Original Article

Impact of Psychosocial Factors on Occurrence of Medication Errors among Tehran Public Hospitals Nurses by Evaluating the Balance between Effort and Reward

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ABSTRACT

Background: Patient safety and accurate implementation of medication orders are among the essential requirements of par nursing profession. In this regard, it is necessary to determine and prevent factors influencing medications errors. Although many studies have investigated this issue, the effects of psychosocial factors have not been examined thoroughly.

Methods: The present study aimed at investigating the impact of psychosocial factors on nurses’ medication errors by evaluating the balance between effort and reward. This cross-sectional descriptive study was conducted in public hospitals of Tehran in 2015. The population of this work consisted of 379 nurses. A multisection questionnaire was used for data collection.

Results: In this research, 29% of participating nurses reported medication errors in 2015. Most frequent errors were related to wrong dosage, drug, and patient. There were significant relationships between medications errors and the stress of imbalance between effort and reward (p < 0.02) and job commitment and stress (p < 0.027).

Conclusion: It seems that several factors play a role in the occurrence of medication errors, and psychosocial factors play a crucial and major role in this regard. Therefore, it is necessary to investigate these factors in more detail and take them into account in the hospital management.

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1. Introduction

Medical errors are one of the most common threats to patient safety. About one of 10 patients was harmed during hospitalization due to medical errors, 7% of them leading to a lethal outcome [1]. The incidence of harm due to medical errors had increased from the eighth cause of death in 1999 to the third cause in 2008 [2]. A study released in 2016 found that medical error is the third leading cause of death in the United States, after heart disease and cancer [3]. Therefore, ensuring patient safety is a top priority for medical staff [4].

There are many types of medical error, from minor to major [1]. Medication error is one of the most common types of medical errors and also a source of morbidity and mortality for patients [6]. It is defined as disregarding the status of forming a damage, risk, or any avoidable incidence to occur during the process from medication request to patient monitoring [7]. Medication errors may not only be costly and harmful to a patient’s life but also sometimes has irreparable consequences [8,9]. According to the Institute of Medicine, 400,000 cases of avoidable patient injury due to medication errors take place annually in hospitals in the United States. In addition, between 44,000 and 98,000 hospital patients have been estimated to die annually as a result of medication errors [6]. They cost 3.5 billion dollars annually, which is 8,000 dollars for each error [10]. Medication errors cannot only lead to a patient’s death but also can increase a patient’s length of staying in the hospital and health-care costs [11]. They also lead to pharmaceutical failure which in turn may damage the patient’s health [12].

It is estimated that an average of 40% of each nurse’s time in a hospital would be spent on drug delivery [13]. One of the most common accidents in nursing profession is medications errors [14]. Because the nurse is the main core of health-care providers [15] and

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the last person in the drug delivery chain, she/he is responsible for the occurrence any medication errors [13,16].

Medication errors can occur both as a result of human mistakes and from systemic errors [9]. However, the impact of them on all health-care providers is critical. Human error has been implicated in nearly 80% of adverse events that occur in complex health-care systems. The results of numerous studies have revealed that work stress is associated with the increased risk of mental and physical illness among employees [17–19]. As medical staff, especially nurses, must respond quickly to the needs of patients and families, their job is stressful. Stress influences on the cognitive pattern also reduce an individual’s performance [20].

Rapid progresses in the nature of work regarding design, management, organization, and the wider context of work have led to the emergence of a new danger called psychosocial risks [21]. These risks are associated to problems such as work-related stress, violence, bullying, and harassment, all of which have the potential to significantly impact the well-being of the individuals, enterprise, and society [22,23]. Some of psychosocial factors at work are job content, workload, work schedule, work control, environment and equipment, organizational culture and performance, interpersonal communication, role in organization, career development, and how work intrudes on the personal life. These factors have the potential to cause psychological and physical harm such as work-related stress [25,26]. Work-related stress is the response people may have when presented with work demands and pressures that are not matched to their knowledge and abilities and which challenge their capacity to cope [26]. The created stress increases risk of mental and physical illness among staff [17–19]. It may not only reduce the health of staff but also weaken their ability to provide care, therefore, worsening the quality of poorer care and patient health [27]. Issues of work-related stress, depression, and anxiety contributed to an ecosystem [28]. Therefore, identifying and managing psychosocial factors can cause positive outcomes such as improved health, motivation, and society [22,23]. Some of psychosocial factors at work are job content, workload, work schedule, work control, environment and equipment, organizational culture and performance, interpersonal communication, role in organization, career development, and how work intrudes on the personal life. 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