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Physicians' and nurses' perceptions of patient safety risks in the emergency department

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ABSTRACT

The emergency department has been described as a high-risk area for errors. It is also known that working conditions such as a high workload and shortage off staff in the healthcare field are common factors that negatively affect patient safety. A limited amount of research has been conducted with regard to patient safety in Swedish emergency departments. Additionally, there is a lack of knowledge about clinicians' perceptions of patient safety risks. Therefore, the purpose of this study was to describe emergency department clinicians' experiences with regard to patient safety risks.

Method: Semi-structured interviews were conducted with 10 physicians and 10 registered nurses from two emergency departments. Interviews were analysed by inductive content analysis.

Results: The experiences reflect the complexities involved in the daily operation of a professional practice, and the perception of risks due to a high workload, lack of control, communication and organizational failures.

Conclusion: The results reflect a complex system in which high workload was perceived as a risk for patient safety and that, in a combination with other risks, was thought to further jeopardize patient safety. Emergency department staff should be involved in the development of patient safety procedures in order to increase knowledge regarding risk factors as well as identify strategies which can facilitate the maintenance of patient safety during periods in which the workload is high.

1. Introduction

The emergency department (ED) has been described as a high-risk area where errors commonly occur [5,13,14]. An error is defined as a failure made in the process of care that results in, or has the potential to result in harm to patients [24]. Working conditions in the ED such as a high workload and staff shortages have been identified in surveys and interviews with ED staff members as common stressors and described as important patient safety concerns [11,36]. In addition, inadequate equipment, inexperienced staff [19,38,42], overcrowding and interruptions [6,9,26,29,43] have been reported to affect staff performance which has the potential to result in harm to patients. The Swedish National Board of Health and Welfare has reported that high workload and long waiting times for triage and medical assessment constitute risks for errors in ED care [41].

Working conditions affect humans and their behavior [45], and from a patient safety perspective, it is important to identify conditions that affect a clinicians' work performance and which may contribute to errors. Studies from the healthcare context have shown that working conditions such as a high workload and shortage of staff are associated with compromised patient safety [16] including mortality [1]. Furthermore, negative conditions may affect the performance of registered nurses' (RN). Conditions, such as insufficient staffing and resources, were strongly related to RNs reporting their perceptions of poor patient safety [37]. However, patient safety risks in the ED may differ from risks in other settings because of the uncontrolled and unpredictable workload.

To conclude, studies from the healthcare context and the EDs have shown that working conditions such as a high workload and staff shortages, among other conditions, affect staff performance and might result in harm to patients. However, there

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is limited research regarding patient safety in Swedish EDs, and there is a lack of knowledge regarding physicians and RNs perceptions of patient safety risks. Therefore, the purpose of this study was to describe emergency department physicians and RNs perceptions of patient safety risks.

2. Methods

2.1. Design

In this qualitative study, individual interviews were used to elicit physicians and RNs perceptions of patient safety risks in an ED context [33].

2.2. Study setting and sample

The study was conducted in 2012 at two Swedish EDs for adults including a large urban university hospital with about 82,000 annual visits and a medium-size county hospital with about 58,000 annual visits. In Sweden, EDs are organised based on different medical specialties (e.g., internal medicine, surgery and orthopaedics). The physicians in the ED are traditionally consultants, residents and junior doctors from different specialities that are scheduled on an on-call basis. The staff consists of registered nurses (RNs) and licensed practical nurses (LPNs). The RNs are responsible for nursing care, medical-technical tasks and prepare and administrate all medications. To achieve varied and rich data, a purposeful sample of 20 participants was recruited. Variation was sought based on profession, gender, age and length of work experience from the ED. The participants should have had at least three years of professional experience with ED care. The sample was comprised of 10 physicians (residents in surgery, internal medicine, or emergency medicine) and 10 RNs, five from each ED. The reason for including these professional groups was to get a comprehensive perspective of patient safety risks in the ED and they hold professional roles characterized by cognitively demanding tasks that may expose the patient to risks. Two members of the research group that were familiar with the EDs, together with the managers, selected the participants. The participants' age between 30 to 60 years, 11 were women, and their ED experience ranged between 3 and 30 years.

2.3. Data collection and procedure

Each one of the potential participants received an e-mail in which the purpose and methods of the study, as well as the rights of the participants were described. Attached to this e-mail was a consent form which all of the participants were required to sign. Those who chose to participate were then contacted by professional interviewers via e-mail to schedule, at the time of their choosing, the telephone interview. The interviews were conducted in December 2012 by two professional interviewers with experience in the healthcare sector and each interview lasted between 12–57 min (the mean interview time was 30 min). All interviews were audio-recorded and transcribed verbatim by the professional interviewers.

The interview guide was developed by the researchers and pilot-tested by the first author while the professional interviewers were listening. The pilot-test resulted in a rearranging of the order of some of the questions, however no change in content was needed. The semi-structured interview began with a questions regarding the participants' experiences of patient safety risks in the ED: "do you have experience of situations or circumstances in the ED where you have felt that patient safety was compromised?" and the following question was; "have you been involved in situations where you felt that patient safety was compromised?" The participants' were then asked to describe the events or circumstances that were perceived as risks.

2.4. Research Ethics

The study was approved by the Research Ethics Review Board in Stockholm (Dnr: 2012/2237-32). The medical directors at the participating EDs gave written permission to conduct the study. According to declaration of Helsinki general ethical principles [47] on research involving humans, a written informed consent was obtained from all participants prior to the interviews. The participants were informed about their rights and that they could withdraw from the study at any time without any explanation.

2.5. Analysis

The interviews were analysed using inductive content analysis, focusing on the manifest content [15,33]. The text from each interview was read several times to achieve a general sense of the whole. The unit of analysis was text relating to the physicians and RNs perceptions of patient safety risks. The text within the unit of analysis was extracted into meaning units; the meaning units were then condensed and coded [15]. The codes were sorted into subcategories which were aggregated into broader categories (Table 1). Each step of the analysis was discussed within the research team. In order to maintain consistency with regard to the core concept throughout the analysis, there was movement back and forth between the complete interview texts, the meaning units, the condensed texts, the codes, the subcategories and the main categories. A discussion regarding the analysis continued until consensus was reached in the research group.

3. Results

Physicians' and RNs perceptions of patient safety risks are divided into four categories: high workload, lack of control,

Table 1
Examples of the analysis of ED physicians' and RNs perceptions of patient safety risks.

Meaning unit	Condensed meaning unit	Code	Subcategory	Category
If we have many patients arriving at the same time we may deviate from the regulations for patient safety that we have. If one abandons the regulations, obviously it is a deviation from the goal of patient safety. I do not have any concrete example, but I know that this may happen when workload is high. It may be hard to avoid when there are many patients at the same time (p 12)	*Many patients arriving at the same time, one abandon the regulations for patient safety. If one abandons the regulations, obviously it is a deviation from that goal*	*High workload may lead to deviations from regulations for patient safety.*	High patient load	High workload
When there is a lot to do, my experience is that communication is lacking. When you are busy performing your task with the aim to move forward, the communication between teams is lacking (n 1)	*When there is a lot to do, the communication is lacking because you are too busy to come forward*	*The communication fails when there is a high workload*	Communication flaws	Communication failure

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