.org/10.11111/jkana.2014.20.4.383.

*Hawker, S., Payne, S., Kerr, C., Hardey, M., & Powell, J. (2002).* Appraising the evidence: Reviewing disparate data systematically. *Qualitative Health Research*, *12*(9), 1284-1299. https://doi.org/10.1177/1049732302238251.

*Heidari, M., Seifi, B., & Gharebagh, Z. (2017).* Nursing staff retention: Effective factors. *Annals of Tropical Medicine and Public Health*, *10*(6), 1-2. https://doi.org/10.4103/ATMPH.ATMPH_353_17.

*Hsieh, Y.-H., Wang, H.-H., & Ma, S.-C. (2019).* The mediating role of self-efficacy in the relationship between workplace bullying, mental health, and an intention to leave among nurses in Taiwan. *International Journal of Occupational Medicine and Environmental Health*, *32*(2), 245–254. https://doi.org/10.13075/ijomeh.1896.01322.

*Hung, M. S., & Lam, S. K. (2020).* Antecedents and contextual factors affecting occupational turnover among registered nurses in public hospitals in Hong Kong: A qualitative descriptive study. *International Journal of Environmental Research and Public Health*, *17*(11), 3834. https://doi.org/10.3390/ijerph17113834.

*Kelly, L. A., Johnson, K. L., Bay, R. C., & Todd, M. (2021).* Key elements of the critical care work environment associated with burnout and compassion satisfaction. *American Journal of Critical Care*, *30*(2), 113–120. https://doi.org/10.4037/ajcc2021775.

*Kim, J. S., & Lee, H. S. (2021).* Influences of workplace bullying, social support, and resilience on retention intention among hospital nurses: The Mediating effect of professional quality of life. *Journal of Korean Clinical Nursing Research*, *27*(1), 23–34. https://doi.org/10.22650/JKCNR.2021.27.1.23.

*Kwon, M. (2019).* Effects of recognition of flexible work systems, organizational commitment, and quality of life on turnover intentions of healthcare nurses. *Technology and Health Care*, *27*(5), 499–507. https://doi.org/10.3233/THC-191734.

*Lake, E. T. (2002).* Development of the practice environment scale of the nursing work index. *Research in Nursing & Health*, *25*(3), 176–188. https://doi.org/10.1002/nur.10032.

*Lake, E. T., de Cordova, P. B., Barton, S., Singh, S., Agosto, P. D., Ely, B., Roberts, K. E., & Aiken, L. H. (2017).* Missed nursing care in pediatrics. *Hospital Pediatrics*, *7*(7), 378–384. https://doi.org/10.1542/hpeds.2016-0141.

*Liaqat, M., Liaqat, I., Awan, R. L., & Bibi, R. (2021).* Exploring workplace bullying and turnover intention among registered nurses in tertiary hospitals, Lahore, Pakistan. *Editorial Board*, *13*(2), 70. https://doi.org/10.37506/ijone.v13i2.14636.

*Loveridge, S. (2017).* Straight talk: Nurse manager role stress. *Nursing Management*, *48*(4), 20–27. https://doi.org/10.1097/01.NUMA.0000514058.63745.ad.

*McHugh, M. D., & Ma, C. (2014).* Wage, work environment, and staffing: Effects on nurse outcomes. *Policy, Politics, & Nursing Practice*, *15*(3-4), 72–80. https://doi.org/10.1177/1527154414546868.

*Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009).* Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *Annals of Internal Medicine*, *151*(4), 264–269. https://doi.org/10.1371/journal.pmed.1000097.

*Mokoka, K. E., Ehlers, V. J., & Oosthuizen, M. J. (2011).* Factors influencing the retention of registered nurses in the Gauteng Province of South Africa. *Curationis*, *34*(1), 1–9. https://doi.org/10.4102/curationis.v34i1.16.

*Mrayyan, M. T. (2005).* Nurse job satisfaction and retention: Comparing public to private hospitals in Jordan. *Journal of Nursing Management*, *13*(1), 40–50. https://doi.org/10.1111/j.1365-2834.2004.00453.x.

