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LITERACIA DOS PROFISSIONAIS DE SAÚDE SOBRE SEGURANÇA DO DOENTE
HEALTH PROFESSIONALS' LITERACY ABOUT PATIENT SAFETY
LITERACIA DE PROFESIONALES DE SALUD SOBRE SEGURIDAD DEL PACIENTE

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RESUMO

Introdução: A segurança do doente é uma questão séria de saúde pública global, focada num sistema de prestação de cuidados que previne erros e é construído sobre uma cultura de segurança que envolve todos os profissionais de saúde, organizações e doentes.

Objetivo: Avaliar o nível de literacia dos profissionais de saúde em relação à segurança do doente num centro hospitalar na região central de Portugal.

Métodos: Foi realizado um estudo quantitativo, descritivo-correlacional e transversal para avaliar o nível de literacia dos profissionais de saúde em relação à segurança do doente. Uma amostra de 300 profissionais de um Centro Hospitalar na região central de Portugal respondeu ao "Questionário para Avaliar a Implementação do Guia Multiprofissional" da Organização Mundial de Saúde. A maioria dos profissionais de saúde incluídos no estudo são do sexo feminino (76,3%), encontram-se na faixa etária (dos 36-50 anos) 50,3% e são maioritariamente enfermeiros (90%).

Resultados: 44,0% dos inquiridos demonstraram baixa literacia na dimensão "Erro e segurança do doente". De forma semelhante, 44,7% apresentaram baixa literacia na dimensão "Segurança do Sistema de Saúde". Quanto à dimensão "Influência Pessoal na Segurança", mais de metade da amostra (52,7%) é altamente letrada. Por último, a maioria dos inquiridos mostrou baixa literacia (54,7%) na dimensão "Atitudes Pessoais em relação à Segurança do Doente".

Conclusão: Os resultados apontam existir lacunas por parte dos profissionais de saúde sobre literacia na segurança do doente, com predominância na dimensão "Atitudes Pessoais em Relação à Segurança do Doente". Assim, é essencial que os profissionais de saúde recebam mais formação em segurança do doente para garantir a confiança dos cidadãos nas suas práticas profissionais e na confiança no sistema de saúde.

Palavras-chave: literacia; segurança do doente; profissionais de saúde

ABSTRACT

Introduction: Patient safety is a critical global public health issue, focused on a care delivery system that prevents errors and is built on a safety culture involving all healthcare professionals, organizations, and patients.

Objective: To evaluate the level of health professionals' literacy regarding patient safety at a hospital center in the central region of Portugal.

Methods: A quantitative, descriptive-correlational, cross-sectional study was carried out to assess the level of patient safety literacy among healthcare professionals. A sample of 300 professionals from a hospital center in central Portugal answered the World Health Organisation's 'Questionnaire to Evaluate the Implementation of the Multiprofessional Guide.' Most of the health professionals included in the study were female (76.3%), 50.3% were in the 36-50 age group and the majority were nurses (90%).

Results: 44.0% of the respondents demonstrated low literacy in the "Error and Patient Safety" dimension. Similarly, 44.7% exhibited low literacy in the "Health System Safety" dimension. Regarding the "Personal Influence on Safety" dimension, more than half of the sample (52.7%) showed high literacy. Lastly, the majority of respondents displayed low literacy (54.7%) in the "Personal Attitudes towards Patient Safety" dimension.

Conclusion: The findings indicate significant gaps in healthcare professionals' literacy concerning patient safety, predominantly in the "Personal Attitudes towards Patient Safety" dimension. Therefore, it is essential that healthcare professionals receive further training in patient safety to ensure the public's trust in their professional practices and confidence in the healthcare system. This translation is tailored for submission to a high-impact Q1 scientific journal, ensuring the use of precise and specialized technical English suitable for an academic audience.

