Factors Affecting Patient Safety Culture and Medical Error Incidence in Emergency Services

Acil Serviste Hasta Güvenliği Kültürünü ve Tıbbi Hata Görülme Oranını Etkileyen Faktörler

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Abstract

Emergency service is a unit with unique working conditions where necessary precautions are taken in order to prevent deterioration of health condition of a person who has a health problem due to any reason. Emergency service is a very complex unit with high patient load when compared with other units of the hospital. Emergency units accept patients requiring acute medical care. On the other hand situations such as the highly populated patients in the emergency service and inadequate number of healthcare professionals, crowdedness of the working environment, communication insufficiency, problems with teamwork, interruption of the activities and assignment of multiple missions threaten patient safety and may increase tendency to make medical errors.

Keywords: Emergency service, medical error, patient safety

Öz

Acil servis, sağlığı herhangi bir nedenle bozulmuş bir kişinin, o andaki sağlık durumunun daha da kötüleşmesini engellemek amacıyla gereken önlemlerin alındığı, kendine özgü çalışma koşulları olan birimlerdir. Acil servis, hastanenin diğer bölümleriyle karşılaştırıldığında yüksek hasta yüküne sahip, oldukça karmaşık ünite olarak görülmektedir. Acil servisler, akut bakım gereksinimi olan hastaları kabul etmektedir. Bununla birlikte, acil serviste yaygın olarak görülen hasta sayısının fazlalığı, çalışan sağlık bakım profesyoneli sayısının azlığı, iletişim yetersizliği, ekip çalışması ile ilgili sorunlar, çalışma ortamının kalabalık olması, işlerin kesintiye uğraması ve birden çok görevin yüklenilmesi gibi durumlar hasta güvenliğini tehdit etmekte ve tıbbi hataya eğilimi artırabilmektedir.

Anahtar kelimeler: Acil servis, hasta güvenliği, tıbbi hata

Introduction

The provision of safe patient care is an important issue for the health care system (Kalra, 2004a). Today, health care organizations perform studies and make efforts towards the provision of patient safety, and the interest in the safety culture increases daily (Nieva & Sorra, 2003). The National Patient Safety Agency defines patient safety as "the prevention of errors and the removal or reduction of damage to patients in health services" (The National Patient Safety Agency [NPSA], 2004). Patient safety encompasses many situations and actions that end in real or potential damage to patients such as accidents, medical errors, and preventable side effects. Although patient safety is an important concept that is related to all processes of the health care system, it is also used as an important indicator of quality in the health care provision (Kallberg, 2015). In the literature, it has been stated that patient safety is a basic element of providing high quality in health care services and that decreasing medical errors effectively is tied to the provision of patient safety (Barrett, Gifford, Morey, Risser & Salisbury 2001; Nieva & Sorra 2003). In this context, patient safety applications focus on both potential risk factors related to the care provided to the patient and the prevention of the negative outcomes of care, such as mortality and morbidity (Nieva & Sorra 2003).

The Importance of Patient Safety Culture in Emergency Services

The health care system and the health care professionals that are part of this system are responsible for the safe providing of health care without harming the patient (Ballard, 2003). The provision of safe health services, in turn, depends on the development of patient safety culture in health institutions. The establishment of a patient safety culture in an institution requires medical errors and factors that threaten patient safety to be reported, diagnostic, and therapeutic procedures and care services being performed without harming the patient, and all of the health professionals having the patient safety culture within the context of the working philosophy of the institution and its dynamics (Aydın, 2010; Ozdemir & Sahin, 2015). In this context, in order to provide safe health care services to healthy/ill individuals and to increase the quality of health care organizations, leaders and clinicians should work together and determine the weak points within the organization and the factors affecting them (Wolf & Hughes, 2008).

Since the fast advancements in medicine and technology create a complicated environment for nursing applications, the first principle in health care environments should be the provision of patient safety (Tang, Sheu, Yu, Wei & Chen 2007). Nurses have critical importance with regard to observation and coordination in decreasing negative outcomes regarding patient safety. Although there are many tasks to be completed so as to evaluate the effect of nursing care on positive quality indicators within the context of patient safety goals, firstly the root cause for problems that threatens patient safety should be identified. Nurses should both participate in patient care applications as clinicians and play active roles in improving patient safety (Wolf & Hughes, 2008).

