

Adequate Resources as Essential Component in the Nursing Practice Environment: A Qualitative Study

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ABSTRACT

Introduction: Attracting and retaining well qualified nurses to develop healthcare systems and ensure patient safety is a global concern. In this regard, the quality of the practice environment plays a crucial role.

Aim: To explore Iranian nurses perception on the key constituents of the nursing practice environment.

Materials and Methods: This study was conducted using a qualitative approach. Twelve participants were purposively selected from five teaching hospitals in Shiraz, Iran. Data was collected through semi structured interviews, and analysed using qualitative content analysis.

Results: Data analysis led to the extraction of two categories of 'adequate staff', with two subcategories of balanced workload

and well qualified nurses, and 'adequacy of physical resources', with subcategories of equipment adequacy and appropriate physical structure as key elements of the nursing practice environment.

Conclusion: Imbalanced workloads, inappropriate nurse-patient ratios, and inadequate physical resources negatively affected nurse's perceptions of the quality of the nursing practice environment. The findings provide baseline data for health policymakers in different national and global areas to remodel the practice environment. The improvement of the practice environment, with adequate staffing levels and appropriate allocation of physical resources, is achievable to resolve this challenge and thus improve outcomes.

Keywords: Content analysis, Physical resources, Workloads, Workplace

INTRODUCTION

Global health systems have entered a critical period regarding human resources. The lack of well qualified nurses has been considered as one of the most important barriers to achieve effective healthcare systems [1]. However, the provision of well qualified nurses and appropriate nurse-patient ratios play a vital role in ensuring patient safety [2]. Low levels of staff, increased workloads and unstable working environment are related to adverse patient outcomes, including an increase in mortality rate, falls, and medication errors [2,3].

In recent years, the issue of nursing shortage in Iran has become a concern for managers, and a major challenge for healthcare systems. In 2008, it was estimated that there were 90,026 nurses in Iran's healthcare system, but there should be 2,20,000 nurses to deliver ideal levels of health care [4,5].

The long term workforce shortage has negatively affected nurses' perceptions of the quality of the practice environment [6]. The evidence indicates a strong link between the elements of the nursing practice environment, patient outcomes and nurses' satisfaction [7-9]. As a result, the practice environment experienced by nurses has received significant attention from scholars at a global level [10]. The nursing professional practice environment is defined as organisational properties that facilitate or constrain nursing professional practice [11]. According to the International Council of Nurses (ICN), to create a positive practice environment, appropriate support is needed to attract and retain nurses, so that positive consequences can be achieved for patients and nurses' satisfaction can be ensured. The ICN encourages national nursing organisations to disseminate information about nurses' working conditions [12]. In contrast, unhealthy work environment is among the most important reasons for nurses' dissatisfaction, characterised by high levels of

stress, high workloads, a lack of nurses and resources, staggering physical demands, and poor interprofessional communications. These are important reasons for burnout and dissatisfaction [13].

Many factors affecting the retention of nurses have been linked to elements in the practice environment, so it is relevant to examine whether nursing practice environments with different contexts, cultures and structures of health systems can play a role in this regard or not. Nurses' perceptions of the practice environment and planned strategies aimed at employing and retaining staff are important; thus, promotion of care is taken into account as an important national necessity and a significant international challenge [14].

Nurses in different countries have different views about practice environments [11], therefore it is necessary to clearly explore nursing practice environments within the social and cultural context of every society. To discover and explain the nature of the issue at hand, the qualitative research approach is more suitable. It is a kind of social study, in which people define and interpret their experiences and the world in which they live [15]. Moreover, employing a qualitative approach is appropriate in explaining complex, culture-based concept [16].

This study is a part of a larger research project, aimed at exploring Iranian nurses' perceptions on the key constituent of the nursing practice environment.

MATERIALS AND METHODS

In this study, a qualitative design was used, with a conventional content analysis approach. Twelve staff nurses, supervisors, and head nurses working in different wards of five teaching hospitals affiliated with the Shiraz University of Medical Sciences, Shiraz, Iran, were selected through a purposive sampling method. Participants

were chosen with maximum variations.

Inclusion criteria included having a bachelor's degree, work experience of at least two years, willingness to participate and, sharing insights about their experiences related to the topic of investigation. Data were collected through semi structured one-on-one interviews from July 2015 to February 2016 by the first author. Persian language interviews started with open ended questions, and the participants were asked to explain their experiences of working in the present work unit in detail. Based on participants' answers, and using probing questions (e.g., 'explain more about your experiences by giving examples') the interviews developed further. Each interview lasted 30 to 60 minutes. Interviews were held until data saturation was obtained and the categories became repetitive. All of the interviews were audio recorded and transcribed verbatim.