Keywords: literacies; patient safety; health professionals

RESUMEN

Introducción: La seguridad del paciente es un problema crítico de salud pública global, enfocado en un sistema de prestación de cuidados que previene errores y está construido sobre una cultura de seguridad que involucra a todos los profesionales de la salud, organizaciones y pacientes.

Objetivo: Evaluar el nivel de alfabetización sobre la seguridad del paciente de los profesionales de la salud en un centro hospitalario en la región central de Portugal.

Métodos: Se realizó un estudio cuantitativo, descriptivo-correlacional y transversal para evaluar el nivel de alfabetización en seguridad del paciente entre los profesionales sanitarios. Una muestra de 300 profesionales de un centro hospitalario del centro de Portugal respondió al «Cuestionario para evaluar la aplicación de la Guía Multiprofesional» de la Organización Mundial de la Salud. La mayoría de los profesionales sanitarios incluidos en el estudio eran mujeres (76,3%), el 50,3% tenían entre 36 y 50 años y la mayoría eran enfermeras (90%).

Resultados: El 44,0% de los encuestados demostró baja alfabetización en la dimensión "Error y Seguridad del Paciente". De manera similar, el 44,7% mostró baja alfabetización en la dimensión "Seguridad del Sistema de Salud". En cuanto a la dimensión "Influencia Personal en la Seguridad", más de la mitad de la muestra (52,7%) mostró alta alfabetización. Por último, la mayoría de los encuestados mostró baja alfabetización (54,7%) en la dimensión "Actitudes Personales hacia la Seguridad del Paciente".

Conclusión: Los resultados indican brechas significativas en la alfabetización sobre la seguridad del paciente de los profesionales de la salud, predominantemente en la dimensión "Actitudes Personales hacia la Seguridad del Paciente". Por lo tanto, es esencial que los profesionales de la salud reciban más formación en seguridad del paciente para asegurar la confianza del público en sus prácticas profesionales y la confianza en el sistema de salud. Esta traducción está diseñada para la presentación en una revista científica de alto impacto Q1, asegurando el uso de un español técnico preciso y especializado adecuado para una audiencia académica.

Palabras clave: alfabetización; seguridad del paciente; profesionales de la salud

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INTRODUCTION

Patient safety and quality improvement have gained momentum in the last decade and are becoming more integrated into the culture of healthcare organisations and the practice improvement initiatives of healthcare professionals. According to what is defined by the 1999 Institute of Medicine (IOM) report "To Err is Human: Building a Safer Health System", the pillars of healthcare are safety, timeliness, effectiveness, efficiency, equity, and person-centred care. Implementing a safety culture depends on all levels of the healthcare system (Al-Jabri et al., 2021; Marsch et al., 2022).

Before proceeding, it is necessary to clarify key concepts related to the topic of patient safety.

Healthcare literacy refers to the capacity of individuals to obtain, process, and understand basic health information needed to make appropriate health decisions. **Patient safety literacy** is a subset of this, focusing specifically on the ability to comprehend and apply information related to preventing harm to patients during healthcare delivery. **Patient safety** itself is defined as the prevention of errors and adverse effects to patients associated with healthcare. It involves the implementation of practices and systems aimed at minimizing the occurrence of incidents that can cause harm. Finally, a **safety culture** in healthcare refers to the shared values, attitudes, beliefs, and norms that influence organizational behavior and promote patient safety, as adopted by the DGS in their biennial national evaluations (DGS, 2022).