*Müller, K., Alliata, R., & Benninghoff, F. (2009).* Attracting and retaining teachers: A question of motivation. *Educational Management Administration & Leadership*, *37*(5), 574–599. https://doi.org/10.1177/1741143209339651.

*Newman, K., Maylor, U., & Chansarkar, B. (2002).* The nurse satisfaction, service quality, and nurse retention chain: Implications for management of recruitment and retention. *Journal of Management in Medicine. 16*(4-5), 271-91. https://doi.org/10.1108/02689230210445095.

*Nowrouzi, B., Rukholm, E., Lariviere, M., Carter, L., Koren, I., Mian, O., & Giddens, E. (2016).* An examination of retention factors among registered nurses in Northeastern Ontario, Canada: Nurses intent to stay in their current position. *Work*, *54*(1), 51–58. https://doi.org/10.3233/WOR-162267.

*Phuekphan, P., Aungsuroch, Y., & Yunibhand, J. (2021).* A model of factors influencing intention to leave nursing in Thailand. *Pacific Rim International Journal of Nursing Research*, *25*(3), 407–420. https://he02.tci-thaijo.org/index.php/PRIJNR/article/view/248823.

*Satoh, M., Watanabe, I., & Asakura, K. (2018).* Determinants strengthening Japanese nurses' intention to stay at their current hospital. *The Tohoku Journal of Experimental Medicine*, *246*(3), 175–182. https://doi.org/10.1620/tjem.246.175.

*Scullion, H., & Collings, D. G. (2006). Global staffing*. Routledge. *London* https://doi.org/10.4324/9780203643433.

*Sellers, K., Riley, M., Denny, D., Rogers, D., Havener, J. M., Rathbone, T., & Cesare, G. D. (2019).* Retention of nurses in a rural environment: The impact of job satisfaction, resilience, grit, engagement, and rural fit. *Online Journal of Rural Nursing & Health Care*, *19*(1), 4-42. https://doi.org/10.14574/ojrnhc.v19i1.547.

*Singh, J., Verbeke, W., & Rhoads, G. K. (1996).* Do organizational practices matter in role stress processes? A study of direct and moderating effects for marketing-oriented boundary spanners. *Journal of Marketing, 60*(July 1996), 69-86.

*Squires, A., Jylhä, V., Jun, J., Ensio, A., & Kinnunen, J. (2017).* A scoping review of nursing workforce planning and forecasting research. *Journal of Nursing Management*, *25*(8), 587–596. https://doi.org/10.1111/jonm.12510.

*Ulrich, B., Barden, C., Cassidy, L., & Varn-Davis, N. (2019).* Critical care nurse work environments 2018: Findings and implications. *Critical Care Nurse*, *39*(2), 67–84. https://doi.org/10.4037/ccn2019605.

*Vévoda, J., Vévodová, Š., Bubeníková, Š., Kisvetrová, H., & Ivanová, K. (2016).* Datamining techniques-decision tree: New view on nurses' intention to leave. *Central European Journal of Nursing and Midwifery*, *7*(4), 518–526. https://doi.org/10.15452/CEJNM.2016.07.00.

*Wang, Y., & Yuan, H. (2018).* What is behind high turnover: A questionnaire survey of hospital nursing care workers in Shanghai, China. *BMC Health Services Research*, *18*(1), 1-7. https://doi.org/10.1186/s12913-018-3281-9.

*Weymouth, S., Davey, C., Wright, J. I., Nieuwoudt, L. A., Barclay, L., Belton, S., Svenson, S., & Bowell, L. (2007).* What are the effects of distance management on the retention of remote area nurses in Australia? *Rural & Remote Health*, *7*(3), 652. https://pubmed.ncbi.nlm.nih.gov/17665965/.

*Washeya, F. N. (2018).* Factors influencing retention of professional nurses in a public health care facility in Windhoek, Namibia [Ph.D. Thesis]. Stellenbosch: Stellenbosch University. https://scholar.sun.ac.za/handle/10019.1/103478.

*Yavas, U., Karatepe, O. M., & Babakus, E. (2013).* Who is likely to quit nursing jobs? A study in the Turkish Republic of Northern Cyprus. *Health Marketing Quarterly*, *30*(1), 80–96. https://doi.org/10.1080/07359683.2013.758017.

