

Interventions to Improve the Nursing Work Environment of Hospital in Jordan: an Integrative Literature Review

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Abstract

Background:A healthy work environment can positively impact nurse- and patient-sensitive outcomes. However, there are as of yet no analysis of the interventions that demonstrate effectiveness in improving NWEs.

Aim:The purpose of the study is to perform an integrative review of studies conducted to test interventions that can improve NWEs among hospital settings in Jordan.

Methods:Five electronic databases (CINAHL, Medline, ProQuest, PubMed and Cochrane Database of Systematic Reviews) were searched. Inclusion-exclusion criteria were applied to screen the identified studies. A total of 975 studies were critically appraised for eligibility to be included in data extraction and synthesis.

Results:No study was found that tested an intervention to improve NWE. Only two studies were found that examined NWEs in Jordan but both were only descriptive correlational studies.

Conclusion:There is a scarcity of evidence on the effectiveness of interventions that can improve NWEs. Future research should be performed to test such interventions.

Keywords: Nursing work environment, intervention, nursing workplace, strategy, improvement, Jordan

Introduction

Several studies have shown that nurses play a critical role in improving the quality of healthcare services, may it be within hospitals or in the community¹. Given the rising costs of healthcare, advancement in medical technology, increasing complexity and acuity of patient conditions, availability and adequacy of equipment and resources, and the ever-growing public expectation of what constitutes acceptable levels of healthcare, delivering safe and quality nursing care becomes all the more significant²⁻³. When quality of nursing care is evident, patients report higher satisfaction, experience less errors in medication administration, experience less infection rates, and are less likely to complain about the care they received^{4-7, 25}. A landmark study by Aiken and colleagues (2012) demonstrated that healthcare organizations with poor NWEs, coupled with poor nurse staffing and lower nurse educational attainment, had higher odds of patient mortality and failure to rescue²⁴.

One of the factors that contribute to the ability of nurses to provide safe and quality nursing care is a healthy nursing work environment (NWE)⁸⁻⁹. NWE is a multi-dimensional concept that does not only pertain to the physical surroundings (e.g. facilities, equipment, supplies, etc.) where nurses work but also encompasses components that allow nurses to carry out their tasks and responsibilities such as work schedule, staffing, job demands, and clinical environment¹⁰. Nurses have described healthy NWEs as demonstrating several desirable characteristics such as teamwork, leadership, autonomy, workload, physical comfort, flexible scheduling, organizational policies, professional development opportunities, salary, participation in decision making, and workplace safety¹¹. Studies have shown that a healthy NWE is associated with lower 30-day mortality rates, lower failure to rescue, lesser patient falls, fewer cannula disconnections, and lesser complaints from patients and families about the care received¹².

However, most of the studies performed on NWE focused on identifying the effects of NWE on nurse-specific outcomes such as job performance, emotional strain, interpersonal relationships, retention and job productivity; impact of NWE on patient outcomes; and association between nurse leadership and NWE¹²⁻¹³. While some nursing organizations such as the American Association of Critical Care Nurses (AACN) in the United States have recommended strategies to improve NWE, there are as of yet no analysis of the magnitude and extent of the effects of such interventions on NWE in Jordan.

The aim of this paper is to provide an integrative review of studies that aimed at examining the effects of interventions to improve NWE among hospital settings in Jordan. To date, there has been no integrative reviews yet conducted on this topic. Examining what strategies have shown significant effects in improving NWE can inform nurse managers and healthcare organizations on the methods that can be implemented in ensuring that nurses work in optimal conditions to ensure safe and quality patient care.

Materials and Methods

The integrative review consisted of a search of five databases namely CINAHL, PubMed, Medline, ProQuest and the Cochrane Database of Systematic Reviews. The search was limited to studies performed between January 2010 and December 2020 to reflect current evidence on the topic. Search phrases were formulated according to the Boolean terminology of each database but included the following keywords: *nurse, nursing, nurse work environment, nursing work environment, intervention, strategy, improvement, evaluation, and Jordan*.