Patient safety is globally perceived as an area with significant knowledge gaps among healthcare professionals. In 2009, the World Health Organization expressed the need for enhanced knowledge to improve patient safety and reduce harm. An error, as defined by the Directorate-General for Health (DGS, 2011), is the "failure in the execution of a planned action as intended or the incorrect development of a plan." Errors can manifest as the "practice of a wrong action (commission) or the failure to practice the right action (omission), whether in the planning phase or the execution phase." The context in which incidents occur is categorized by the same entity into four classes: "patient characteristics, incident characteristics, contributing hazards/factors, and organizational consequences" (DGS, 2011). These organizational consequences showcase the direct outcomes both at the level of the healthcare organization and the increased rates of resource utilization for patient care, among others. In this regard, the presence of a patient safety culture in any healthcare institution is essential as a key element of care quality. It should be a priority in health systems worldwide. Kosydar-Bochenek et al. state that the objective of patient safety programs is to prevent errors, incidents, and reduce potential harm to patients (Kosydar-Bochenek et al., 2022). A patient safety culture should be deeply rooted in healthcare institutions to also ensure a safe working environment for healthcare professionals. Achieving a safety culture requires an understanding of the values, attitudes, beliefs, and norms that are vital for the organization of healthcare and determining which attitudes and behaviors are appropriate and expected for patient safety (Marsch et al., 2022).

Achieving a culture of safety requires an understanding of the values, attitudes, beliefs and norms that are important to the healthcare organisation and what attitudes and behaviours are appropriate and expected for patient safety (Marsch et al., 2022). The quality of care and patient safety have been acknowledged as pivotal issues in the establishment and provision of accessible, effective, and responsive health systems. Unsafe healthcare practices are linked to significant rates of morbidity and mortality globally, many of which might be amenable to timely intervention (Kumbi et al., 2020). Globally it is estimated that an average of 10% of all hospital admissions result in a degree of accidental patient harm and it is estimated that up to 75% of these gaps in healthcare delivery are preventable (Kumbi et al., 2020).

The general objective of this study was to assess the level of healthcare professionals' literacy about patient safety. The specific objectives were to analyse which socio-demographic and professional variables interfere with the literacy of healthcare professionals on patient safety, considering the following dimensions: "Patient Error and Safety", "Health System Safety", "Personal Influence on Safety", and "Personal Attitudes towards Patient Safety".

1. METHODS

A quantitative, descriptive-correlational, and cross-sectional study was conducted, with data collection carried out during 2021, utilizing a non probabilistic sample of 300 professionals from a Hospital Center in the central region of Portugal. Inclusion criteria considered healthcare professionals who were working during the period from January to December of 2021.

The World Health Organization's "Questionnaire to Assess the Implementation of the Multi-professional Guide" was used. It is an assessment instrument composed of two sections.

The first section includes sociodemographic and professional questions. The second section comprises the "KIT TOOL-S2 TEXT", whose translation and validation was authorized by the World Health Organization (WHO) on 12/03/2019, with the number 275563, having been validated by Amaral and Sequeira in 2021. This questionnaire contains four sections: Section 1 - Error and Patient Safety, which includes 7 items, assessed according to a 5-point scale (1 = low level of knowledge; 3 - moderate level of knowledge; 5 - high level of knowledge); Section 2 - Health System Safety, which contains 5 items, assessed on a 5-point Likert-type scale, where 1 corresponds to "Strongly Disagree" and 5 to "Strongly Agree"; Section 3 - Personal Influence on Safety, consisting of 7 items, each assessed on a 5-point Likert scale, where 1 corresponds to "Strongly Disagree" and 5 to "Strongly Agree"; Section 4 - Personal Attitudes towards Patient Safety, comprising 4 items, assessed on a 5-point Likert-type scale, where 1 corresponds to "Strongly disagree" and 5 to "Strongly agree". The scale was tested through apparent and content validity. The psychometric properties were assessed using Cronbach's Alpha coefficient (α) for internal consistency and construct validity through exploratory and confirmatory factor analysis, convergent validity, and discriminant validity. The exploratory factor analysis resulted in a tetra factor structure that explained 43.0% of the variance in total and with an overall Cronbach's alpha coefficient of 0.759.

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To determine the level of health professionals' literacy in patient safety, cohort groups are established based on the statistical technique that uses the mean +/- 1/4 of the standard deviation, namely (Pestana & Gageiro, 2014):

- Low literacy: minimum to the mean of the items minus 0.25 of the standard deviation;
- Moderate literacy: between the mean minus 0.25 of the standard deviation and the mean + 0.25 of the standard deviation;
- High literacy: from the mean + 0.25 of the standard deviation to the maximum.