*Yom, Y.-H, Yang, I. S., & Han, J. H. (2017).* Effects of workplace bullying, job stress, self-esteem, and burnout on the intention of university hospital nurses to keep nursing job. *Journal of Korean Academy of Nursing Administration,* *23*(3), 259-269. https://doi.org/10.11111/jkana.2017.23.3.259.

**Table 4: Study matrix for included studies**

| Ser. | Author/ Year/ Country | Study aim | Type of study design | Sample/Setting | Instruments with validity and reliability score | Main Findings/Result |
|---|---|---|---|---|---|---|
| 1. | Heidari et al. (2017)<br><br>Iran | The objective of this study is to find personal factors (physical, mental-emotional, social) and organizational factors job stress, social support, and job satisfaction and organizational factors) that influence nursing staff retention. | A cross-sectional, descriptive, quantitative study. | Total sample: 500 nurses. Working setting: 10 Hospitals in Tehran city. Inclusion criteria:<br>- Nurses with a diploma or bachelor's degree or higher degree in nursing.<br>- Working experience <3 years with that at least<br>- One year had been spent in the current setting. | A questionnaire included personal factors (physical, mental-emotional, social), job stress factors (24 items), social support (15 items), and job satisfaction and organizational factors (33 items). Validity and reliability score were not reported. | The result shows that some factors play a role on increase nursing retention, such as:<br>- Retention among female nurses was high due to their other responsibilities in-home and lack of social support.<br>- Distance from home to the hospital and access to public transport is also effective factors on retention.<br>- Job stress, job satisfaction, and organizational satisfaction influence retention.<br>- Insufficient staff, enjoying working with the supervisor, and salary, reward, and benefit were mentioned as the effective factors on retention. |
| 2. | Nowrouzi et al. (2016)<br><br>Canada | The purpose of the study was to examine factors related to the retention of registered nurses. | A cross-sectional survey. | Total sample: 459 registered nurses. Working setting: Hospital. Inclusion criteria were not reported. | Participants completed a ten-page 32 items questionnaire developed by the authors and focused on retention and recruitment issues of nurses. (Questions were also included about general demographics, nursing education, employment, factors influencing recruitment and retention, knowledge of workplace recruitment and retention policies, and awareness of community engagement in recruiting nurses). Validity and reliability score were not reported. | -Several factors have been reported in the study that plays an important role in nursing retention, such as Staff development<br><br>.<br><br>-The study also found that nurses who worked less than one hour of overtime per week were more likely to stay in their current position, while nurses who worked overtime more than 4 hours reported that they had the intention to leave. |
| 3. | El-Jardali et al. (2013)<br><br>Lebanon | The study investigates the characteristics and the factors associated with the retention of nurses<br><br>working in rural areas in Lebanon. | Non-experimental cross-sectional design | Total sample: 857 registered nurses. Working setting: 103 health facilities (hospitals and primary healthcare centers) Inclusion criteria were not reported. | The researcher used McCloskey Mueller Satisfaction Scale for assessing job satisfaction. The researcher used 14 questions to assess the work environment, some of which were selected from the Revised Nurse Working Index. Validity and reliability score was not reported | -The study found that nurses were most satisfied with the 'relationship with co-workers' aspect of work which improved the work environment and enhanced nursing retention within the organization.<br><br>-Study findings also revealed that nurses are less satisfied with motivating and rewarding, increasing job dissatisfaction and affecting nursing retention within the hospital. |