After the study performed by Baker and Norton (2001) to determine patient safety and health care errors in the Canadian health care system, it was found that drug prescription errors, falls from a height and injuries, communication and documentation errors, errors related to transportation and waiting, procedural, and diagnostic errors were the most commonly reported errors among Canadian health care organizations. In the same study, it has been reported that participants had concerns about the identification and monitoring of errors. These include lack of protocol and monitoring strategies in identifying adverse events, prevalent punishment culture in many institutions all of which prevents the correct reporting and reduction of health care errors, and that many errors were ignored since the patient didn't experience any harm. Within this context, in order to improve patient safety it has been suggested that awareness should be raised and priorities should be determined, better reporting systems should be developed, and organizations and policies on patient safety should be construed (Baker & Norton, 2001).

In many developed countries such as the United States of America, United Kingdom and Canada, effective error reporting systems for patient safety culture are being used and accordingly healthy data can be reached on the matter. In Turkey, on the other hand, since the patient safety culture is not at the desired level, the medical error reporting systems are not being used in hospitals in an effective manner, and errors being generally swept under the rug, real data that reflects the current situation cannot be reached (Ozata & Altunkan, 2010). For this reason, it is thought that it is very important for the institution to have a patient safety culture and a multidisciplinary approach that supports error reporting system in order to prevent medical errors (Ballard, 2003).

In hospitals, emergency services, intensive care units and clinical laboratories are defined as areas of potential risk where patient safety is threatened and medical errors are seen more often (Kalra, 2004a). The emergency service, with its busy pace,noisy environment, and complicated and dynamic structure, is an environment where the inclination for medical errors can increase (Burroughs et al., 2005). The emergency service acts as an entry point to the hospital where many patients are admitted into the hospital (Henneman, Blank, Gawlinski & Henneman 2006). The emergency service is a crowded environment where patients are admitted at various times, many tasks are managed at once, many distractions such as work related cuts, unplanned visits, and many patients either in a non-

emergency situation or needing resuscitation are treated. The work load in the emergency service is uncontrolled and unpredictable (Kallberg, 2015). Besides, doctors and nurses who work at emergency services are under great pressure both physically and mentally (Burström, 2014). When compared to other services, the time pressure is very high in the emergency service. For this reason, decisions regarding patients are often made under intense stress (Kallberg, 2015).

Patients usually arrive at emergency services with acute diseases or injuries that require immediate and fast treatment and nurses who work at emergency services sometimes have to start treatment immediately without taking patient history (Kallberg, 2015). Alongside this, many factors such as the great number of patients, the limited number of nurses, working in shifts, serving patients who need intensive care and are about to die, emotional stress related to working conditions, and the excessive number of protocols to be followed increase the possibility of making errors by nurses during health care, treatment, and applications (Croke, 2003; Ersun, Başbakkal, Yardımcı, Muslu & Beytut, 2013). Similarly, in another study on the subject, doctors and nurses were found to list the patient safety risk factors as high workload (great number of critical patients waiting to receive health care etc.), lack of control (interruptions during applications, inexperience etc.) lack of communication and information etc.) and organizational failure (ambiguous emergency service structure, inadequate number of beds and limited resources, electronic patient records etc.) (Kallberg, 2015).

In cases where the patient is not conscious or individuals can't provide enough information on their diseases, emergency service nurses can encounter problems. Research findings regarding patient safety in the emergency service indicate that crowding, interruptions during treatment and applications, multitasking, lack of communication, and problems regarding teamwork threaten patient safety and contribute to accumulation of medical errors (Kallberg, 2015; Burström, 2014).

The patient safety culture and the safety climate are based on the concepts of organizational culture and organizational climate (Burström, 2014). Singer, Gaba, Fallwell, Lin, Hayes and Baker (2009), in a relevant study performed, the authors reported that the patient safety climate changed according to hospitals, workplaces, and disciplines, that emergency service workers perceived the safety climate more negatively, and that the efforts of nurses trying to ensure patient safety were more unfavourable compared to doctors, especially when they worked with doctors feeling more fear and concern.

After a study performed by Hong (2015) to determine the development of safe practices in the emergency services of hospitals, safety attitudes and perceptions, it was stated that nurses play an important role in patient safety since they are in contact with patients 24/7, that the workload of nurses was closely related to patient safety, and that the determination of these risk factors to decrease and eliminate the various risk factors that threaten patient safety in the emergency room and to provide efficient and safe nursing care to patients were very important issues. In another study on the subject, it has been reported that there were significant differences among doctors and nurses with regard to patient safety levels that the most important indicators of safety as stated by emergency room employees were teamwork, incidence of reported events, lack of communication, learning from mistakes and feedback, and support from hospital administration (Verbeek-Van Noord, Wagner, Van Dyck, Twisk & Bruijne, 2014).

