

The relationship between working environment and quality of nursing care: an integrative literature review

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Abstract

Background/Aims There is evidence that work environment is positively related to quality of care in different healthcare professions, but the nature of this relationship needs further exploration. This study aimed to synthesise the evidence about the relationship between work environment and quality of care in nursing.

Methods An integrative literature search was conducted to identify articles and studies investigating work environment and quality of care in nursing. Studies that were published between January 2000 and February 2020 in PubMed and EBSCOhost databases were included in the review.

Results A total of 12 studies were included in the final analysis, of which four used an explicit theoretical framework to guide their research. Sample sizes were generally large. Work environment was classified as consisting of physical, psychological, environmental and organisational factors. Most studies reported a direct positive correlation between work environment and quality of nursing care. Only one study found that work environment indirectly influenced quality of care through job satisfaction and burnout.

Conclusions There is clear evidence that the quality of care delivered by nurses is influenced by the work environment. Particularly important factors were support from management and adequate staffing. To improve quality of care, healthcare leaders should focus on improving the work environment.

Key words: Nursing; Quality of care; Work environment

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Introduction

Many countries are experiencing a severe shortage of nurses in their healthcare workforce (Coster et al, 2018). In hospital settings, this can make the patient-to-nurse ratio high enough to have a negative impact on quality of care and patient outcomes (Boonpracom et al, 2018). A systematic review of 14 studies revealed that poor quality of nursing care can significantly increase the incidence of urinary tract infections, patient falls, pressure ulcers, critical incidents and readmissions (Recio-Saucedo et al, 2018). A low quality of nursing care has also been linked to increased mortality rates (McHugh and Stimpfel, 2012).

Quality of care relates to the interactions between healthcare providers and patients, and the ways in which health system resources are transformed into health outcomes. The World Health Organization (2006) defined healthcare quality as the process of making strategic choices in health systems. More recently, the Institute of Medicine (2001) in the USA has unpacked the concept further and suggested that efforts to improve care quality should focus on six aims: effectiveness, efficiency, equity, patient-centredness, safety and timeliness. Meanwhile, the UK NHS defines quality of care as a combination of clinical effectiveness, safety and patient experience (National Quality Board, 2013). Evidently, these definitions vary according to the perspectives and aims of different organisations or disciplines.

Research has suggested that a positive and professional work environment can influence quality of nursing care and improve outcomes for both patients and staff (Aiken et al,

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2012; Gómez-García et al, 2016; Liu and Aunguroch, 2017; Sloane et al, 2018; Schneider et al, 2019). An international study conducted across the USA and 12 European countries emphasised that better work environments were significantly associated with decreased levels of nurse burnout, job dissatisfaction and intention to leave the profession, along with increased care quality and patient safety (Aiken, 2012). Additionally, research has shown that improving work environments can result in greater patient satisfaction (You et al, 2013) and lower levels of patient mortality (Christian et al, 2011; Cho and Han, 2018). Therefore, work environment should be considered a crucial factor in staff performance (Cline et al, 2003).

The definition of a positive work environment varies across studies. Kramer et al (2013) stated that a good work environment for nurses should comprise 'a system that supports and promotes effective communication, control over the contextual system in which nursing is practiced, delivery of nursing care, collaborative relationships with physicians, and increased opportunities for autonomous decision making'. Meanwhile, the World Health Organization (2017) stated that a work environment is influenced by health and safety concerns in the physical work environment; wellbeing concerns in the psychosocial work environment, including workplace culture; personal health resources in the workplace; and improving the health of workers, their families and other members of the community.

Kanter (1993) described an encouraging work environment as a workplace in which workers have links to the four mechanisms of empowerment:

1. Access to the information, practical knowledge and expertise needed to effectively satisfy the demands of the profession
2. Access to the required resources (materials, energy, time and equipment) to achieve the goals of the organisation
3. Encouragement, leadership and direction from managers, colleagues and subordinates
4. Opportunities for autonomy, self-determination and development.

To establish a successful organisational climate that attracts skilled nurses and maintains a high quality of care, it is important to understand the role of the work environment. This review identifies and synthesises the existing literature regarding the relationship between work environment and nursing quality of care.