Ethical Procedures

The project was approved by the Ethics Committee of the Hospital Centre of the Central Region of Portugal that participated in this study (Reference number 1027, issued on October 7, 2019). Free clarification was given to the participants and the confidentiality of the information was guaranteed by processing the answers obtained collectively.

Prior to the distribution of the questionnaires, participants were informed about the study's objectives, the voluntary nature of their participation, and the measures taken to protect their anonymity and confidentiality. Each participant received an information sheet detailing these aspects and signed an informed consent form. The questionnaires were anonymized, and unique codes were assigned to each response to prevent the identification of individual participants.

The IBM - Statistical Package Social Science (SPSS) 26 software was used for the statistical treatment of the results. Descriptive statistics were used to calculate absolute (n) and percentage (%) frequencies, some measures of central tendency: measures of dispersion: measures of central tendency: Mean (M); measures of dispersion: Standard Deviation (\pm). Since the assumption of normality was not met in several factors of the dependent variable, the non-parametric tests Mann-Whitney U-test (UMW) and Kruskal-Wallis test (KW) were used for inductive or inferential statistics. In all tests, the significance value considered was 5%, $p < 0.05$.

2. RESULTS

Sociodemographic profile of the participants

Most of the 300 health professionals from the Hospital Centre in the Central region of Portugal included in this study are female (76.3%), with ages ranging from 26 to 66 years, corresponding to a mean of 43.86 ± 9.38 years. Most health professionals were in the 36-50 years age group (50.3%), followed by those aged over 50 years (27.3%) and 22.3% are ≥ 35 years old.

Professional profile of the participants

The participants have, on average, 20.48 ± 8.95 years of professional experience, with a minimum and maximum ranging from 1 year to 41 years. Most of the participants are nurses (90.0%), and most work as general care nurses (73.0%). Additionally, 10% of the participants were doctors. Concerning the weekly workload, most of the participants (86%) work 35 hours, with 66.3% working shifts. The vast majority of health professionals (93.0%) do not have management or supervisory roles.

Patient safety was taught at your university/school

Most of the participants reported that patient safety was not taught in their school (69.0%).

Statistics regarding the dimensions of the "KIT TOOL-S2 TEXT. Questionnaire to Assess the Implementation of the Multi-professional Guide".

The statistics concerning the dimensions of the "KIT TOOL-S2 TEXT. Questionnaire to Assess the Implementation of the Multi-professional Guide" reveal that, in our sample, the dimension with the highest score was "Patient Error and Safety" ($M=20.22 \pm 3.46$), followed by the dimension "Personal Attitudes for Patient Safety" ($M=17.02 \pm 1.93$). The dimension "Health System Safety" had the lowest mean value ($M=12.79 \pm 2.45$) (See Table 1).

Table 1 - Dimensions of the "KIT TOOL-S2 TEXT. Questionnaire to Assess the Implementation of the Multi-professional Guide" *

Dimensions	N	Min	Max	M	SD (\pm)
Error and patient safety		12	30	<u>20.22</u>	3.46
Safety of the Health System		7	18	12.79	2.45
Personal Influence on Safety	300	8	20	14.36	2.23
Personal Attitudes towards Patient Safety		9	20	17.02	1.93
Global results of the scale		47	83	64.39	6.76

* Descriptive statistics

Relationship between age and health professionals' literacy about safety of care

Statistically significant differences were found between age and the dimension "Patient Safety and Error" ($p < 0.05$), where participants aged 36-50 years scored higher, as well as in the overall scale ($p < 0.05$), with a higher mean score for participants aged above 50 years. Although there was no significant statistical relevance in the dimensions "Personal Influence on Safety" and "Personal Attitudes towards Patient Safety", it should be noted that participants aged 36-50 years showed the highest literacy in this area.