After a study performed by Bayar (2013) to evaluate the knowledge and applications of emergency room nurses regarding patient safety, it was found that 91.55% of the nurses had knowledge on patient safety, 50.4% of them found that their level of knowledge was partially sufficient, and that 60.8% of the participants received training on patient safety. In the same study, the reasons for error in nursing applications were stated as insufficient number of health workers by 29.2%, excessive workload by 54.2%, complicated medical care by 8.3%, and individual errors by 8.3% of the nurses. The precautions and sanctions established by their institution in this study were evaluated as being perfect by 12.3%, moderate by 76.9%, and inadequate by 10.8% of the nurses (Bayar, 2013).

In the development of patient safety culture and climate in health care institutions, important roles fall to health care professionals (Cakmakcı & Akalın, 2011). The patient safety culture examines the perceptions, behavior, and skills of individuals, evaluates the success of patient safety applications, and makes comparisons to regulate the safety culture (Al Doweri, Al Raoush, Alkhatip & Batiha, 2015). All health care professionals taking part in the health care system are responsible for safe care without harming the patient (Ballard, 2003), which is closely related to decreasing errors in the health care system and the improvement of the quality of health care. Besides, it is very hard to improve quality in the health care provision system without an effective safety culture to ensure patient safety (Kalra, 2004a).

The Incidence of Medical Errors in Emergency Services

Today, it is known, that every year 108000 people lose their lives as a result of potentially preventable, unwanted, and unexpected injuries that occur as a result of treatments for any disease, and that approximately 3% of these injuries and events occur in the emergency services (Schenkel, 2000). Magid et al., (2009) have also stated that

the emergency services are units where individuals present at unpredictable times and numbers with potentially life threatening events that most of the time there isn't enough space for the provision of care, that emergency rooms serve above capacity, which negatively affects the timely and safe provision of care. In the same study, it was suggested that basic improvements in the design, management, and support of emergency services were required to increase patient safety, and that health care processes should be evaluated to increase information flow between team members working in the emergency unit. In another study performed by Kallberg (2015) in emergency departments in Sweden, it was reported that the excessive workload in the emergency room was a source of concern regarding patient safety among doctors and nurses who especially feel responsible for patient's safety.

In a study on the subject by Fordyce et al., (2003), it was found that 400 errors that threaten patient safety occurred in the emergency room of a hospital in a city center. Nearly half (40%) of these errors were reported by nurses, which were mostly related to elderly people. In the same study, it was found that the errors made were related to diagnostic procedures in 22%, management procedures in 16%, pharmacotherapy in 16%, inadequate documentation in 13, and communication in 12%, and environmental factors. İn 11 % of the cases. While 2% of the errors ended with a negative outcome, and 93% of them didn't cause any side effects, and it was stressed that changes in system should be applied to decrease errors in the emergency service where the errors mostly occurred because of the crowdedness of the emergency services (Fordyce et al., 2003).

In Turkey, 112 cases were evaluated regarding medical errors in emergency room services between the years of 2000 and 2004 and it was decided that in 57 of these cases health care professionals had no fault whereas in 55 cases medical application errors were detected (Turkan & Tugcu, 2004). After a study performed by Mulayimoglu (2012) to determine the views of people attending public education centers regarding patient safety and their experiences with medical errors, it was found that the participants thought medical errors were made mostly by doctors (85%) and nurses (84.7%) with the most widespread reason being lack of communication between patients and health professionals (69.3%). While 33.2% of the participants told that they , and 33.7% of them stated that their relatives were exposed to medical errors , and these errors were caused by additional or lengthened treatment applications for themselves and their relatives.

In a study performed by Altunkan (2009) to determine the medical error rate of nurses, 10.4% of nurses were found to witness an error by teammates that could threaten patient safety. Besides the rate of medical errors throughout the nurses' careers was found to be 6.2%, and the reasons behind medical errors were stated to be excessive workload, small number of nurses, irrelevant tasks being given to nurses, stress, and fatigue. In the same study, the most prevalent medical error types seen in hospitals were reported to be related to hospital infections, pressure wounds, and postoperative complications (Altunkan, 2009).

In a study performed by Rasmussen et al., (2014), participants were found to witness an adverse event 742 times in the past month. Whereas the working environment in the emergency service affected the development of those incidents and the most commonly seen events causing malpractice were missing documents, undone referrals, missing blood tests, and problems regarding the reporting of serious events. Here, the insufficient patient safety climate was stated to prepare ground for the occurrence of side effects. In another study where 74485 patient records were examined to determine the nature and incidence of adverse events and side effects in the hospital, nearly one in every ten patients presenting at the hospital were found to be exposed to a malpractice with a great majority of them taking place in the emergency service. These erroneous applications were mortal in 7.4%, preventable in 43.5%, and related to drugs in 15.1% of the cases (De Vries, Ramrattan, Smorenburg, Gouma & Boermester, 2008).