Ethical approval: The study was approved by Research Ethics Committee of Shiraz University of Medical Sciences. All participants were fully informed about the purpose of the study. Written informed consents were also obtained from the participants regarding voluntary nature of their participation and that they could withdraw at any time.

Data analysis: Simultaneously with the data collection, data analysis was carried out using MAXQDA Software (Version 2007) with a conventional qualitative content analysis method. This method is an inductive method, in which the researcher carries out precise and continuous examinations of the data to extract categories and themes from the raw data. Based on the participants' descriptions, "meaning units" were specified and coded. Using a reduction and compression process, similar codes were extracted and classified. Afterwards, subcategories, categories and themes were formed.

Trustworthiness is achieved through data credibility, transferability and confirms ability [15]. To ensure the creditability of the data, constant comparative analysis, and prolonged engagement, peer debriefing, and member check were utilised. An external check was used to ensure the dependability of the data. In doing so, parts of the interview script, along with relevant codes and stabilised categories, were sent to some external peers so that they could confirm the analysis process and its correctness. Furthermore, an audit trial was employed to approve the codes.

RESULTS

Participants included 12 nurses and their demographic characteristics are summarized in [Table/Fig-1]. The qualitative content analysis of the interviews led to the extraction of two main categories: staff adequacy and physical resources adequacy.

1. Staffing Adequacy

Registered nurses RN (N=12)
Gender: Male (2), Female (10)
Age (years) : Between 25 to 48
Highest education level: Bachelor (9), Master (3)
Present unit: Neurology (2) Hematology /oncology (2) Emergency Room (2) Operation Room (2) Prenatal (1) ICU (2) Internist supervisor (1)
Rank: Staff Nurse (9) Head Nurse (2) Supervisor (1)
Years of experience: Mean =12 Between 2 to 22 years
[Table/Fig-1]: Demographic characteristics of participants.

Staffing adequacy was one of the main categories, with two subcategories: balanced workload and well qualified nurses.

1.1. Balanced workload: The nurses' descriptions of their experiences within the work environment indicated that an imbalanced workload was the most important cause of stress, dissatisfaction and burnout in the work environment. Inappropriate nurse-patient ratios, high workloads, overtime, rapid turnover of patients, and conducting non-nursing tasks were the major constituents of imbalanced workloads. The participants believed that inadequate staffing and heavy workloads threatened patient safety and care quality.

Participant 7 commented on inappropriate nurse-patient ratios and time pressures, and their consequences:

In general wards, the proportion of nurse to patient is one to seven. A nurse who is in charge of seven or eight patients has to work fast. She wants to work fast, and her safety may be endangered. Her concentration may drop, and she may needle herself. It can also affect the quality of care.

Work pressure, stress and nursing staff shortages were among the most important reasons of a decrease in motivation, job dissatisfaction, and staff turnover.

Participant 12 stated: *In our ward, the proportion of nurse to patient is one to ten. Our ward is very stressful. There is a high workload and patient turnover. I don't like working in this ward at all. I've decided to go to another hospital.*

Imbalanced workloads and overtime can result in excessive fatigue and reduced productivity.

Participant 9 stated: *I work in an emergency ICU ward. I work a lot of shifts per month. I feel exhausted. I feel I'm fed up. I have no energy to accomplish my duties.*

Inadequate staffing leads to overtime which is the reason for job dissatisfaction.

Participant 6 stated: *I like to work as much as I can. When my shifts increase from six to seven, one shift may seem unimportant, but sometimes I can't handle that one shift. I feel I'm abused.*

Heavy workloads, boring environments, and the lack of possibility to ask for days off lead to emotional exhaustion and a tendency to absenteeism. Participant 6 referred to a decrease in taking responsibility and commitment, and absenteeism:

The feeling of fatigue and dissatisfaction cause you to become someone to do your work and leave, or to get days off for any excuses like sick leave, or call and say I won't attend work today...

An increase in paperwork, excessive documentation, and sometimes carrying out non-nursing tasks cause imbalanced workloads, nurses' dissatisfaction, and consequently burnout.

