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PATIENT SAFETY AWARENESS AMONG HEALTH-RELATED STUDENTS: AN EDUCATIONAL PERSPECTIVE

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Abstract

Introduction: Patient safety is an important component of the healthcare system, aiming to prevent and reduce some risks, errors and harms that occur to patients during the provision of healthcare services. As future healthcare workers, students in health-related fields play very important role in ensuring patient safety. Their awareness and understanding of patient safety principles are important in creating a culture of safety that extends from education into clinical practice.

Methods: This research used a cross-sectional survey designed to assess patient safety awareness among students in the healthcare fields. The methodology was designed to collect quantitative data on the knowledge, attitudes and behaviors of the students related to patient safety and to identify factors that influenced their understanding and reporting of errors. For this research, it was developed a structured questionnaire for evaluating various aspects of patient safety awareness.

Results: Spearman's rank correlation was used between the perception of the students about their education and their comfort in reporting errors is as follows: SK: 0.488, p-value: 0.0046. The correlation coefficient (0.488) shows a moderate positive correlation between the

perceptions of the students for being adequately prepared by their education and their comfort in reporting errors. The p-value of 0.0046 defines the statistically significant correlation. Training is positively correlated with teamwork, communication, and involving patients in their care, suggesting that students with training recognize the importance of these factors in reducing errors.

Conclusion: This research gives information about the role of education, training and practical experience for patient safety awareness among students in the health-related fields. The results showed that while most students possess basic understanding of patient safety principles, some gaps remain in their comfort with reporting errors as well as their perceptions of teamwork and communication as important components of error prevention.

INTRODUCTION

Patient safety is a fundamental aspect of healthcare that focuses on minimizing risks, errors and patient harm while providing medical services. The World Health Organization defines patient safety as the absence of preventable harm to a patient during the process of healthcare and the reduction of risk of unnecessary harm associated with healthcare to an acceptable minimum (WHO, 2019). Ensuring patient safety requires a multidisciplinary approach with effective communication, teamwork, reporting systems and a culture of continuous learning and improvement (Institute of Medicine, 2000).

Healthcare students also play important role in maintaining and improving patient safety. Their education and training should point error prevention, open disclosure and a safety culture (Lewis et al., 2020). Some researches indicates that students who receive structured training in patient safety are more likely to report errors and collaborate within healthcare teams (Ginsburg et al., 2019),but despite integrating patient safety concepts into medical and health curricula, remained some gaps in the confidence of the students and willingness to report medical errors (Ferguson et al., 2021).

This research looks into the awareness, attitudes and behaviors related to patient safety among students in health-related fields. The aim was to identify important areas for improvement in patient safety training by assessing their perceptions of education and its influence on error reporting. Understanding these factors can help teachers design more effective curricula that implement a safety culture and proactive error management among future healthcare workers.

AIMS

This study aims to assess patient safety awareness among healthcare students by evaluating their knowledge, attitudes and behaviors related to patient safety principles. Specifically, this research seeks to:

1. To evaluate the understanding of the students for patient safety concepts – Assess their knowledge of strategies for error prevention, communication, teamwork and reporting systems.
2. To examine the attitudes of the students toward error reporting – Investigate their comfort level in reporting errors and their perceived impact of education on promoting a safety culture.

3. To identify factors influencing patient safety awareness – Analyze how training, teamwork, and patient involvement contribute to the perceptions of the students for safety in clinical practice.
4. To determine the correlation between education and patient safety behaviors – exploring the relationship between the perceptions of the students for their training and their confidence in appealing in patient safety practices.

This research aims to show information about the patient safety education by identifying strengths and gaps. This can inform curriculum development and improve training programs for future healthcare professionals.

METHODS

Study Design
This study used a cross-sectional survey design to assess patient safety awareness among students in health-related fields. This research aimed to collect quantitative data on the knowledge, attitudes and behaviors of the students regarding patient safety and to identify factors influencing their understanding and willingness to report errors.

Participants and Sampling
Participants included 114 students in health-related programs at Higher medical School in Bitola, from every year of study. Inclusion criteria required that participants actively enroll in a health-related program and have completed at least one year of clinical practice/training or internship experience.

Data Collection Tool
A structured questionnaire (Cervera-Gasch, Á.,2021) was developed and validated to assess multiple aspects of patient safety awareness. The questionnaire consisted of four sections: demographics for age, gender, year of study and academic discipline. Knowledge of patient safety principles was used via multiple-choice and Likert-scale questions assessing awareness of safety concepts, error prevention strategies and reporting mechanisms and attitudes toward patient safety – statements measuring comfort levels in reporting errors, perceived impact of training and attitudes toward teamwork and communication and self-reported behaviors and experiences -questions assessing the involvement of students in patient safety practices and their perception of institutional safety culture.

Data Collection Procedure
This questionnaire was distributed electronically and in paper format. Respondents provided informed consent before completing the survey and data were collected anonymously to encourage honest responses.