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Relationship between profession and health professionals' literacy about safety of care Overall, nurses revealed more patient safety literacy, with higher mean scores in the dimensions "Error and Patient Safety", "Safety of the Health System", "Personal Influence on Safety" and in the total scale, while medical doctors scored higher in "Personal Attitudes towards Patient Safety". Statistically significant differences were found in the dimensions "Error and Patient Safety", "Personal Influence on Safety" and in the total scale ($p < 0.05$) (See Table 2).

Relationship between the type of work and health professionals' literacy about safety of care

The participants working the fixed shift showed more literacy in relation to the dimensions "Safety of the Health System" and "Personal Attitudes towards Patient Safety", while those working rotational shifts showed more literacy in the dimensions "Error and Patient Safety", "Personal Influence on Safety" and in the global of the scale, with statistically significant differences in the dimension "Error and Patient Safety" ($p < 0.05$) (See Table 2).

Relationship between accumulating functions and health professionals' literacy about safety of care

Health professionals who do not accumulate functions scored higher in almost all dimensions and in the global scale, except in the dimension "Personal Attitudes towards Patient Safety", where those who accumulate functions stood out, with statistically significant differences in the dimension "Safety of the Health System" ($p < 0.05$) (See Table 2).

Relationship between management/supervisory roles and health professionals' literacy about safety of care

Health professionals in a managerial/supervision position scored higher in almost all dimensions and in the global of the scale, except for the dimension "Personal Influence on Safety", where those who do not have a managerial/supervision position scored higher, with no statistically significant differences ($p > 0.05$) (See Table 2).

Table 2 - Relation between the profession, type of schedule, accumulating functions, holding management/supervision positions and health professionals' literacy about the safety of care *

Variable Dimensions	Profession		p
	Medicine Mean Rank	Nursing Mean Rank	
Error and patient safety	92.52	<u>156.94</u>	<u>0.000</u>
Safety of the Health System	123.33	<u>153.52</u>	0.069
Personal Influence on Safety	111.13	<u>154.87</u>	<u>0.008</u>
Personal Attitudes towards Patient Safety	<u>166.53</u>	148.72	0.267
Global results of the scale	106.00	<u>155.44</u>	<u>0.003</u>
Variable Dimensions	Type of Schedule		p
	Fixed Shift Mean Rank	Rotational Shifts Mean Rank	
Error and patient safety	135.71	<u>157.29</u>	<u>0.040</u>
Safety of the Health System	<u>159.21</u>	145.30	0.185
Personal Influence on Safety	144.29	<u>152.91</u>	0.409
Personal Attitudes towards Patient Safety	<u>150.22</u>	149.89	0.974
Global results of the scale	148.32	<u>150.86</u>	0.810
Variable Dimensions	Accumulating Functions		p
	Yes Mean Rank	No Mean Rank	
Error and patient safety	143.94	<u>152.53</u>	0.463
Safety of the Health System	125.22	<u>158.34</u>	<u>0.005</u>
Personal Influence on Safety	136.19	<u>154.94</u>	0.107
Personal Attitudes towards Patient Safety	<u>155.81</u>	148.85	0.539
Global results of the scale	135.51	<u>155.15</u>	0.095
Variable Dimensions	Managerial/Supervision Functions		p
	Yes Mean Rank	No Mean Rank	
Error and patient safety	<u>166.95</u>	148.18	0.333
Safety of the Health System	<u>158.95</u>	148.78	0.599
Personal Influence on Safety	149.07	<u>149.53</u>	0.981
Personal Attitudes towards Patient Safety	<u>170.12</u>	147.94	0.237
Global results of the scale	<u>174.29</u>	147.62	0.171

* Mann-Whitney U-tests

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Relationship between years of professional practice and health professionals' literacy about safety of care

With the purpose of assessing the correlation between the years of professional practice and the health professionals' literacy about patient safety, a Spearman Correlation was performed. Significant differences ($p < 0.05$) were found in the "Error and Patient safety" dimension and in the global of the scale with positive correlations, suggesting that the longer the participants have been working, the more patient safety literacy they have (See Table 3).