| Ser. | Author/ Year/ Country | Study aim | Type of study design | Sample/Setting | Instruments with validity and reliability score | Main Findings/Result |
|---|---|---|---|---|---|---|
| 4. | Ulrich et al. (2019)<br><br>United State | To evaluate the current state of critical care nurse work environments. | mixed-method | Total sample: 8080 Critical care nurses. Working setting: Nurses working at critical care department in the hospital. Inclusion criteria: Nurses who work in critical care department only. | Critical Care Nurse Work Environment Survey instrument. Validity and reliability score was not reported. | The result shows that 60% of participants reported an absence of appropriate staffing.<br>- Overall, 54% of the participants said they plan to leave their current position within the next 12 months or the next three years.<br>- Positive relations between job dissatisfaction and increased intent to leave.<br>- Nurses reported that better staffing, higher salary, better leadership, more respect from administration and frontline management would help to decrease intent to leave among nurses. |
| 5. | Satoh et al. (2018)<br><br>Japan | The present study was a comprehensive investigation of factors strengthening intention to stay among nurses. | A cross-sectional questionnaire surveys | Total sample: 713 nurses. Working setting: 12 hospitals at japan Inclusion criteria were not reported. | The researcher used the developed tool with 24 items, including questions about factors related to intention to stay at the current hospital. Validity and reliability score was not reported. | - The study result showed that certain factors play an important role in strengthening nursing retention within hospitals, such as a comfortable workplace environment, passive motivational factors, the convenience of hospital location, favorable work-life balance, and fulfillment in nursing.<br>- Nurses who were married or had children prioritized a "favorable work-life balance" in remaining at their current workplace. |
| 6. | Al-Ahmadi (2014)<br><br>Saudia Arabia | The study sought to examine anticipated turnover among national and expatriate hospital nurses in Saudi Arabia and identify predictors of the intention to leave. | A cross-sectional survey. | Total sample: 5423 nurses. Working setting: Involve 80 hospitals. Inclusion criteria were not reported. | Anticipated turnover was measured using a global measure of an individual's intention to leave the hospital and is a single-item scale that asks, 'I plan to leave this facility within the next five years?' Scores range from 1 'I strongly disagree' to 5 'I strongly agree.' Validity and reliability score score= not reported | - More than half of the nurses indicated that they plan to leave the hospital within five years.<br>- Turnover was high among higher educated nurses to search for better employment opportunities.<br>- Female nurses, older nurses, and nurses with more experience showed higher tendencies to leave.<br>- Job disaffection, low salary, poor supervision, lack of appreciation of nurses, and alternative employment opportunities are major determinants of turnover intentions among nurses.<br>- Study results show that the nature of work in terms of the degree of challenge, autonomy, and variety is not a significant predictor of anticipated turnover.<br>- Attitudes among nurses. Similarly, promotion and professional development were not among predictors of anticipated turnover, indicating that professional development is not a priority for most nurses in Saudi Arabia. |

| Ser. | Author/ Year/ Country | Study aim | Type of study design | Sample/Setting | Instruments with validity and reliability score | Main Findings/Result |
|------|----------------------|-----------|---------------------|----------------|------------------------------------------------|---------------------|
| 7. | Gibson and Petrosko (2014)\n\nUnited state | To examine trust in a leader and its effect on job satisfaction and intent to leave. | Quantitative design (correlational study) | Total sample: 249 nurses. Working setting: hospitals Inclusion criteria were not reported. | The Job in General scale was utilized to measure job satisfaction. Validity and reliability score score= 0.92 Trust in leaders was measured using dimensions of the Mayer and Davis scale. Validity and reliability score score= 0.93 | The most prevalent finding was that trust in a leader impacted job satisfaction and intent to leave directly. |
| 8. | Liaqat et al. (2021)\n\nPakistan | To explore the prevalence of workplace bullying and its association with the intent to leave the job among registered nurses. | Descriptive cross-sectional survey | Total sample: 242 nurses. Working setting: Studies involved four hospitals Inclusion criteria were not reported. | Negative Acts Questionnaire-Revised (NAQ-R). Validity and reliability score was not reported. | - The prevalence of workplace bullying was 8.02% among nurses. - A significant relationship was found between workplace bullying and nurses' turnover intention. - The study found that diploma nurses with less age experienced more workplace bullying. |
| 9. | Dawson et al. (2014)\n\nAustralia | To reveal nurses' experiences and perceptions of turnover in Australian hospitals and identify strategies to improve retention, performance, and job satisfaction. | Qualitative descriptive design. | Total sample: 362 nurses were working in medical and surgical units. Working setting: 11 public hospitals. Inclusion criteria: all nurses engaged in clinical practice. | The open question followed by a blank A4 page was given for participants to write their responses. | The result showed a poor working environment such as inadequate patient-staff ratios, a lack of qualified nurses with appropriate skills, low involvement in decision-making processes, and increased patient demands. These issues impacted upon heavy workloads and stress levels, with nurses feeling undervalued and disempowered, which in turn affect nursing retention |
| 10. | Phuekphan et al. (2021)\n\nThailand | To develop and test a model of factors influencing nurses' intention to leave nursing in Thailand when there is an attrition crisis. | A cross-sectional correlational study | Total sample: 405 nurses. Working setting: 9 public hospitals. Inclusion criteria: - Register nurse providing direct patient care. - Working full-time employment in governmental hospitals. - Work experience >3 months. Exclusion criteria: - Nurses on maternity leave extended sick leave or study leave. | The 31-item Nurse Practice Environment Scale. Validity and reliability score score= 0.97 | The result show that nurses who work in an unsupportive work environment experience restricted professional autonomy, lack development opportunities for professional growth, have insufficient social support, increased workloads, or have conflicts with a colleague that contributes to job dissatisfaction and affect nursing retention. |