Inclusion-exclusion criteria were applied to screen identified studies. Inclusion criteria were (1) original research; (2) published in a peer-reviewed journal; (3) published in English; (4) quasi-experimental or randomized controlled trial design; (5) performed within hospital settings in Jordan; and (6) involved testing an intervention targeted to improve NWE. Exclusion criteria were (1) correlational studies; (2) case studies and series reports; and (3) qualitative studies. Because this study was conducted by a single author, studies that fulfilled the inclusion-exclusion criteria were critically appraised using two instruments to ensure rigor in assessing the quality of the studies – the step-by-step guide by Coughlan and colleagues (2009)¹⁴ for quantitative studies and the critical appraisal checklists for quasi-experimental studies and randomized controlled trials by the Joana Briggs Institute (2020)¹⁵.

Results

The initial search yielded a total of 64,251 studies of which 725 studies came from CINAHL, 2,035 studies came from Medline, 60,537 studies came from ProQuest, 218 came from Cochrane, and 736 came from PubMed. Application of search limiters following the inclusion-exclusion criteria and removal of duplicates narrowed the search to a total of 975 studies. Each study was then individually appraised to verify if inclusion-exclusion criteria were met, and to examine if they were of methodological rigor. Figure 1 shows the flow chart of the selection process.

However, no relevant study was found following the search strategy. Of the screened studies, only two were found that examined NWE in hospital settings in Jordan. The first is a mediation analysis of the role of communication with physicians in facilitating the impact of NWE on nursing outcomes¹⁶. A total of 589 nurses from a single site answered questionnaires that measured NWE, perceptions on communication with physicians, intent to stay, and job satisfaction.