Table 3 - Correlation between years of professional practice and health professionals' literacy about safety of care *

Dimensions Variable	Error and patient safety		Safety of the Health System		Personal Influence on Safety		Personal Attitudes towards Patient Safety		Global results of the scale	
	Rho	p	Rho	p	Rho	p	Rho	p	Rho	p
Years of professional practice	0.163	<u>0.005</u>	0.072	0.211	0.056	0.337	0.004	0.942	0.149	<u>0.010</u>

* Spearman Correlation

Relationship between weekly workload and health professionals' literacy about safety of care

The participants with a weekly workload of 35 hours scored higher in almost all dimensions and in the global scale, except for the "Personal Attitudes towards Patient Safety", where the participants with a weekly workload of 42 hours stood out. Statistically significant differences were found in the dimension "Error and Patient safety" and in the global scale ($p < 0.05$) (See Table 4).

Table 4 - Relationship between weekly workload and health professionals' literacy about safety of care *

Variable Dimensions	Weekly Workload			p
	35 hours Mean Rank	40 hours Mean Rank	42 hours Mean Rank	
Error and patient safety	<u>157.74</u>	112.07	69.67	<u>0.001</u>
Safety of the Health System	<u>155.07</u>	119.96	137.08	0.067
Personal Influence on Safety	<u>155.15</u>	122.28	119.92	0.066
Personal Attitudes towards Patient Safety	150.13	140.96	<u>223.83</u>	0.077
Global results of the scale	<u>157.63</u>	105.61	113.33	<u>0.002</u>

* Kruskal-Wallis Test

Level of patient safety literacy

In the dimension "Error and Patient safety", 44.0% of the health professionals showed low literacy and 36.0% showed high literacy. In the dimension "Safety of the Health System", there is also a prevalence of 44.7% of low literacy, followed by professionals with high literacy (39.7%). In relation to the dimension "Personal Influence on Safety", a little more than half of the sample (52.7%) presented high literacy, but 32.3% showed low literacy. In the dimension "Personal Attitudes towards Patient Safety", there is a predominance of participants with low literacy (54.7%), followed by those with high literacy (37.0%) (See Table 5).

Table 5 - Level of literacy of health professionals about safety of care *

Error and Patient Safety	n	%
Low	132	<u>44.0</u>
Moderate	60	20.0
High	108	36.0
Safety of the Health System		
Low	134	<u>44.7</u>
Moderate	47	15.7
High	119	39.7
Personal Influence on Safety		
Low	97	32.3
Moderate	45	15.0
High	158	<u>52.7</u>
Personal Attitudes toward Patient Safety		
Low	164	<u>54.7</u>
Moderate	25	8.3
High	111	37.0

* Descriptive Statistics

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3. DISCUSSION

The sociodemographic and professional profile of a sample of 300 healthcare professionals working in a Hospital Center in the central region of the country reveals a majority of female participants, with a minimum and maximum age ranging between 26 and 66 years, yielding an average age of 43.86 ± 9.38 years. The predominant age range among the health professionals was 36-50 years. In the entire sample, the healthcare professionals had an average of 20.48 ± 8.95 years of professional experience. Nurses are predominantly represented, among whom those in general care roles are most prevalent. The vast majority of healthcare professionals worked 35 hours per week, and a significant percentage worked in shift rotations. Almost all of the sample did not hold managerial or leadership roles. Similarly, Brasaitė et al. in their quantitative study at three multidisciplinary hospitals in Western Lithuania, with a sample of 1,082 healthcare professionals, found a predominance of nurses (70%, including 54 head nurses) with an average age of 46.7 ± 10.9 years (Brasaitė et al., 2016). Nearly all were female (91.4%) and had an average professional experience of 23.9 years, working an average of 39.9 hours per week. Most of the healthcare professionals worked in shifts (60.9%).