| Ser. | Author/ Year/ Country | Study aim | Type of study design | Sample/Setting | Instruments with validity and reliability score | Main Findings/Result |
|---|---|---|---|---|---|---|
| 11. | Kelly et al., 2021) <br><br> United state | To identify the key elements of a healthy work environment associated with burnout, secondary trauma, compassion satisfaction, and the effect of burnout and the work environment on nurse turnover. | Prospective survey | Total sample: 779 intensive care unit (ICU) nurses. <br><br> Working setting: 13 Hospitals. <br><br> Inclusion criteria: Nurses who provided direct patient care and were employed full-time, part-time, or per diem. | Not reported | The result showed that staffing and ineffective decision-making create an unhealthy work environment, leading to increased job burnout and affecting nursing retention. |
| 12. | Hairr et al. (2014) <br><br> United state | To examine the relationships between nurse staffing, job satisfaction, and nurse retention in an acute care hospital environment. | Correlational research study. | Total sample: 70 nurses. <br> Working setting: hospital <br> Inclusion criteria: <br> - Licensed as a registered nurse. <br> - A minimum of 6 months' direct patient care nursing experience. <br> - Employed in an acute care hospital | Not reported | - Results showed that problems in nurses' work environment created job dissatisfaction for many nurses. <br> - The present study has suggested a relationship between job satisfaction and an appropriate patient assignment. <br> - Increasing the number of patients assigned to each nurse during a work shift is responsible for increased job disaffection, affecting nursing retention. |
| 13. | Breau and Rhéaume, (2014) <br><br> Canada | To determine whether empowerment and work environment predict job satisfaction, intent to leave, and quality of care among intensive care unit (ICU) nurses. | A cross-sectional design | Total sample: 478 Nurses working at ICU <br><br> Working setting: Hospital <br><br> Inclusion criteria = nurses working in ICUs | Practice Environment Scale of the Nursing Work. <br><br> Validity and reliability score score= not reported. | - Results showed that empowerment and work environment were strong predictors of job satisfaction. <br> - Nurses reported that inadequate salary, conflicts with the manager, and low support from the organization are reasons that increase their intent to leave the job. <br> - ICU nurses who had greater access to empowerment structures perceived their work environment as healthier. <br> - Moreover, both empowerment and work environment were strong predictors of job satisfaction, affecting nursing retention. <br> - Team cohesion inside the unit increases the positive work environment, promoting good nursing retention. |

