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PREPARAÇÃO PARA ATUAR EM CATÁSTROFE: PERSPETIVA DOS ENFERMEIROS DO SERVIÇO DE URGÊNCIA

PREPAREDNESS TO ACT IN A DISASTER: THE PERSPECTIVE OF NURSES IN THE EMERGENCY DEPARTMENT

PREPARACIÓN PARA ACTUAR EN CASO DE DESASTRE: LA PERSPECTIVA DE LAS ENFERMERAS DEL SERVICIO DE URGENCIAS

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RESUMO

Introdução: A ocorrência de catástrofes tem vindo a aumentar em todo o mundo, e Portugal não é exceção, com impacto significativo na saúde das populações. Também a evidência científica demonstra que o atual sistema de formação não prepara os profissionais de saúde para responder a eventos catastróficos. A pandemia COVID-19, recentemente enfrentada, mostrou claramente que, mesmo os melhores sistemas de saúde ficaram sobrecarregados, devastados e à beira do colapso.
Objetivo: Analisar a perceção dos enfermeiros de um Serviço de Urgência (SU) sobre a sua preparação para atuar em situação de catástrofe e relacioná-la com variáveis sociodemográficas e profissionais.
Métodos: Estudo quantitativo descritivo-correlacional, transversal, com recurso à Disaster Preparedness Evaluation Tool, versão portuguesa, aplicada a 60 enfermeiros do SU de um hospital do norte de Portugal. Os dados recolhidos foram submetidos a tratamento estatístico descritivo e inferencial atentando às considerações éticas intrínsecas.
Resultados: Demonstram que os enfermeiros do SU não se sentem preparados para intervir em situações de catástrofe. Contudo, os elementos do sexo masculino e os detentores de formação avançada na área de emergência e/ou catástrofe, revelam estar mais preparados, apresentando diferenças estatisticamente significativas nas competências relacionadas com o "saber", "gestão pós-catástrofe" e no score global.
Conclusão: A existência de planos de emergência institucionais é imprescindível, mas para que sejam operacionalizados de forma eficiente e eficaz é necessária atualização permanente e simulacros periódicos, de modo que cada profissional se consciencialize da sua importância, conheça a sua missão e as suas funções.

Palavras-chave: resposta em desastres; planeamento em desastres; serviço hospitalar de emergência; emergências em desastres; papel do profissional de enfermagem

ABSTRACT

Introduction: The occurrence of disasters has been increasing all over the world and Portugal is no exception, with a significant impact on the health of populations. On the other hand, scientific evidence shows that the current training system does not prepare health professionals to respond to catastrophic events. The recently faced COVID-19 pandemic has clearly shown that even the best health systems have been overwhelmed, devastated and on the brink of collapse.
Objective: To analyze the perception of nurses in an Emergency Department (ED) about their preparation to work in a disaster situation and relate it to sociodemographic and professional variables.
Methods: This is a quantitative, descriptive-correlational, cross-sectional study using the Disaster Preparedness Evaluation Tool, Portuguese version, applied to 60 ED nurses from a hospital in Northern Portugal. The collected data were submitted to descriptive and inferential statistical treatment, taking into account the intrinsic ethical considerations.
Results: They show that ED nurses do not feel prepared to intervene in disaster situations. However, males and those with advanced training in the area of emergency and/or disaster reveal to be more prepared, with statistically significant differences in skills related to "knowledge," "post-disaster management," and overall score.
Conclusion: Institutional contingency plans are essential, but in order for them to be operationalized efficiently and effectively, it is necessary to be constantly updated and periodically simulacra so that each professional becomes aware of their importance and knows their mission and functions.