In the studied sample, a low level of patient safety literacy prevailed across nearly all dimensions: "Error and Patient Safety", "Health System Safety", and "Personal Attitudes towards Patient Safety". Only in the dimension "Personal Influence on Safety" did slightly more than half of the healthcare professionals exhibit high literacy. These findings align with the evidence from the study by Kim et al., whose aim, involving pre- and post-tests, was to assess the effectiveness of a patient safety training program developed for the Comprehensive Plans for Patient Safety (2018–2022) in Korea (Kim et al., 2020). The authors observed that, before the training, there was a low level of patient safety literacy among healthcare professionals. However, there was a significant increase in high literacy post-training, with the majority of healthcare professionals reporting that the training contributed to "safe hospitalization". Given these findings, the authors suggest that, to improve healthcare professionals' patient safety literacy, it is essential to provide further training both in foundational curricula and in-service. This would optimize communication, knowledge, skills, and attitudes of healthcare professionals to uphold and foster a culture of patient safety in a hospital setting. In this context, the current study found that the vast majority of healthcare professionals indicated that patient safety was not taught at their university/school, reinforcing the suggestions made by Kim et al. (Kim et al., 2020). This is also in agreement with Morrison et al., who advocate that patient safety should be content included in foundational courses, forming a standalone course unit, which would result in a reduction of errors, greater Health System Safety, more positive Personal Attitudes towards Patient Safety, and more positive Personal Influence on Patient Safety (Morrison et al., 2021). Kosydar-Bochenek et al., in their study conducted in five European countries (Poland, Spain, France, Turkey, and Greece), assessed the patient safety literacy of 1,061 healthcare professionals (doctors, nurses, and paramedics) using the short version of the Safety Attitude Questionnaire (SAQ). They too observed a low level of literacy. Paramedics scored significantly lower compared to nurses and doctors. The participants' perceptions of the patient safety climate were not at a particularly satisfactory level, suggesting a need to develop a patient safety culture in European healthcare settings (Kosydar-Bochenek et al., 2022).

Brasaitė et al., among doctors, nurses, and operational assistants, recorded a notably low level of patient safety literacy, particularly concerning general patient safety knowledge (Brasaitė et al., 2016). The foundational factors of healthcare professionals, such as professional category, educational qualifications, patient safety information provided during their professional and ongoing training, and their experience in their field, correlated with various areas of patient safety literacy. Despite significant variation in foundational factors, the respondents' literacy level was generally considered low, especially concerning specific issues like medication, healthcare-associated infections, falls, and pressure injury prevention. It was noted that 62.2% of Lithuania's healthcare professionals had not received any patient safety training during their foundational education, yet slightly over half (54.4%) had participated in ongoing training after professional education. 80% of respondents did not report any patient safety incidents in the year leading up to the study.

Healthcare professionals can enhance their patient safety literacy through ongoing training and in-service education. It's crucial to emphasize the importance of foundational education, which includes training that allows them to distinguish between errors, incidents, near-misses, non-harmful events, harm, how to report patient safety incidents and errors, best practices for patient care, and how to strive for effective collaboration and improve communication within a multi-professional team (Kosydar-Bochenek et al., 2022). Health literacy affects both individuals' perceptions and management of their health state and their healthcare activities. Studies have shown that poor safety care literacy jeopardizes patient safety, leading to incidents, both harmful and non-harmful. Thus, patient safety largely depends on accurate healthcare information provided to patients and understood by them. The safety literacy of healthcare provided by professionals is central to planning and patient safety activities (Kim et al., 2020; Morrison et al., 2021).

In the current study, variables of statistically significant relevance were age, profession, professional practice duration, weekly working hours, type of schedule, holding multiple roles, and job satisfaction ($p < 0.05$). Therefore, it was inferred that nurses aged 36-50 years, with longer professional tenure, those working 35 hours a week, with a fixed schedule, not holding multiple roles, and those highly satisfied with their profession had higher patient safety literacy. These results align with Tocco et al., who also found that nurses are the healthcare professionals with the highest patient safety literacy, as well as professionals with more professional experience and fewer weekly working hours (Tocco Tussardi et al., 2021). Konlan and Shin's study's evidence associated patient safety with academic qualifications, professional category, weekly working hours, participation in a patient safety training program, adverse

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event reporting, open communication among multi-professional team members, organizational learning, teamwork, the physical environment, error feedback exchange, and support from hospital management (Konlan & Shin, 2022).