| Ser. | Author/ Year/ Country | Study aim | Type of study design | Sample/Setting | Instruments with validity and reliability score | Main Findings/Result |
|---|---|---|---|---|---|---|
| 14. | Hung and Lam (2020)<br><br>Hong Kong | To Identify the antecedents and contextual factors that contribute to the decisions of occupational turnover from the clinical duties of registered nurses in public hospitals. | Qualitative Descriptive Study. | Total sample: 18 Register nurses<br>Working setting: Public Hospital<br>Inclusion criteria:<br>- Previous employment as a registered nurse in Hong Kong.<br>- Resignation from the position of a registered nurse.<br>- Change in career from nursing to another occupation.<br>- Willingness to share experiences regarding resignation and occupational turnover decisions. | Semi-structured, face-to-face interviews.<br>Validity and reliability score was not reported. | Results found that stressful work environment, lack of support and motivation from leadership, additional workload and tension between colleagues, violence and workplace bullying, inadequate career development opportunities contributed to nurses' decisions regarding job resignation and career turnover. |
| 15. | Aljohani and Alomari, (2018)<br><br>Saudi Arabia | To identify factors influencing the termination of Filipino nurses in Ministry of Health (MOH) hospitals and record nurse recommendations to improve retention. | Cross-sectional descriptive design. | Total sample: 124 Nurses<br>Working setting: Governmental hospital.<br>Inclusion criteria: Filipino nurses who have experience in working at Saudi hospitals. | Not reported | The result showed that low salary, low staff numbers (shortage of staff), low nurse/patient ratio, discrimination, bad accommodations are major turnover factors. |
| 16. | Han et al. (2014)<br><br>Korea | To identify the impact of workplace bullying and (Leader-Member Exchange) on turnover intention among nurses. | Descriptive correlational design. | Total sample: 364 Nurses.<br>Working setting: Hospital<br>Inclusion criteria were not reported | Structured questionnaire. Not reported. | Higher workplace bullying, workload workplace bullying, and Leader-Member Exchange was associated with higher turnover intention among study participants. |
| 17. | (Hsieh et al., 2019)<br><br>Taiwan | To examine the relationship between workplace bullying, mental health, and an intention to leave among nurses, and the mediating role of self-efficacy. | Cross-sectional correlational study. | Total sample = 385 Nurses.<br>Working setting: hospital<br>Inclusion criteria: Being employed for at least six months in the hospital and holding permanent management or supervisory responsibilities. | Employee's Turnover Intentions and Job Destination Choices Scale.<br>Validity and reliability score score= 0.81. | Results revealed that bullying at the workplace was positively correlated with an intention to leave. |
| 18. | Vévoda et al. (2016)<br><br>Czech | To identify factors of the work environment that are important for general nurses when they are considering whether or not to leave their current employer. | Observational and a cross-sectional study. | Total sample: 2223 Nurses.<br>Working setting: Hospital.<br>Inclusion criteria were not reported. | Not reported | - Results found that work strain, low salary, availability of modern technical equipment and instruments when handling patients inside organizations affect nursing retention.<br>- Cooperation with other professions is not a negligible factor for nurses when deciding to leave their current employer. |

| Ser. | Author/ Year/ Country | Study aim | Type of study design | Sample/Setting | Instruments with validity and reliability score | Main Findings/Result |
|---|---|---|---|---|---|---|
| 19. | Kwon (2019) South Korea | To identify the influence of awareness regarding flexible work systems, organizational commitment, and quality of life on turnover intentions among healthcare nurses. | Descriptive correlational design. | Total sample: 226 Nurses Working setting: Hospital Inclusion criteria were not reported. | A Turnover Intention Questionnaire developed by Lawler was composed of four items scored on a 5-point Likert scale. Validity and reliability score 0.88. | Results found that organizational commitment, working long hours, and overtime work caused a decline in quality of life, affecting nursing retention. |
| 20. | Wang and Yuan (2018) China | To discuss the extent, implications, and causes of this turnover and propose solutions to address the problem. | A cross-sectional study. | Total sample: 600 Nurses. Working setting: Hospital Inclusion criteria: Certified as a nursing care health worker. Work history as a nurse for more than one year. | Structured questionnaire. Validity and reliability not reported. | Results found that working hours, management dissatisfaction, low salary, work stress, hours of sleep, education, enjoyment of the job affect nursing retention. |
| 21. | Yavas et al. (2013) Turkey | To examine the nature of relationships between organizational and personal resources and nurses' turnover intentions. | Correlational study design. | Total sample: 124 Nurses. Working setting: Public hospital. | Turnover intentions were measured with three items scale developed by Singh, Verbeke, and Rhoads (1996). Validity and reliability score was not reported. | The study revealed that a form of organizational support (empowerment) and two personal resources (customer orientation, job resourcefulness) are the best predictors of turnover among nurses. |

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