Participant 10 stated: *Sometimes some of my co-workers are only busy with writing notes and preparing documents. Moreover, nurses are more involved with non-nursing tasks. I have to carry out side tasks, which causes disruption and a gap in the care I provide. These are causes of burnout.*

1.2. Well qualified nurses: Having well qualified nurses was a subcategory of nursing adequacy. In the participants' opinions, the nurses working in most wards are young, inexperienced and do not have enough clinical qualifications. In their opinion, staffing adequacy not only refers to an adequate number but also means enough nurses who are qualified in terms of both theoretical knowledge and technical skills. Skilled nurses can utilise critical thinking and thus make timely and proper clinical decisions.

Participant 1 mentioned: *It is more important to have an expert and skillful workforce. There should be a scientific base. Our problem is that newly employed nurses do not have sufficient theoretical and practical knowledge. We need to start from the basics and teach them. This is time and energy consuming. When the scientific base*

is poor, the individual will have low confidence at work; therefore, she will do her duties with doubt. It also affects her decisions. It takes longer for her to make decisions, and her efficiency will drop.

Furthermore, staffing, along with skill, should be considered more as attributes that contribute to the quality of the care. The results of our study showed that an imbalanced workload is an important factor in predicting turnover, burnout and dissatisfaction among nurses in the practice environment.

2. Physical Resources Adequacy

Adequate physical resources are the second main category extracted in the present study, which consisted of two subcategories: sufficient and appropriate equipment, and appropriate physical structure.

2.1. Sufficient and appropriate equipment: The participants acknowledged the important role of physical resources, such as sufficient and modern equipment in the workplace, as the facilitators of care and medical processes. In their opinion, inadequate equipment is one of the most important barriers in care environments, which leads to disruption, missed care or delay in delivery of care, and emotional tensions.

Participant 3 stated: *I think equipment and facilities in nursing workplace are very important. They affect both the patient and the relationship between nurses and the level of their satisfaction.*

The availability of sufficient modern equipment in the workplace plays a key role in facilitating care delivery, a decrease in stress, no delay to care, and patient satisfaction.

2.2. Appropriate physical structure: Sufficient physical space and an appropriate structure of wards was the other subcategory of physical resources adequacy.

Participant 7 stated: *In the ICU, the space between patients is not suitable. Patients are near each other. In the ICU, due to different devices installed over the patient's head, the units should be separated. When things are messed up, the nurse may needle herself or cause physical harm to herself.*

Inappropriate physical structure and high patient turnover affect the performance of the staff.

Participant 9 stated: *The emergency ward is very crowded. There are not enough beds. Due to the inappropriate physical structure of the ward and improper air conditioning, there is a high level of CO₂. In such an atmosphere, one cannot function appropriately mentally.*

Adequate equipment, sufficient physical space, light, and proper air conditioning are necessary to the safety of the nurses and the patients. Crowded wards with high levels of turnover and poor physical environments lead to serious physical harm to the patients and nurses.

DISCUSSION

The results of the current study demonstrate that adequate staff and physical resources are two highlighted components in the nursing practice environment that affect nurses' perceptions of the quality of the nursing practice environment.

The participants mentioned heavy workloads, inappropriate nurse-patient ratios, overtime, time pressure, and increased documentation, are the factors link to dissatisfaction, exhaustion, stress, and undesirable levels of care. Aiken LH et al., in nine European countries indicated that the educational qualifications of nurses and patient-nurse ratios were associated with patient outcomes [2]. They argued that an increase in nurses' workload by one patient increased the probability of mortality within 30 days of admission by 7% and that every 10% increase in the number of nurses with a bachelor's degree was accompanied by a decrease of about 7% in mortality rate. Work environment attributes have a considerable effect on nurses' job satisfaction and intent to leave.

An investigation into nurses' perceptions of the practice environment attributes indicates that, among the different aspects of the nursing work environment, adequate staff and resources have a remarkable effect on the levels of job satisfaction. Numerous studies confirm the undeniable correlation between adequate staff levels and outcomes [17,18]. The nurses who work in environments with adequate staff levels reported better and more positive experiences of care quality [19]. According to the results of the study, most of the nurses suffered from working long shifts, overtime, and night shifts in their work environment. A study conducted in Iran identified that almost three out of four nurse's work overtime [20].