Data Analysis
Collected data were analyzed with descriptive and inferential statistics. Descriptive statistics (mean, standard deviation, frequency distributions) were used to summarize the responses for participants. Spearman's rank correlation was used to examine relationships between students' perceptions of education and their comfort in reporting errors. A p-value of <0.05 was considered statistically significant.

Ethical Considerations
Ethical approval was obtained from the relevant institutional review board of Higher Medical School Bitola, University St. Kliment Ohridski Bitola. Participation was voluntary, and

confidentiality was ensured by anonymizing responses. No personally identifiable information was collected.

RESULTS

Demographic Characteristics of Participants
A total of 114 students from health-related fields participated in the study. The sample included students from nursing (38,6%), midwifes (18.42%), physiotherapist (26.31%), and allied health sciences (16,67%). Most participants were in their second years of study (45,25%), with an average age of 21 years.

Patient Safety Knowledge and Awareness
The majority of students showed a moderate to high understanding of patient safety principles, with 53% correctly identifying key safety concepts related to error prevention, communication, and teamwork. Training exposure: 51,5% of students reported receiving formal patient safety training, and among them, 54,5 % felt their training was sufficient in preparing them for clinical practice.

Attitudes Toward Error Reporting
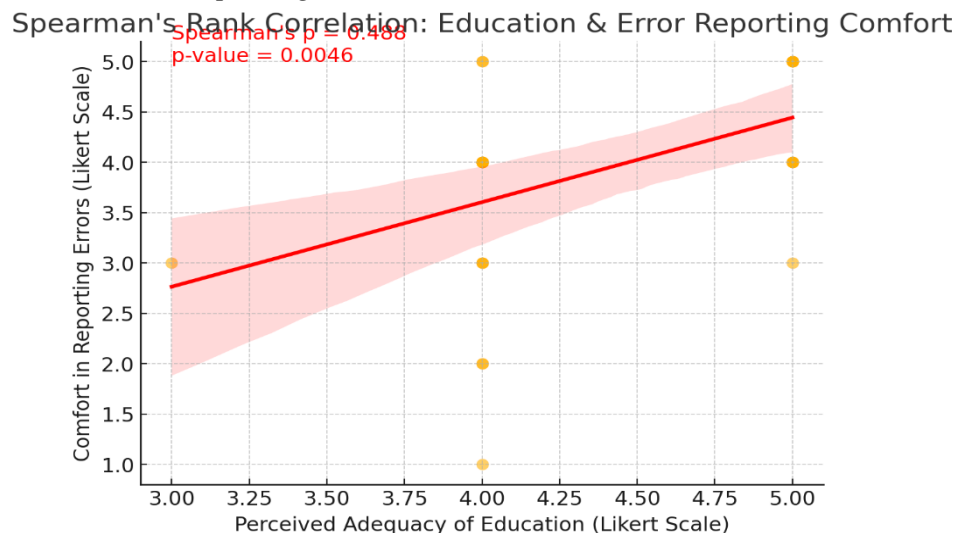

Figure 1. Spearman rank correlation.

Spearman's rank correlation between the perceptions of the students for their education and their comfort in reporting errors was 0.488 (p = 0.0046), indicating a moderate positive correlation. Students who perceived their education as adequate in-patient safety were more comfortable reporting errors compared to those who felt inadequately trained. Despite this, 9,1% of students expressed hesitation in reporting errors, citing fear of consequences, lack of confidence or uncertainty about reporting procedures.