Keywords: disaster response; disaster planning; emergency hospital service; disaster emergencies; the role of the nursing professional

RESUMEN

Introducción: La ocurrencia de desastres ha ido en aumento en todo el mundo y Portugal no es una excepción, con un impacto significativo en la salud de las poblaciones. Por otro lado, la evidencia científica muestra que el sistema de formación actual no prepara a los profesionales de la salud para responder a eventos catastróficos. La pandemia de COVID-19 a la que nos hemos enfrentado recientemente ha demostrado claramente que incluso los mejores sistemas de salud se han visto desbordados, devastados y al borde del colapso.
Objetivo: Analizar la percepción de los enfermeros de un Servicio de Urgencias (SU) sobre su preparación para trabajar en una situación de desastre y relacionarla con variables sociodemográficas y profesionales.
Métodos: Se trata de un estudio cuantitativo, descriptivo-correlacional, transversal, utilizando la Herramienta de Evaluación de la Preparación para Desastres, versión portuguesa, aplicada a 60 enfermeras de urgencias de un hospital del norte de Portugal.
Los datos recolectados fueron sometidos a tratamiento estadístico descriptivo e inferencial, teniendo en cuenta las consideraciones éticas intrínsecas.
Resultados: Muestran que las enfermeras de urgencias no se sienten preparadas para intervenir en situaciones de desastre. Sin embargo, los hombres y las personas con formación avanzada en el área de emergencias y/o desastres revelan estar más preparados, con diferencias estadísticamente significativas en las habilidades relacionadas con el "conocimiento", la "gestión posterior a los desastres" y la puntuación general.
Conclusión: Los planes de contingencia institucional son esenciales, pero para que se pongan en práctica de manera eficiente y eficaz, es necesario que se actualicen constantemente y realicen simulacros periódicos, para que cada profesional tome conciencia de su importancia, conozca su misión y sus funciones.

Palabras Clave: respuesta a desastres; planificación de desastres; servicio hospitalario de urgencias; emergencias por desastres; papel del profesional de enfermería

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INTRODUCTION

All countries in the world are exposed to tragic, traumatic events, major catastrophes, and crisis situations that affect the lives of the population in the present and the way they think and live in the future. Typically characterized by being unpredictable, unexpected, uncertain, and unplanned disasters cause human suffering and disruption of communities, affecting the economic, social, and political areas of people and communities. (Alan et al., 2022).

In 2021, a total of 432 catastrophic events were recorded, which is considerably higher than the average of 357 catastrophes annually between 2001-2020 (Jones et al., 2022). Portugal fits the statistical evidence and has suffered a significant increase, especially in natural disasters, namely forest fires (Miranda et al., 2020), which resulted in a high number of deaths and economic, social, and psychological damage, impossible to quantify exactly.

The hospital is a public health service center with significant repercussions in responding to catastrophic events, and this means that each professional must know their role in facing the situation (Husna et al., 2020; Tas & Cakir, 2022). It is expected that nurses, as the largest group providing hospital and community care, have adequate competence and knowledge to respond with immediate care to victims of the disaster (Molassiotis et al., 2022).

The exploration of this topic is essential. On one hand, the COVID-19 pandemic caused an economic and health crisis, emphasizing to the world the importance of preparing for and being resilient to disasters (Alan et al., 2022). On the other hand, a bibliometric study of investigations related to Disaster Nursing, covering the last 30 years, showed an increasing, but still relatively small, number of publications on the subject, with an average of less than 60 articles per year, focusing on response phase and questions related to emergency, education/training, or nurses' roles (Molassiotis et al., 2022).

Therefore, faced with a catastrophic scenario, there is an urgent need for well-prepared nurses (and teams), in order to implement timely and effective measures to mitigate damage. Therefore, this study aims to contribute to improving the conditions and means to effectively respond to healthcare needs in disaster events without harming or minimizing the negative impact on the care provided.

In view of the above, this research aims to analyze the perception of nurses in the ED of a hospital in the north of Portugal regarding their preparation to act in catastrophic situations, making this the main objective of the study.