Methods

Following the steps taken by Whittemore and Knafl (2005), an integrative analysis was carried out to ensure a systematic and comprehensive review. First, an electronic search of the literature published between January 2000 and February 2020 was performed using the MEDLINE (through PubMed), CINAHL (through EBSCOhost) and SCOPUS (through EBSCOhost) databases. Key search terms included 'work environment', 'hospital environment', 'quality of care', 'quality of healthcare', 'nurse', 'nursing'. A review of the reference lists of selected articles was also performed.

To be included in the review, studies were required to:

- Be published in English
- Include nurses in their study sample
- Be set on a general hospital ward (not intensive care, surgical rooms or emergency departments)
- Investigate the impact of work environment on quality of nursing care
- Report direct measures of work environment and quality of nursing care
- Use a quantitative research design
- Be peer reviewed.

Research that was conducted by students and papers presented at congresses were excluded from the analysis.

Study selection was performed through an initial title and abstract screening to identify potentially relevant papers. Afterwards, a review of all the papers listed as significant in the initial collection was carried out. Additional papers that were not found in the initial literature search were obtained by reviewing the references in the selected studies. The two authors checked all titles and abstracts separately to avoid repetition of papers and ensure they met the inclusion criteria. Ethical approval was not required for this study.

Table 1. Methodological characteristics of included studies

Study reference	Response rate %	Number of participants	Random	Sample representativeness	Tool used to measure work environment	Tool used to measure quality of nursing	Cronbach's alpha value
Cho and Han (2018)	95.0	432	No	High	PES-NWI	Six Dimension Scale of Nursing Performance	6D Scale: 0.76–0.92 PES-NWI: 0.80–0.81
Boonpracom et al (2018)	96.2	916	Yes	High	PES-NWI	HCAHPS	PES-NWI: 0.96 HCAHPS: 0.93
Liu and Aunguroch (2017)	94.9	510	Yes	High	C-PES	CNAQNCS	C-PES: 0.91 CNAQNCS: 0.97
Oshodi et al (2017)	56.4	247	No	Low	EOMII	A single item developed by Aiken et al (2012)	Not mentioned
Ma et al (2015)	<50.0	179052	No	Medium	PES-NWI	NDNQI	PES-NWI: 0.94
Anzai et al (2013)	65.7	341	No	Low	PES-NWI	A single item developed by Aiken et al (2012)	PES-NWI: 0.77–0.84
You et al (2013)	95.0	9688	Yes	High	PES-NWI	A single item developed by Aiken et al (2012)	Not mentioned
Zander et al (2013)	Unknown	4192	Yes	High	PES-NWI	A single item developed by Aiken et al (2012)	Not mentioned
Aiken et al (2012)	62.0	61 168	Yes	High	PES-NWI	x	Not mentioned
Coetzee et al (2013)	53.3	1187	Yes	Moderate	PES-NWI	A single item developed by Aiken et al (2012)	PES-NWI: 0.64–0.72
Djukic et al (2013)	68.0	1439	Yes	High	The 98-question survey	The 98-question survey	>0.70
Hinno et al (2011)	33.4	1000	Yes	High	NWI-R	A single item developed by Aiken et al (2012)	NWI-R: 0.71–0.80

CNAQNCS=Chinese Nurse Assessed Quality of Nursing Care Scale; C-PES=Chinese version of the Practice Environment Scale; EOMI=Essentials of Magnetism; HCAHPS=Hospital Consumer Assessment of Healthcare Providers and Systems; NWI-R: Nursing Work Index–Revised; PES-NWI: Practice Environment Scale of the Nursing Work Index.

Results

The search yielded more than 4634 abstracts and titles, of which 1175 were deemed potentially relevant after initial screening. After further review of the titles, abstracts and full texts, just 10 articles were deemed to meet the inclusion criteria. A further two eligible

studies were found through the reference lists of the selected articles, giving 12 studies in total. The methodological characteristics of these articles are shown in **Table 1**.

All studies were published between 2011 and 2018. The quantitative studies that were analysed gave Cronbach's alpha values of between 0.70 and 0.98, indicating high reliability. Participants' response rates ranged between 33.4% and 96.2%. Sample sizes were generally large and most had a high level of representativeness. The latter was classified by taking into account the number of nursing specialties, centres or organisations, and types of practitioners included in the study.