Influence of Training on Safety-Related Behaviors
Students with formal training in patient safety showed higher recognition of the importance of teamwork and communication in preventing errors. A significant correlation was found between training and students' positive attitudes toward interdisciplinary collaboration. Involvement of patients in safety: 88,5% of students acknowledged the importance of engaging patients in their care, but only18 % reported actively involving patients in discussions related to their safety.
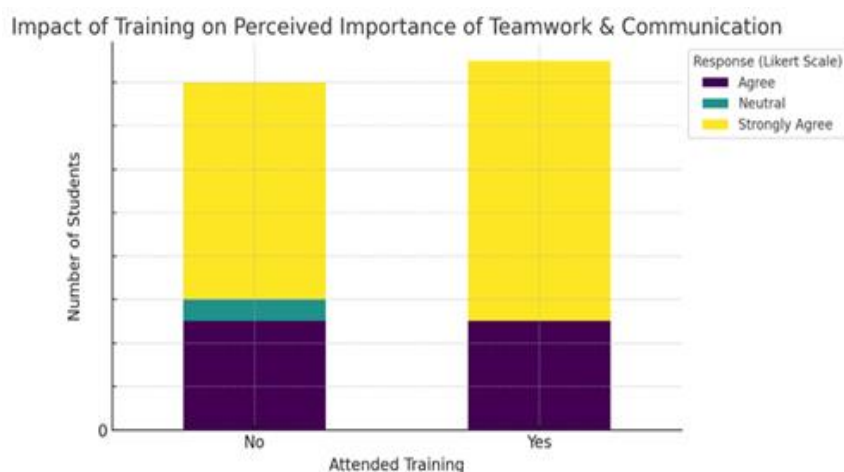
Figure 2. Impact of training on perceived importance of teamwork and communication.
Figure 2visualizes the impact of patient safety training on the perceptions of the students for teamwork and communication. Students who attended training are more likely to agree or strongly agree that teamwork and effective communication reduce the risk of medical errors. This shows the importance of structured training in promoting a collaborative healthcare environment.
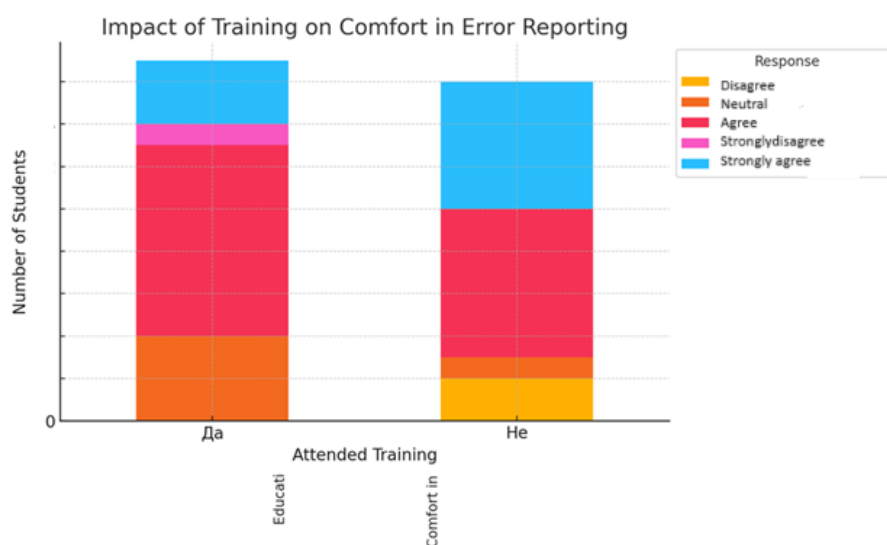
Figure 3. Impact of training on comfort in error reporting.
Figure 3 visualizes the impact of training on the confidence of the students in reporting errors. Students who attended patient safety training reported higher comfort levels in error reporting, focusing the importance of structured education in implementing a culture of safety.

Key Challenges Identified
Gaps in error reporting confidence, significant number of students still lack confidence in reporting errors, even when they recognize their importance. Need for improved training programs, students who did not receive structured patient safety education were less likely to engage in safety practices. Variability in institutional patient safety culture, some students reported a lack of institutional support or clear guideline for patient safety reporting.

The study gives information that while students have a basic understanding of patient safety principles, gaps remain in their confidence in reporting errors and applying safety practices in clinical settings. Training plays important role in shaping their perceptions and behaviors, focusing on the need for improved patient safety education to developed a stronger culture of safety among future healthcare professionals.

DISCUSSION

The findings of this research highlight the important role of education and training in shaping patient safety awareness among students in health-related fields. The moderate positive correlation (Spearman's $\rho = 0.488$, $p = 0.0046$) between students' perceptions of their education and their comfort in reporting errors suggests that structured education plays important role in developing a culture of safety and transparency. These results align with some previous research indicating that students receiving dedicated patient safety training are probable to report errors and engage in proactive safety behaviors (Ferguson et al., 2021; Ginsburg et al., 2019).

Additionally, the data demonstrate that training is strongly associated with positive attitudes toward teamwork, communication, and patient involvement in care. Students who attended the training were more likely to acknowledge the importance of these factors in preventing medical errors, strengthening the results from other studies that emphasize the role of interdisciplinary collaboration in patient safety (Lewis et al., 2020; Manser, 2009). Effective communication and teamwork are well-established as important components of safe healthcare environments, and their integration into training programs can help students develop essential competencies before entering clinical practice (O'Connor et al., 2016).

Despite these positive associations, the study also identified gaps in confidence when reporting errors, especially among students in earlier years of study. The results suggest that error reporting remains a challenge due to factors such as fear of repercussions, lack of clear reporting mechanisms, or insufficient training on disclosure processes. Similar challenges have been reported in previous research, where students expressed hesitation in reporting errors due to uncertainty or perceived risks (Kohn et al., 2000; Schwappach & Gehring, 2014).

Furthermore, the results indicate that higher levels of education and clinical exposure contribute to increased comfort in reporting errors. This trend underlines the importance of progressive learning models, where patient safety training is integrated across multiple years of study rather than being limited to a single course. Similar recommendations have been made in prior literature, recommending for longitudinal integration of patient safety education, simulation-based training, and real-world case discussions to improve the competency development (Aronson, 2006; Walton & Barraclough, 2013).

CONCLUSION AND IMPLICATIONS

This research strengthens the importance of structured patient safety education in preparing future healthcare professionals. While training improves perceptions of teamwork, communication, and error reporting, gaps remain in students' confidence and willingness to report mistakes, especially in earlier academic years. To address these issues, institutions should improve study curricula by incorporating more practical training, encouraging non-punitive reporting cultures, and promoting interdisciplinary learning experiences. Future research should explore the effectiveness of specific educational interventions, such as simulation training and feedback systems in improving patient safety competencies.

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