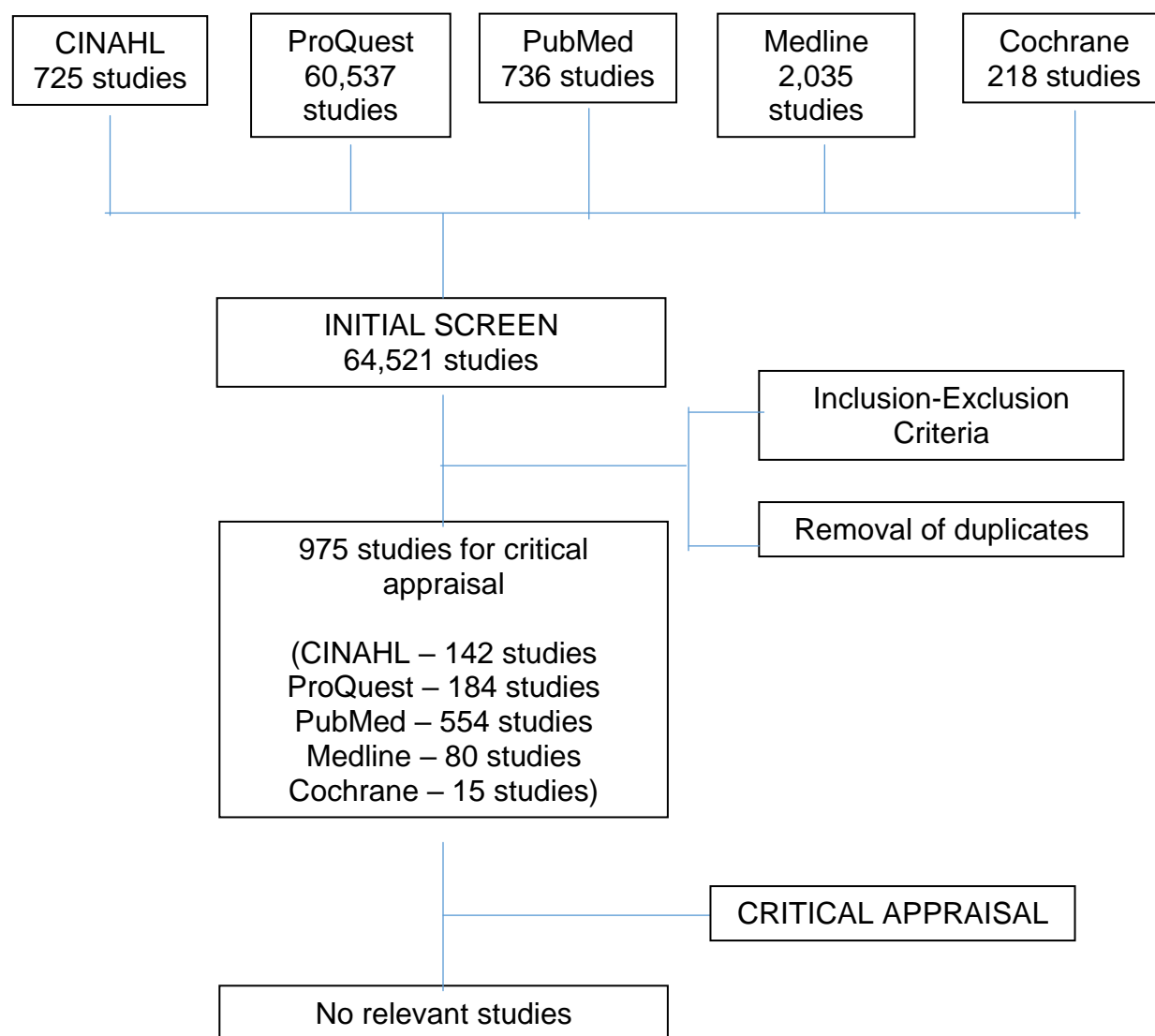


Figure 1. Flowchart of the selection process

Correlational analyses showed that communication with physicians significantly mediated the positive effects of NWE on job satisfaction and intent to stay, but the results seemed to be influenced by the clinical nature of the work environment. The second is a descriptive correlational study that looked at the relationships between NWE, intent to stay, and job satisfaction¹⁷. A total of 650 nurses from three hospitals were asked to fill out survey tools that measured NWE, intent to stay, and job satisfaction. Results showed that NWE had significant positive relationships with intent to stay ($p < 0.001$) and job satisfaction ($p < 0.001$). Neither of the studies involved an intervention to improve NWE.

Discussion

Results of the integrative review were consistent with literature that there is sparse research on interventions that can demonstrate significant improvements in NWE^{11, 18, 22}. In a systematic review by Wei and colleagues (2018) that examined the state of the science of NWEs in the United States, they found that a common theme of studies revolved around the effects of NWEs on patient- and nurse workforce outcomes

but not on strategies that can improve NWEs. Given the evidence that NWEs positively impact outcomes, it is all the more significant that studies will be conducted to investigate what strategies can promote healthy NWEs. In Jordan, in particular, no studies were found to have been performed in the last 10 years that tested an intervention targeting the improvement of NWEs in hospital settings. While the author does not dismiss the possibility that some studies may have been performed before 2010, there is also the possibility that such studies may have lost relevance given the volume and significance of changes to healthcare delivery, nursing services, population characteristics, and modern technology in the past decade.

Existing strategies to improve NWEs remain to be organizational recommendations with no empirical data to support their effectiveness. In addition, such strategies were put forward by nursing organizations in First World countries where contexts of healthcare delivery systems vary significantly from low- to middle-income countries²²⁻²³. Consequently, there is also no or low evidence to support the generalizability and fit of the recommended strategies in healthcare organizations outside of high income settings¹⁹⁻²⁰.

The primary limitation of the study is the assumption that NWEs were measured as a single umbrella concept that consisted of several components required to deliver effective nursing care. Given the multidimensionality of the concept, other authors may have measured the effectiveness of an intervention to improve a single component of NWE; as such, those studies would have not been covered by the search strategy. Nevertheless, it should be emphasized that NWEs in reality cannot be examined piecemeal, and that the totality of the work environment of nurses is influenced by several factors such as staffing, organizational structure, and nurse leadership.

Future research should focus on testing interventions that can improve NWE in Jordan¹¹⁻¹³. While studies have been performed on testing interventions to improve NWEs in other countries, most were non-experimental and cross-sectional in design²¹. Such studies should at least be quasi-experimental with a pretest-posttest design to assess significant changes pre- and post-implementation of the intervention. Better still will be the conduct of randomized controlled trials that can demonstrate the effect of the intervention on NWE. Trials should be adequately powered and should involve multiple sites across different places in Jordan to capture the variations in healthcare delivery system structures that can affect NWE. The obvious benefit is that there will be an evidence base for the effectiveness of the intervention, especially in areas where such interventions are adopted to fit local demands of the population and unique organizational and workforce characteristics.

Conclusion

The study performed an integrative review of studies that tested an intervention to improve NWE in hospital settings in Jordan. However, no studies were found. Only two studies examined NWE but both examined the relationship between NWE and job satisfaction and intent to stay of nurses. Future studies should be performed to test the effect of strategies on improving NWE, given that a healthy NWE contributes to the delivery of safe and quality patient care.

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