In all 12 studies, work environment was deemed to consist of the physical work environment, workgroup cohesion, nurse–physician relations, procedural justice, job satisfaction, support for professional development, adequacy of staffing, good collaboration between physicians and nurses, and organisational autonomy. The majority of studies defined quality of care as the nurses' perceptions of the care they delivered to patients. Other dimensions measured included staff characteristics, human-orientated activities, task-orientated activities, patient outcomes, and patient safety.

Relationship between work environment and quality of care

Table 2 shows the main findings of each of the 12 studies regarding the relationship between work environment and quality of nursing care, along with the country the research was conducted in and the conceptual framework used, if applicable. Most studies reported a positive and direct relationship between work environment and quality of nursing care. Only one study found that work environment indirectly influenced quality of care through job satisfaction and levels of nurse burnout (Liu and Aunguroch, 2017).

Discussion

This review demonstrates that there is strong evidence for the relationship between work environment and quality of nursing care, which applies across several different countries.

Nurses in hospitals with better work environments were half as likely to report poor care quality (Aiken et al, 2012; Coetzee et al, 2013). The results also suggest that there are several important aspects of work environment that can influence care quality. For example, adequate staffing levels was an important factor in whether nurses perceived the quality of care provided as high (Hinno et al, 2011; Zander et al, 2013; Cho and Han, 2018). A sense that management were supportive and office procedures were fair was also a reoccurring factor influencing care quality in the studies (Hinno et al, 2011; Djukic et al, 2013; Zander et al, 2013; Oshodi et al, 2017). This suggests that management factors and access to adequate resources are particularly important aspects of work environment that can influence the quality of nursing care delivered. This aligns with Kanter's (1993) theory that social and structural factors in the work environment are essential for empowering employees to accomplish their work.

The findings of this review suggest that healthcare leaders should target improving the work environment to improve nurse performance, using quality of care as an outcome measure. They also indicate that interventions to improve work environments should focus on providing managerial and organisational support, as well as access to resources and opportunities. However, further research is needed into variations between workplaces to gain an understanding of what an optimal workplace would look like for specific organisations. This would allow tailored interventions to be designed to improve quality of nursing care. Longitudinal studies would also be appropriate to track the effects of changing the work environment on staff wellbeing, care quality and patient outcomes.

Limitations

Only four studies included in this review used a theoretical framework, which may be detrimental to the results, as these frameworks can provide a rationale to conceptual models and help to test the relationships between ideas and variables. It should also be noted that the articles reviewed in this study come from several different countries across five continents, thus more location-specific research may be required before specific interventions can be

Table 2. Relationship between work environment and quality of nursing care, as shown in the literature			
Study reference	Conceptual framework	Country/countries	Main findings
Cho and Han (2018)	Person environment occupation performance model	South Korea	Nurses in organisations with sufficient staffing and resources were more likely to perceive their performance quality as high ($\gamma=0.071$, $P=0.039$)
Boonpracom et al (2018)	Structure-process-outcomes model	Thailand	Work environment had direct positive effects on perceived of quality of care ($P<0.001$)
Liu and Aunguroch, (2017)	Nurse work environment, nurse staffing and outcome model	China	Work environment indirectly influenced nurse quality of care ($b=0.30$, $P<0.001$) through job satisfaction and burnout
Oshodi et al (2017)	None	England	Ward manager support ($\beta=0.22$, $t=2.86$, $P<0.01$), concern for patients ($\beta=0.18$, $t=2.16$, $P<0.05$) and working as a team ($\beta=0.27$, $t=3.35$, $P<0.01$) were all significant predictors of high self-reported care quality. Constraints on nursing practice was a predictor of lower self-reported care quality ($\beta=-0.11$, $t=-2.00$, $P<0.05$)
Ma et al (2015)	None	USA	Nurse work environment was significantly associated with whole-unit quality of care, even after specific unit and hospital characteristics were controlled ($\beta=16.14$, $P<0.001$)
Anzai et al (2013)	None	Japan	A positive work environment was a predictor of better care quality and ward morale. Staffing and resource adequacy were found to be particularly important factors
You et al (2013)	None	China and Europe	Work environment was significantly associated with quality of care (odds ratio=0.74 (0.59–0.92), P value=0.008
Zander et al (2013)	None	Belgium, England, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Poland, Spain, Sweden and Switzerland	The most important factors supporting good quality care were an adequate number of staff, up-to-date patient care plans and supportive management. Good collaboration between physicians and nurses was also a significant positive factor
Aiken et al (2012)	None	Belgium, England, Finland, Germany, Greece, Ireland, the Netherlands, Norway, Poland, Spain, Sweden and Switzerland	Nurses in hospitals with better work environments were half as likely to report poor care quality (adjusted odds ratio=0.56, 95% confidence interval 0.51–0.61)
Coetzee et al (2013)	None	South Africa	Nurses in hospitals with more favourable practice environments were approximately half as likely to report poor quality of care
Djukic et al (2013)	A work system design model	Columbia	Positive correlations were found between care quality and perceptions of physical work environment (4.99), workgroup cohesion (1.69), nurse-physician relations (1.40), procedural justice (1.34), and job satisfaction (1.26)
Hinno et al (2011)	None	The Netherlands	There were positive associations between nurses' perceptions of their work environment and their evaluations of the quality of care provided. Nurses who agreed that they had support for their professional development and good management were also more likely to perceive the quality of care in their unit as high ($P=0.001$). Those who expressed more negative feelings about the adequacy of staffing were more likely to perceive the quality of care as lower ($P=0.0005$)

