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Safety climate in 5 intensive care units: A nationwide hospital survey using the Greek-Cypriot version of the Safety Attitudes Questionnaire

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Abstract

Background: Patient safety is considered an antecedent of quality of hospital care. The explicit need to focus on quality of care underpins the aim of the study to evaluate the safety culture and teamwork climate in the public intensive care units (ICUs) of the 5 regional public hospitals in Cyprus as measured by a validated safety attitudes tool.

Methods: A questionnaire that included the Greek version of the generic version of the Safety Attitudes Questionnaire has been used in all public ICUs across Cyprus.

Results: There were 132 (76.7%) fully completed questionnaires of 172 registered nurses who are currently positioned in Cyprus ICUs. The mean age of the participants was 33.09 ± 08.16 years. The mean of the total working years as a nurse was 10.82 ± 8.47 years, whereas the mean of the total work experience in the ICU units was 6.05 ± 5.16 years. The sample's age strongly correlated with teamwork, nurses with more years of experience rated higher teamwork (P = .02), and their perceptions of management were better than those of the inexperienced nurses.

Conclusions: Considerable safety climate variations between the ICUs of the regional hospitals of Cyprus have been verified. Age, infrastructure, the severity of cases, and the nurse skill mix are variables that affect the patient safety culture in an ICU environment.

1. Introduction

The need for patient safety has been a health care initiative and a topic of interest and concern to various professional and public contexts. To develop a stronger grasp on the topic and the local needs, a fundamental shift toward a safe health care climate needs to occur; the shift must occur from an individual blame for errors to an improved and maximized patient health care safety [1]. Seen in this light, it is important to understand that patient safety initiatives follow a step-by-step process to achieve a patient safety climate. The term *safety climate* generally refers to the different measureable elements and components of a safety culture such as safety systems, health care workers' perceptions to safety, and management behaviors [1,2].

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Because the health care environment is a context associated with high risk for mortality and morbidity, it is generally considered as a highly hazardous setting, especially in the intensive care units (ICUs) [3]. In response to this statement, the Institute of Medicine pointed out the need for various health care organizations to enhance and work on their patient safety climate [4]. To achieve this ultimate goal, various methods can be used. Methods such as in-depth analysis of focus groups and individual interviews can provide insights about collective or individual perceptions, despite that such methods are resource intensive and time consuming [5,6]. On the lighter side, self-administered survey forms can also help understand the safety culture of different institutions because they are one of the most beneficial ways of asking standardized and relevant questions to involved respondents [5,6].

Patient safety has been identified as a key strategic focus area of development in health care settings such as the ICUs [5]; it is considered one of the several learning and innovation environments where patient safety initiatives should be advanced and improved. The first published peer-reviewed ICU Management Questionnaire was piloted by Sexton and colleagues [7], which aimed to identify factors related to teamwork and stress within the hospital and aviation settings.

Huang et al [5] pointed out that safety culture is identified as a group of individual values, perceptions, competencies, and attitudes that give evidence to the overall commitment and style of proficiency of an organization safety and management. Safety climate in the ICU, therefore, refers to the perceived proactive and strong organizational commitment to patient safety [8-10]. Poor attention to patient safety can lead to medical errors, low quality of patient care, and increased length of hospital stay [5]. According to Huang and colleagues, safety climate and increased hospital stay are associated and can provide initial evidence that various interventions targeted at the improvement of safety have a significant impact both on culture and on perceived outcomes. An earlier research by Pronovost et al [11] suggested that safety climate among the ICUs within a single institution may vary.

The safety climate of ICU settings is an important component used by the health care organizations. Although various patient safety surveys and item scales are peer reviewed and widely used in different contexts, it is important to properly analyze and evaluate their effectiveness. Their content differs considerably and covers several safety dimensions such as implementation of corrective actions [12]. According to the relevant literature, job satisfaction scores were rated the most and stress recognition scored the least positive scores [5,11,13]. Comparisons between ICUs from different hospitals showed a variation across the 6 major Safety Attitudes Questionnaire (SAQ) factors suggesting that multidimensional assessment is important in order not to focus on a single parameter on the expense of another. The literature suggests that measurement of safety culture should be comparing not just institutions but also individual units separately [14,15].

In Cyprus, improving the quality and safety of health care has not been articulated in the national health policies in recent years. According to the European Union for Patient Safety, Cyprus has not yet adopted an instrument for measuring patient safety culture (PSCI) [16]. In the 2010 Eurobarometer survey, the problem of patient safety is quite visible in the numbers because 50% of respondents in the 27 European Union countries stressed that they "feel they would suffer from an adverse event" if hospitalized. However, only 9% believed that it is very likely to happen [17]. Of particular interest are the percentages for Cyprus, where 81% feel that this danger is plausible. Greece ranks first with 83% and Latvia third with 75%, whereas among the countries where citizens feel that this is unlikely to happen are Austria with 19% and Germany with 31%. The following data reflect the attitudes of European citizens about the likely causes of risk when receiving health care in hospitals in their country. Cypriots believe that they could experience an adverse event during hospitalization in the operating theater (76%) and due to errors caused by the lack or misuse of medical equipment (68%). These 2 statements are the most prevalent among the responses of Europeans. Generally, Cyprus and Greece are among the countries in which citizens believe that instead of benefiting from the use of medical and nursing services, they are more likely to be hurt [18].

Cyprus has a mixed health care system, which is in transition to a national health care system. Being a mixed system means that the public has the option to receive care either by a public or by a private provider. However, there appear to be major discrepancies between public and private ICUs. The public ICUs are faced with a challenge: how to meet the increasing demand for health care without an adequate increase of resources [14]. Most of the population (95%) are entitled to either free medical care or publicly provided health care at reduced cost coverage. The remaining percentage of the population seeks health care services from the private establishments (ie, private hospitals, clinics). Nursing personnel comprise the largest group of health care workers used by both public and private hospitals. The nursing education in Cyprus is provided at a bachelor's level education and training for 4 years. Nursing education is currently provided solely by public and private universities. Previously, nurses were educated at a diploma basis requiring only 3 years of education. Registered nurses (RGNs) under the new act (released in January 2012) are required to renew their practice license every 4 years based on specific criteria in relation to lifelong learning.

According to the Hospital and Healthcare Statistics report [19], the latest figures concerning treatment in Cyprus ICUs are dated back to 2008. It only included information regarding admissions to the ICUs. Other information like average length of stay and deaths was not ICU specific but generally concerning the 5 major district hospitals. The data for 2010 are unpublished and do not apply to all hospitals