1. LITERATURE REVIEW

Catastrophe refers to a sudden event that affects human life, causing loss of resources and human lives or injuries, generating disorder and/or chaos, which must be addressed and countered with multidisciplinary organizational management to reduce effects and minimize consequences (Tavares, 2021).

Between 2000 and 2019, there were 510,837 deaths and 3.9 billion people suffered repercussions from 6,681 natural disasters (Jones et al., 2022). This increase in the mortality rate exposes the continued vulnerability of communities to these devastations, especially in underdeveloped countries, making it difficult to predict the pace, intensity, and moment of their occurrence.

The occurrence of a catastrophic event results in an increased demand for health services and treatment and nurses, as an integral part of the largest sector of the healthcare workforce, will be at the forefront. These have a very important role in responding to the disaster, especially those who work in emergency units or facilities as they are the first health professionals to establish contact with the victims (Tas & Cakir, 2022). With the aim of efficiently minimizing the devastating consequences of a catastrophe, the preparation of health professionals is essential so that they can identify their roles in providing emergency or urgent care to victims (Xu & Zeng, 2016; Ghazi Baker, 2021).

An essential part of this response is the adequate training of leadership, their decision-making capacity, and ability to intervene, explaining action plans, and the preparation throughout the process, structuring, and implementation in advance (Su et al., 2022).

In view of the above, there is an urgent need for training, preparation, and training of those involved in this area, requiring health professionals, in the first instance, to raise awareness of the occurrence of disasters.

The World Health Organization (WHO), based on the global increase in catastrophic events, advises that all countries, no matter how frequently they experience catastrophes, should consider preparing their health professionals to adapt to their eventual occurrence. Regardless of the type of catastrophe, good general preparation will help healthcare professionals respond more efficiently and effectively, and the presence of nurses acting in the face of a catastrophe can reduce mortality rates by 50 to 70% (Al-Thobaity et al., 2015).

Despite the increase in number of training and training programs in Disaster Nursing in the last 20 years (with the emergence of some specific courses and postgraduate courses), enabling and training nurses to face catastrophes is still not a training reality in the curriculum plan for most degrees (or equivalent) in Nursing. Santos et al. (2021) state that content in the field of catastrophe is absent from most nursing degree curricular programs in Portugal. International literature also warns and demonstrates that the current training system does not provide the necessary skills for nurses to act in a catastrophic situation.

On the other hand, the literature recommends that the training content to be included in curricular plans must be planned and organized for various subjects with specific skills, appropriate to geographic risk stratification, and must be based on learning and teaching strategies that facilitate the development of skills and critical thinking skills (Said & Chiang, 2020). These must also be in

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line with international guidelines, namely with the International Disaster Nursing Competency Framework of the International Council of Nurses (ICN), given that catastrophic events may not be confined just to country borders, and, as we saw during the COVID-19 pandemic, international assistance from healthcare professionals in the most affected countries may be necessary.

Recent evidence is unanimous in finding that nurses lack proficiency and skills that involve preparation and skills in disaster situations (Al-Thobaity et al., 2017; Labrague et al., 2018; Said & Chiang, 2020; Miranda et al., 2020; Brewer et al., 2020; Therefore, it is necessary to assess the level of knowledge of nurses before preparing and implementing training and training programs in Disaster Nursing (Tas & Cakir, 2022; Su et al., 2022).

The training of health professionals in emergencies is not only based on mastering their own skills but also centered on the perception of preparedness. Therefore, nurses' knowledge and preparation levels need to be determined and evaluated to plan congruent, reality-adapted, and effective educational programs that will help improve care and increase the effectiveness of these elements' response during the disaster (Alan et al., 2022).

Therefore, the initial step in developing an appropriate response to the catastrophe, on the part of nurses, is the awareness of their preparation and, in this context, the research question that guides the present study arises: What is the perception of ED nurses of a hospital in the north of the country in terms of its preparation to respond to catastrophe situations?