Key points

- A systematic review revealed that the majority of research shows a direct relationship between work environment and quality of nursing care.
- Factors that significantly contributed to work environment included support from management and access to adequate resources, particularly staffing levels.
- Interventions aiming to improve quality of nursing care should focus on improving the work environment.

designed. Finally, no longitudinal studies were included in this review, suggesting that more studies of this type are required to develop a better understanding of the long-term impact of work environment on quality of care.

Conclusions

The results of this review strongly suggest that there is a direct relationship between work environment and quality of care in nursing. Factors that were of particular importance were support from management, adequate staffing and access to opportunities. Previous research suggests that quality of care can have a significant impact on patient outcomes, while work environment can influence staff retention. Given the shortage of nurses experienced worldwide, it is thus recommended that healthcare leaders target improvements to the work environment, using quality of care as an outcome measure.

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Conflicts of interest

The authors declare that there are no conflicts of interest.

References

- Aiken LH, Sermeus W, Van den Heede K et al. Patient safety, satisfaction, and quality of hospital care: cross sectional surveys of nurses and patients in 12 countries in Europe and the United States. *BMJ*. 2012;344(2):e1717–e1717. <https://doi.org/10.1136/bmj.e1717>
- Anzai E, Douglas C, Bonner A. Nursing practice environment, quality of care, and morale of hospital nurses in Japan. *Nurs Health Sci*. 2013;16(2):171–178. <https://doi.org/10.1111/nhs.12081>
- Boonpracom R, Kunaviktikul W, Thungjaroenkul P et al. A causal model for the quality of nursing care in Thailand. *Int Nurs Rev*. 2018;66(1):130–138. <https://doi.org/10.1111/inr.12474>
- Cho H, Han K. Associations among nursing work environment and health-promoting behaviors of nurses and nursing performance quality: a multilevel modeling approach. *J Nurs Scholar*. 2018;50(4):403–410. <https://doi.org/10.1111/jnu.12390>
- Christian MS, Garza AS, Slaughter JE. Work engagement: a qualitative review and test of its relations with task and contextual performance. *Person Psychol*. 2011;64(1):89–136. <https://doi.org/10.1111/j.1744-6570.2010.01203.x>
- Cline D, Reilly C, Moore JF. What's behind RN turnover: uncover the real reason of nurses leave. *Nurs Manage*. 2003;34(10):50–53
- Coetzee SK, Klopper HC, Ellis SM et al. A tale of two systems—nurses practice environment, well-being, perceived quality of care and patient safety in private and public hospitals in South Africa: a questionnaire survey. *Int J Nurs Stud*. 2013;50(2):162–173. <https://doi.org/10.1016/j.ijnurstu.2012.11.002>
- Coster S, Watkins M, Norman IJ. What is the impact of professional nursing on patients' outcomes globally? An overview of research evidence. *Int J Nurs Stud*. 2018;78:76–83. doi:10.1016/j.ijnurstu.2017.10.009