Given these findings, it's crucial to establish a culture of safety in healthcare organizations, recognized as a pivotal strategy to ensure patient safety, reduce errors, and improve care quality. A safety culture is essential for delivering safe and high-quality care and the well-being of healthcare professionals (Konlan & Shin, 2022; Tocco Tussardi et al., 2021).

It's worth noting that the WHO, in its Global Patient Safety Action Plan 2021-2030, emphasizes the need for all countries to strive to achieve universal health coverage and the Sustainable Development Goals, yielding benefits in better health service access without compromising patient safety (OMS, 2021). This concern's expression in recent years culminated in the Seventy-second World Health Assembly's 2019 adoption of resolution WHA72.6 on "Global action on patient safety". This is mirrored in the five pillars of Portugal's National Patient Safety Plan 2021/2026 (Order No. 9390/2021, dated September 24), namely: Safety Culture, Leadership and Governance, Communication, Prevention and Management of Patient Safety Incidents, and Safe Practices in Safe Environments.

CONCLUSION

Although there is considerable research on patient safety, there still exists a gap in the literature regarding the assessment of health professionals' literacy levels on this topic. Understanding health professionals' knowledge and attitudes towards patient safety is crucial, as it has a direct impact on the quality of care provided to patients. This study aims to fill this gap by evaluating health professionals' literacy levels in different dimensions of patient safety, such as "Patient error and safety," "Health System Safety," "Personal Influence on Safety," and "Personal Attitudes towards Patient Safety."

By addressing this gap in the literature, the study can help identify areas where healthcare professionals may need further training or support to improve patient safety. Additionally, the findings can contribute to the development of targeted educational interventions and policies, ultimately leading to a safer healthcare environment and better patient outcomes.

This study reveals that, in a sample of Portuguese health care professionals, low literacy levels prevailed in the dimensions "Patient Error and Safety", "Health System Safety" and "Personal Attitudes towards Patient Safety". Only in the dimension "Personal Influence on Safety" a little more than half of the health professionals revealed high literacy. In view of these results, it is important that health professionals have more training in the area to ensure citizens' trust in their professional practices and confidence in the health system. The COVID-19 pandemic placed important limitations on this study, including the limited sample size and diversity of health professionals, as the study was done only in services without COVID-19 hospitalizations. Also, using a non-probabilistic and accidental sample may have introduced a selection bias, making it harder to apply the findings to the whole health professional population.

The present study was intended to be transversal in nature, as it was intended to be representative of the entire population under study. However, no such representation was obtained, so its results cannot be generalised. Thus, we suggest the replication of the same study with a larger sample and in a wider timeframe. Despite this limitation, it is considered that the results obtained show that patient safety literacy is an area that requires more investment, and these results serve as a diagnosis of the situation. Thus, considering that this study contributed to a greater visibility of the topic of patient safety literacy, presenting data based on scientific evidence, we propose, as implications for practice, the implementation of a training programme in the Hospital where the study was conducted, so as to carry out a pre- and post-assessment study on patient safety literacy (before and after the training).

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AUTHOR CONTRIBUTIONS

Conceptualization, C.A.; data curation, C.A.; formal analysis, C.A.; investigation, C.A.; methodology, C.A., C.S., N.A.R., and C.F.G.; project administration, C.A.; supervision, C.S., N.A.R., L.P. and C.F.G.; validation, C.A., C.S., N.A.R., L.P. and C.F.G.; writing-original draft, C.A.; writing-review and editing, C.A., C.S., N.A.R., L.P. and C.F.G.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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