2. METHODS

A quantitative study was developed, with descriptive-correlational and cross-sectional analysis. The sample was composed of the target population, that is, all nurses who work in the ED, 60 nurses.

As a data collection instrument, a sociodemographic characterization questionnaire was prepared (Part I) and with part II consisting of the Disaster Preparedness Evaluation Tool (DPET®), by Bond and Tichy (2007), translated and culturally adapted for the Portuguese population by Santos and Dixe (2017) with the name “Preparation of Nurses in the Face of a Disaster Situation” (DPET-PT®). The questionnaire was administered online (Office 365 forms® platform) between December 20 and 26, 2022.

The DPET® (Bond & Tichy, 2007) consists of 68 questions, containing 47 items on a Likert-type scale, with 6 response options, where 1 (“strongly disagree”) and 6 (“strongly agree”), which are associated in three dimensions: the first 25 correspond to pre-disaster preparation (knowledge), the next 16 refer to disaster response (skills) and the last 6 refer to the catastrophic recovery phase (post-disaster management) (Duarte et al., 20

The sum of the scores for each item generates a total score that can range from 47 to 282, where higher scores indicate more knowledge and skills/competencies, resulting in a better perception of preparedness to act in a disaster. From the calculation of the average value of each item, three levels were created that allow classifying the preparation of nurses to work in catastrophic situations: between 1 - 2.99, the level of preparation is considered weak; between 3 - 4.99 the level of preparation is considered moderate; between 5 - 6, the level of preparation is considered strong (Al-Khalaileh et al., 2012).

The DPET-PT® (Santos & Dixe, 2017) consisted of 34 items. In order to estimate the reliability and measure the internal consistency of the instrument, the values of Cronbach's alpha coefficient (α) were researched in previous studies, revealing high-reliability values. The original study could not be located. However, Al-Khalaileh et al. (2012) report that the global α of DPET® was 0.91, values identical to those of the Portuguese version (global α = 0.949) and the present study (global α = 0.957).

Variables of attribute or sociodemographic characterization (gender, age) and professional (length of professional practice in the ED, training in the area of emergency and/or catastrophe care, experience and/or training in catastrophe), holding a Vehicle course were considered. Emergency and Resuscitation Physician (VMER) and knowledge of the institutional Emergency and Catastrophe Plan (PEC) as independent variables and dependent variable: nurses' perception of their preparation to act in a catastrophe situation (level of response to a catastrophe, level of evolution of a catastrophe).

The data collected were subjected to statistical treatment (descriptive and inferential) using the Statistical Package for the Social Sciences (SPSS®), version 28.0. Using the Kolmogorov-Smirnov test with Lilliefors correction or the Shapiro-Wilk test, selected depending on the sample size, an abnormality in the distribution of the data was verified in some of its dimensions of the dependent variable (sig< 0.05). It was therefore assumed that the assumptions for the use of parametric tests for these dimensions were not met, using non-parametric tests, namely Spearman's correlation coefficient (rs) to quantify the association between two variables.

When a normal distribution was confirmed, or when there was no severe asymmetry or kurtosis, parametric tests were used, such as Student's t-test and Pearson's correlation coefficient (r), based on Kline (1998).

For all tests, the significance values considered were 5% (sig< 0.05).

This path was guided by the ethical principles inherent to the research process, which includes the authorization of the authors to validate the DPET-PT®, as well as the favorable opinion of the Board of Directors of the hospital where the study took place, guaranteeing respect for rights fundamental aspects of the participants.