- Djukic M, Kovner CT, Brewer CS et al. Work environment factors other than staffing associated with nurses' ratings of patient care quality. *Health Care Manage Rev.* 2013;38(2):105–114. <https://doi.org/10.1097/hmr.0b013e3182388cc3>
- Gómez-García T, Ruzafa-Martínez M, Fuentelsaz-Gallego C et al. Nurses' sleep quality, work environment and quality of care in the Spanish National Health System: observational study among different shifts. *BMJ Open.* 2016;6(8):e012073. <https://doi.org/10.1136/bmjopen-2016-012073>
- Hinno S, Partanen P, Vehviläinen-Julkunen K. Hospital nurses' work environment, quality of care provided and career plans. *Int Nurs Rev.* 2011;58(2):255–262. <https://doi.org/10.1111/j.1466-7657.2010.00851.x>
- Institute of Medicine. *Crossing the quality chasm: a new health system for the 21st century.* Washington DC: National Academy Press; 2001
- Kanter RM. *Men and women of the corporation.* New York: Basic Books, 1993
- Liu Y, Aunguroch Y. Factors influencing nurse-assessed quality nursing care: a cross-sectional study in hospitals. *J Adv Nurs.* 2017;74(4):935–945. <https://doi.org/10.1111/jan.13507>
- Ma C, Olds DM, Dunton NE. Nurse work environment and quality of care by unit types: a cross-sectional study. *Int J Nurs Stud.* 2015;52(10):1565–1572. <https://doi.org/10.1016/j.ijnurstu.2015.05.011>
- McHugh MD, Stimpfel AW. Nurse reported quality of care: a measure of hospital quality. *Res Nurs Health.* 2012;35(6):566–575. <https://doi.org/10.1002/nur.21503>
- National Quality Board. *Commissioning for quality: views from commissioners.* 2013. <https://www.england.nhs.uk/blog/paul-husselbee-2/> (accessed 22 September 2020)
- Oshodi TO, Crockett R, Bruneau B et al. The nursing work environment and quality of care: a cross-sectional study using the Essentials of Magnetism II Scale in England. *J Clin Nurs.* 2017;26(17–18):2721–2734. <https://doi.org/10.1111/jocn.13783>
- Recio-Saucedo A, Dall'Ora C, Maruotti A et al. What impact does nursing care left undone have on patient outcomes? Review of the literature. *J Clin Nurs.* 2018;27(11–12):2248–2259. <https://doi.org/10.1111/jocn.14058>
- Schneider A, Wehler M, Weigl M. Effects of work conditions on provider mental well-being and quality of care: a mixed-methods intervention study in the emergency department. *BMC Emerg Med.* 2019;19(1):1. <https://doi.org/10.1186/s12873-018-0218-x>
- Sloane DM, Smith HL, McHugh MD et al. Effect of changes in hospital nursing resources on improvements in patient safety and quality of care: a panel study. *Med Care.* 2018;56(12):1001–1008. <https://doi.org/10.1097/MLR.0000000000001002>
- Whittemore R, Knafl K. The integrative review: updated methodology. *J Adv Nurs.* 2005;52(5):546–553. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>
- World Health Organization. *The World Health Report—working together for health.* 2006. https://www.who.int/whr/2006/whr06_en.pdf?ua=1 (accessed 20 April 2021)
- World Health Organization. *National health workforce accounts: a handbook.* 2017. <https://apps.who.int/iris/bitstream/handle/10665/259360/9789241513111-eng.pdf> (accessed 20 Apr 2021)
- You L, Aiken LH, Sloane DM et al. Hospital nursing, care quality, and patient satisfaction: cross-sectional surveys of nurses and patients in hospitals in China and Europe. *Int J Nurs Stud.* 2013;50(2):154–161. <https://doi.org/10.1016/j.ijnurstu.2012.05.003>
- Zander B, Dobler L, Busse R. The introduction of DRG funding and hospital nurses' changing perceptions of their practice environment, quality of care and satisfaction: comparison of cross-sectional surveys over a 10-year period. *Int J Nurs Stud.* 2013;50(2):219–229. <https://doi.org/10.1016/j.ijnurstu.2012.07.008>