A significant aspect of workload was time pressure, which contributed to failure in accomplishing duties, hastening working speed, reducing concentration, and injuries. These factors increase the occurrence of adverse events. The literature indicates that time pressure reduces nurses' ability to diagnose patients' needs to carry out interventions. It also has an undesirable effect on nurses' ability to evaluate risks, and contributes to their emotional exhaustion and nursing shortage [21]. In addition, a reduction in the care quality perceived by the patients has been reported as a consequence of time pressure. From the patients' viewpoint, time pressure decreases nurses' accountability, responsiveness and assurance [22].

Inadequate staff was a very important issue acknowledged by most of the participants. Evidence indicates the correlation between this issue and patient outcomes [18]. A higher patient-nurse ratio, high workload, poor practice environments, and lack of educated nurses in South Korean hospitals accounted for higher mortality in the hospitals, which is preventable. In this study, the nurse-patient ratio was reported as 1:11.4 [23]. This figure in the United States is 1:5.7 [24], in Finland it is 1:5.5, in Sweden it is 1:5.4, and in Norway it is 1:3.7 [25]. In Iran, there are no reliable statistics. According to the reports published by the Ministry of Health and Medical Education, There are 1,10,000 active beds in Iran; therefore the nurse-to-bed ratio is estimated to be 0.8 [4].

In developed countries, technological advances, a large population of elderly people, and the shift of diseases toward chronic diseases have increased demand for healthcare remarkably. With increasing demand, there has also been a sharp decrease in the number of skilled nurses [1]. Ageing workforces in the United States and Western countries is a major challenge which has led to a nursing shortage [10] while, in Iran, the factors related to this problem are different to those of other countries.

Every year, a large number of young nursing students graduate from different universities in Iran. The number of nursing faculties and their capacity for student admission is increasing; therefore, concern with the educational system is not the case in Iran as it is in Western countries. After the graduates enter the work environment, they usually experience poor practice environments, along with work pressure, lack of resources, low salaries, and reduction in employment permission due to financial restrictions; therefore, they leave their profession after a short time. High nurse turnover rates adversely affect productivity and costs [4]. Lindfors K and Junnila K also report that newly graduated nurses do not have enough knowledge and self confidence to carry out their responsibilities [26]. In addition, critical thinking and clinical decision making are difficult for them.

Adequacy of physical resources was the second major category in the nursing practice environment. Accessible and modern facilities and equipment are essential components in improving the quality of nursing care. Based on some of the nurses' perspectives, lack of physical resources and poor working conditions are key stressors that decrease job satisfaction. The findings of our study are in line with those of studies carried out previously [27]. The evidence shows the lack of modern equipment and medical supplies affect the quality of care and increase workplace stress on staffs [27,28]. Blackman I et al., reported that inadequate physical resources and

equipment were one of the most important factors predicting missed care [29]. In addition, our findings showed that sufficient space, an appropriate physical structure of wards, and natural light are also among the necessary attributes that affect the productivity of staff. The physical environment as a part of the practice environment plays a considerable role in nurses' perceptions, interdisciplinary communications, and job satisfaction.

Although adequate staff and physical resources are as the main categories in this study, this is in agreement with those of other studies published in developed countries [1]. The factors involved in the nursing shortage in Iran are different from those in Western countries [4]. Knowing these factors can help policymakers to resolve this challenge. Awareness of the background difference is also important in generalising and applying research results in other centers or countries [30].

One of the strengths of the study is the collection of the data from participants in a real milieu, which presents a deeper insight into the reality to identify nurses' perceptions of the necessary elements of the practice environment.

LIMITATION

The focus of the current study was more on adequacy of staff and resources as key elements that promote the nursing practice environment. Certainly these findings cannot solely reflect all factors affecting the retention of nurses. Other characteristics of the practice environment, including insufficient salary, poor support systems, ineffective interprofessional communications, and lack of autonomy, are also relevant to the nursing shortage crisis in Iran; these issues are not mentioned in the present study. Another limitation was the lack of generalisability of the results due to the purposive selection of the participants.

CONCLUSION

The findings indicated that the practice environment as perceived by nurses plays a vital role in attracting and retaining skilled and experienced human resource. Inadequate resources, unfavorable nursing work environments, heavy workloads, and stressful practice environments are important challenges that the Iranian healthcare system is facing, with a nursing shortage despite the large number of young nurses.

Due to the different practice environments and context in Iran compared to developed countries, the findings can be considered as basic information for nursing managers and healthcare policymakers at regional, national and international levels to enhance and remodel the practice environment and eliminate the barriers that can restrict nurses' performance.

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