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3. RESULTS

In the sociodemographic characterization of the sample, as can be seen in Table 1, we found that in terms of the sex of the participants, females predominate (75%), with an average age of 40.2±10.4 years, varying between 25 and 64 years, being the age group from 31 to 50 years old is the most represented (65%). Professional practice time ranges from 3 to 43 years, with an average of 16.8±10.5 years and a median of 14.5 years. The length of professional practice in the ED varies between 3 months and 37 years, with an average of 11.4±10.7 and a median of 7.5 years. However, 43.3% have been working in this service for less than 5 years. With regard to academic qualifications, only 6.7% have a Master's degree and professional qualifications, 16.7% have a Post-Degree, and 26.7% are a Post-Graduate, and 50% of these nurses are in the Approach to the Critically Ill. Some nurses have completed more than one postgraduate degree and cumulatively hold a master's degree. It can also be seen that 70% of the sample have completed the Manchester Triage course awarded by the Portuguese Triage Group and 30% have completed the VMER course.

Table 1 - Socioprofessional characterization of nurses in the ED (n=60)

	(n) %	Average (±DP)	Median
Feminine	45 (75,0)	-	
Masculine	15 (25,0)		
Age (years)		40,2±10,4	
≤30	11 (18,3)		
31-50	39 (65)		
≥51	10 (16,7)		
Professional Experience (years)	-	16,83±10,563	14,50
ED Experience (years)		11,4±10,7	7,50
< 5 anos	26 (43,3)		
≥ 5 anos	34 (56,7)		
Academic Education			
Post-Graduate	16 (26,7)		
Post-Degree	10 (16,7)		
Master	4 (6,7)		
Manchester Triage Course	42 (70,0)	-	
VMER Course	18 (30,0)		

Regarding knowledge about the institution's PEC, it was found that 44.3% of nurses classify their knowledge as weak. 13.1% also reported that they had good knowledge, while 11.5% revealed that they did not know it. However, everyone considers that it is important to be prepared to intervene in disaster situations and that there is a need for training to respond appropriately to them. It appears that training and/or experience in a catastrophe situation came predominantly from a degree in Nursing (38.3%) and from taking the VMER course (26.7%). Also, 11.7% of respondents claim to have participated in simulations in the institutions where they worked/work (including in a pre-hospital context), and 26.7% report having taken courses, including the VMER: Catastrophe course. and Exceptional Situations.

Skills related to intervention in disaster situations were analyzed using DPET-PT®. The average value obtained in the global score of the scale was 88.25±26.049. From the analysis of the results, a low classification value of the answers given stands out, with the average value of each item corresponding to 2.60±1.78, which translates into a weak level of preparation. From the results obtained, it can be seen that nurses in the ED perceive that they do not have adequate preparation to intervene in catastrophe situations.

In the relationship between the global scale (DPET-PT®) and its dimensions with variables age, time of professional practice in the ED, VMER course, knowledge of the institutional PEC, and real/simulated experience and/or training, no statistical differences were found significant. However, there are statistically significant differences in relation to gender and advanced training.

Regarding the gender variable (Table 2), there is normality of distribution in the global score of the scale and in all dimensions (sig> 0.05), with the exception of the dimension of skills related to the “doing” of the female sex (sig = 0.002). However, no asymmetry (skewness= 0.300) or severe kurtosis (kurtosis= -0.846) was observed, which is why parametric tests were used, namely the Student's t-test, to compare means. Statistically significant differences were found in the “knowledge” dimension (sig= 0.003), post-disaster management (sig< 0.001), and the global score of the scale (sig< 0.001). Observing the average values, it is clear that male elements have higher averages, denoting a perception of more knowledge and skills related to “doing,” “knowing,” and “post-disaster management” than females.

Table 2 - Perception of preparedness to intervene in a disaster situation according to gender (n=60)

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DPET-PT®	M +/-DP Feminine	M +/-DP Masculine	*t*	Sig
Skills related to "doing"	2,30 ±1,076	2,71 ±1,188	1,260	0,213
Skill related to "knowing"	2,58 ± 0,782	3,32 ± 0,860	3,070	0,003
Post-disaster management	2,28 ±0,697	3,24 ±0,784	4,457	<0,001
Global Score	2,39±0,670	3,22 ± 0,713	4,085	<0,001

Note: M = average; DP = standard deviation; t = Student`s t-test; sig = significance level.