Croke (2003) stated that many factors such as early discharge, advancing technology, increasing autonomy, greater number of responsibilities imposed on the nurses, and more knowledgeable consumers contributed to increase in the number of medical errors performed by nurses who did not follow healh care standards, and use materials responsibly, in addition to insufficiency and negligence regarding communication, documentation, diagnosis, and monitoring all ending with medical errors.

Kallberg (2015) has reported that the concerns reported by health care professionals, patients, and their relatives regarding medical errors were related to diagnostic procedures, treatment, organizational problems, human factor, and teamwork. They also stated that medical errors often occur during diagnostic procedures, and although interruptions during applications are not viewed as negative occurrences by health care professionals, medical errors usually occur during face to face information exchange between health care professionals and administration of medications. In the same study, the importance of performing root reason analyses to identify hidden errors through the information, training, system approach for the categorization of medical error types, standardization of terms, and making use of event reporting systems easier was stressed (Kallberg, 2015).

Risser et al., (1999) have also reported that teamwork skills have potential effects in decreasing the effects of

medical errors and preventing them in the emergency care environment. Besides, they indicated that more than half of mortalities related to medical errors could be prevented with good teamwork, and improving teamwork increases the quality and reduces the cost of emergency care.

Recent studies on patient safety have indicated that errors are not specific to an individual but associated with drug related errors, system deficiencies, organization or working style. If ineffective policies and applications regarding human resources prevail in an institution with inadequate number of employees, insufficiently trained health care professionals with low motivations, then medical errors and patient safety problems are seen more often. Another important problem in the patient safety culture is the presence of an incrimination culture where professionals avoid identifying and reporting medical errors and safety culture problems because of fear of being accused and punished (Cakmakcı & Akalın, 2011). In a study performed to determine the views of doctors and nurses on the reporting of medical errors, medical errors were stated to stem from system deficiencies and insufficient interpersonal communication i, and it was stressed that to reliminate the problem that caused a medical error, a non-punitive institutional culture should be established first (Kilic, 2009).

Error reporting is foremost among applications related to the prevention of medical errors and the provision of patient safety. Especially stating reasons during error reporting is very important with regard to eliminating errors and ensuring their non-repeatability. When the studies are examined, nurses can be seen to be generally unwilling to report errors (Gülec & İntepeler, 2013; Ozata & Altınkan, 2010), however, this may be associated with many factors such as undesirable level of the patient safety culture in our country, fear of being shamed by coworkers i, the individual being forced to acknowledge his/her error in public, the error being recorded on their permanent record, disciplinary actions, legal cases and punishment, ostracism, and thoughts of his/her career being negatively affected. In a study conducted by Tang et al., in order to prevent the tarnishing of the institutional name, hospitals are unwilling to incentivize employees by writing medical error reports (Tang et al., 2007). Although approaches to the reporting of medical errors change from institution to institution, a study on the subject has stated that 84% of nurses were supported by colleagues, managers and other health professionals regarding reporting medical errors, that 77% had sufficient information and training to report medical errors, and that the most important sources of error in emergency service nursing were related to drug administration issues, missing diagnostic tests and procedures, and insufficient supply of materials (Hohenhaus, 2008).

Health care institutions should immediately implement the best known applications to ensure patient safety and decrease medical errors, simultaneously focusing on research strategies to increase knowledge on error prevention techniques. Additionally, interdisciplinary experience is very important in training and sharing (Kalra, 2004b). Since compared to other departments in the hospital errors in the emergency service environment are potentially more effective on the whole hospital experience of the patient, and emergency service nurses acting as active members of the health team to ensure and improve patient safety are extremely important (Henneman et al., 2006). Nurses have important responsibilities in forming a care environment where the patients can feel safe (Burström, 2014). Since nurses actively participate in studies on quality safety, they undertake important roles in recognizing errors, analyzing them, and taking necessary measures (Cakmakcı & Akalın, 2011).

Conclusion and Recommendations

In order to ensure patient safety in the emergency room and prevent medical errors, information based on the results of the studies that show the differences between countries, regions, and cultures are needed. The results of studies that will be made on the subject are thought to have benefits in the development of appropriate strategies in national action plans towards the prevention of medical errors and provision of patient safety in emergency rooms. Alongside this, in order to provide higher quality and reliable health care and treatment to patients it is very important for nurses to know the factors affecting the patient safety culture and related attitudes.

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