Regarding the relationship between advanced training and the DPET-PT® scale, there was no normality of distribution in the dimension related to "doing" (sig= 0.006) nor in the sub-scale responsible for the perception of skills related to "doing" know" (sig= 0.004). However, there was no severe asymmetry or kurtosis, that is, in the "do" dimension, skewness = 0.454 and kurtosis = -0.615 and in the "know" dimension, skewness = 0.955 and kurtosis = 1.824. Homogeneity of variances was observed by Levene's test (all sig> 0.05), so the Student's t-test was used for independent samples.

Analyzing the relationship between variables (Table 3), we found that the only exception corresponds to the "do" dimension, where there are no statistically significant differences in mean values (sig= 0.384). There are statistically significant differences between the level of perception of preparedness for disasters depending on advanced training, as professionals with advanced training in areas where there is reference to assistance in emergency and catastrophe situations present higher average values in the global score of scale and in the dimensions "knowledge" and "post-disaster management" in relation to those who do not have training in the area.

Table 3 - Relationship between professionals with advanced training (n=13) and the perception of preparedness to intervene in a disaster situation

DPET-PT®	Without Advanced Training M ± DP	Advanced Training M ± DP	*t*	Sig
Skills related to "doing"	2,31 ± 1,101	2,57 ± 1,13	0,877	0,384
Skill related to "knowing"	2,56 ± 0,732	3,16 ± 0,947	2,742	0,008
Post-disaster management	2,36 ± 0,790	2,80 ± 0,834	2,019	0,048
Global Score	2,43 ± 0,719	2,91 ± 0,769	2,419	0,019

Note: M = average; DP = standard deviation; t = Student`s t test; sig = significance level.

4. DISCUSSION

This assessment tool is widespread around the world and has already been subjected to several cultural validations, being a scale used in several countries other than Portugal, including Japan, Indonesia, China, Taiwan, Nepal, Korea, Saudi Arabia, Bhutan, and Thailand. In the present study, we will analyze the results obtained, preferably in comparison with the Portuguese reality.

Regarding the sex factor, similar to Costa (2022) and Duarte et al. (2022), our study shows that male elements reveal a greater perception of preparedness in the face of a disaster situation compared to females, with statistically significant differences in the overall scale score and in the dimension of skills related to "knowledge" and with "post-disaster management". Xu and Zeng (2016) also found similar results, confirming that male members have superior physiological and psychological capacity (resilience to pressure and predisposition to challenge and adversity), being more qualified and more effective in responding to these situations. These advantages may explain the greater interest of male elements in knowledge to act in a catastrophe, as well as a greater capacity to manage the effects/after-effects of the same.

Analyzing the results of the application of DPET-PT® regarding competencies related to intervention in catastrophes, it appears that nurses in the ED are poorly prepared to act in these situations, presenting a low level of perception of competence. The scores obtained overlap those of the authors who validated the DPET-PT® in Portugal (Santos & Dixe, 2017).

This lack of preparation of nurses to intervene in a catastrophic situation is described in the systematic literature review by Labrague et al. (2018), in the scoping review by Al-Harti et al. (2020), in the integrative review by Almukhlifi et al. (2021) and in the systematic review by Tas and Cakir (2022), who conclude that the current education system does not provide the necessary skills and, therefore, nurses perceive themselves as ill-prepared to act in a catastrophic event.

However, using DPET®, countries in the Middle East and Asia, such as Jordan, Indonesia, the United States of America, Australia, and Thailand, obtained a moderate perception of preparedness to intervene in a disaster situation among nurses.

Participants in the Indonesian studies had prior experience with disaster response, given that almost half of the world's natural disasters occur in the Asia and Pacific region, with nurses often encountering disaster victims (Rizqillah & Suna, 2018; Hasan et al., 2022). Several recent studies report that professionals with previous experience in disasters felt more confident when faced with a disaster situation again (Rizqillah & Suna, 2018; Brewer et al., 2020; Tas & Cakir, 2022). Also, Su et al. (2022) and Duarte et al.

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(2022) measured the positive influence of previous experiences in catastrophes, real or simulated, on the preparation of nurses to work in these scenarios. As reported by Al-Thobaity et al. (2017), in fact, and fortunately, the majority of nurses do not experience catastrophic situations and, therefore, lack experience and opportunities to develop their knowledge and response skills.

According to the International Federation of Red Cross and Red Crescent Societies (IFRC), (2020), emergency healthcare professionals in Western countries reported a higher level of preparedness than those in developing countries, and this disparity may be due to differences in resources between health systems in developed and developing countries. Developed countries have invested in early warning systems and established health systems that include training and equipment for their emergency health professionals (IFRC, 2020).

We thus realize that, as our reality has not made us confront the need to intervene in a catastrophe, we have not prepared ourselves for it. The results of our study reveal that there are few nurses with training/experience in areas related to the disaster. However, although no statistically significant differences were observed when applying the DPET-PT®, slightly higher average values were found in all dimensions among nurses who had previous experience, participated in drills, multi-victim accidents, and/or courses related to a catastrophe, felt more prepared for intervention.

Al Harthi et al. (2021) consider that regularly carrying out drills and training courses in healthcare institutions will provide nurses with confidence in their knowledge and preparation, in addition to adequate provision if such incidents arise. In the present study, only 7 nurses reported having participated in drills in the workplace (11.7%). Guimarães (2020) also found that the majority of nurses who participated in his study (89%) never participated in simulated training actions. In the study by Santos and Dixe (2017), only 20.8% of nurses reported having participated in drills.

Furthermore, several studies highlight that few Nursing schools worldwide include content related to disasters in their curricular programs (Achora & Kamanyire, 2016; Rafferty-Semon et al., 2017).

In the study under analysis, 38.3% of nurses stated that their training/knowledge about disasters came from their degrees. However, the study by Santos et al. (2021), which encompassed 35 of the 40 Portuguese Nursing schools, demonstrated that the curricular programs for the Nursing degree course lack content in this field. Therefore, despite the difficulties evidenced by nurses in establishing priorities in their intervention towards the multiple victims of the Pedrógão Grande forest fire catastrophe in 2017 (Miranda et al., 2020), there appears to be no change in our reality.

There is a need to plan and develop educational programs that improve the knowledge of health professionals and lead them to an efficient practice where there is proactive risk identification, a synchronized and structured response to control the situation, acting with maximum safety for everyone involved. in the face of catastrophe (Rafferty-Semon et al., 2017; Loke et al., 2021; Tas & Cakir, 2022; Al-Qbelat et al., 2022). Therefore, it is important to review curriculum programs in order to prepare a response to the growing number of disasters and update essential skills, particularly communication, leadership, and risk reduction (Loke et al., 2021).

Several studies have been carried out to understand the influence of training and training in disasters on the performance and level of confidence of nurses who respond to them, and the results converge with the literature review by Su et al. (2022) and Tas and Cakir (2022) which highlight that training and training increase the ability to perceive preparedness for a disaster, as well as nurses' response self-efficacy, being essential to minimize emotional and psychological trauma.

Duarte et al. (2022) report evidence of better preparation of nurses to work in catastrophes among those who have specific training in catastrophes and in the area of emergency care. In the present study, nurses with advanced training, including postgraduate studies in the area of emergency care and specialization/master's degrees, present higher average values in the global score of the scale and in the dimensions related to “knowledge” and “post-disaster management”, in relation to those who do not have this training.

Abuadas and Albikawi (2022) found that nurses in a region of Egypt who participated in courses related to disaster preparedness felt significantly better prepared to face it. They recommend that nurses in the ED must be professionally prepared for disaster response and should, therefore, integrate organized and structured theoretical and practical teaching courses.

With regard to the area of professional training, it was found that knowledge about the institutional PEC is considered by 44.3% of the sample to be weak, and 11.3% are unaware of its existence. In studies by Costa (2022) and Duarte et al. (2022), respectively, 62.5% and 62.7% of the sample were aware of the institutional PEC, and Nunes (2022) found that 74.8% of nurses were aware of the existence of a PEC at an institutional level. However, it highlights that some (as in the present study) are not aware of its existence in their workplace and that a minority even mention its non-existence.

Considering the predicted increase in natural disasters and the emergence and prevalence of new diseases, such as COVID-19, it is important to train nurses and improve their preparation for these situations (Alan et al., 2022). Across the world, during the most recent COVID-19 outbreak, nurses were fundamental to the response, relying on society for their clinical skills and heuristics, which allowed them to manage complex clinical needs in highly difficult and volatile situations.

We ended this discussion with the phrase “By failing to prepare, you are preparing to fail” by the writer Benjamin Franklin and we note that the profile of nurses in the sample studied with the best perception of preparation in the face of a catastrophe is male and have advanced training. In view of the above, there is an urgent need to structure solid, integrated, and non-fragmented

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training in the field of catastrophe, which should clarify the space for intervention that Nursing offers in this area, defining the nurse's intervention and recognizing and valuing the unique contribution that this class professional has in the field of catastrophe (Santos et al., 2021).

CONCLUSION

Portugal has witnessed and suffered, in recent years, a significant increase in catastrophes that resulted in injuries, fatalities, and a negative economic, social, and psychological impact. These, in addition to being uncertain and unpredictable, are not likely to be reproduced, which disrupts the possibility of conceptualizing and planning care, establishing priorities, and practicing reflection and research. However, the chances of survival for disaster victims will increase if nurses know what to do.

Therefore, to guarantee an adequate and effective operational response to disaster situations, it is necessary to invest in a pre-preparation phase that includes planning and prevention, continuous training of professionals, education, and awareness of the topic and risks, without forgetting the remaining phases of disaster management, including planning for ongoing emotional support after the event.

The results obtained allow us to understand that nurses in the ED do not feel prepared to intervene in a catastrophic situation. However, male members reveal a greater perception of preparedness, presenting statistically significant differences in the overall scale score and the dimension of skills related to “knowledge” and “post-disaster management”, compared to female members. In these dimensions, statistically significant differences were also obtained between the level of perception of preparedness for disasters in the function of advanced training, with nurses holding advanced training in areas where there is a reference to emergency and catastrophic care presenting higher average values. Furthermore, we found that a large part of the team either considers their knowledge “weak” or is unaware of the institutional PEC.

We also recommended taking a broader path in order to investigate the real preparation of Portuguese nurses to intervene in these scenarios. Empowering nurses and improving their awareness can be an important step towards providing timely and appropriate care to victims during catastrophic events, with better outcomes in survival and quality of life.

We remember that inclusive and objective regulation of the skills of all Portuguese nurses in the field of disasters is essential, to define better continuous training programs and influence the involvement of Nursing schools in the development of curricular programs with a view to developing skills and capacity. We believe in high-fidelity simulations and their power to develop skills, correct inadequacies, and reinforce what is adequate and efficient, both in formal and ongoing training, suggesting the carrying out of a longitudinal study based on these assumptions.

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AUTHOR CONTRIBUTIONS

Conceptualization, M.T.F.; data curation, M.T.F. and C.S.; formal analysis, M.T.F. and C.S.; investigation, M.T.F. and C.S.; methodology, M.T.F. and C.S.; project administration M.T.F. and C.S.; resources, M.T.F.; software, M.T.F.; supervision, M.T.F., C.S. and R.G.; validation, M.T.F., C.S. and R.G.; visualization, M.T.F.; writing-original draft, M.T.F.; writing-review and editing, M.T.F., C.S. and R.G.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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