Training vulnerable populations living in risk areas: an integration review study

Capacitação de populações vulneráveis que vivem em áreas de risco: um estudo de revisão integrativa

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RESUMO

O presente estudo tem como objeto de pesquisa a capacitação de moradores que habitam em áreas de riscos, com propósito de melhorar a ação de resposta às vítimas de desastres. Para tanto, o objetivo proposto foi investigar a produção de estudos sobre capacitação de população vulnerável em desastres naturais. O estudo é uma revisão integrativa e foi dividido em duas etapas, na primeira as buscas foram realizadas nas bases contidas na Biblioteca Virtual em Saúde (BVS) e na segunda parte, as bases utilizadas foram a CINAHL (Cumulative Index to Nursing and Allied Health Literature) e a Web Of Science. Os resultados obtidos na pesquisa foram que não há publicações na BVS que abordem a temática do estudo e os artigos encontrados na CINAHL e Web Of Science, não possuem o Brasil como país foco da pesquisa. O resultado deste estudo, mostrou a necessidade de maiores estudos canalizados para a ação de resposta, atentando o conteúdo para assistência à saúde dessas vítimas. Sendo assim, o estudo demonstra a necessidade da disseminação da educação em saúde voltada para a temática do desastre, em comunidades vulneráveis, objetivando a redução do risco em desastre e a recuperação da saúde da comunidade no pós desastre.
Palavras-Chave: Desastre; População Vulnerável; Prevenção e Mitigação; Capacitação de Recursos Humanos em Saúde

ABSTRACT

The present study has the objective of researching the training of residents living in areas of risk, aiming to improve the response to disaster victims. Therefore, the objective was to investigate the production of studies on training of vulnerable population in natural disasters. The study was an integrative review and was divided into two stages, in the first the searches were carried out in the bases contained in the Virtual Health Library (VHL) and in the second part, the bases used were CINAHL (Cumulative Index to Nursing and Allied Health Literature) and the Web of Science. The results obtained in the research were that there are no publications in the VHL that address the study topic and the articles found in CINAHL and Web Of Science, do not have Brazil as the focus of the research. The result of this study showed the need for further studies channeled into the response action, taking into account the content for health care of these victims. Thus, the study demonstrates the need to disseminate disaster-related health education in vulnerable communities, with a view to reducing disaster risk and recovering community health in the post-disaster period.
Keywords: Disaster; Vulnerable Population; Prevention and Mitigation; Human Resources Training in Health

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INTRODUCTION

The objective of this study is to train residents and professionals living in areas vulnerable to natural disasters. Disaster is defined as natural or man-made adverse events in a vulnerable environment, involving extensive human, material, economic or environmental losses and damages. In its broad meaning, disaster is present in the history of mankind, ranging from the earliest wars to the current climatic exacerbations[1-2].

In the course of the twentieth century, Brazil suffered a significant change in the geographical disposition of the population, due to the rural exodus, this change was due to the pretension of the inhabitants of the fields for an improvement in the quality of life. The Brazilian population grew almost ten times in that century, in 1900 it obtained 17 million inhabitants, with 50% working in the countryside. In contrast, in 2000 the population increased to 170 million. This growth led to changes in the rate that was previously 50% to 17% of the population present in the countryside and 83% of the Brazilian population was resident in urban areas[3].

The latest data available from the Brazilian Institute of Geography and Statistics (IBGE), through the "Urbanized Areas of Brazil 2015" project, states that Rio de Janeiro is considered a dense area, that is, a continuous urban occupation, with little spacing between buildings. Rio de Janeiro, with 95% of the area considered urban, appears soon after São Paulo, which leads the study. However, this change in the population profile has not been matched by investment-related applications in terms of infrastructure and public services, especially in disaster risk areas where the population becomes increasingly vulnerable[3-4-5].

The historical process experienced in the country generated several implications, such as favelisation due to social disparities and economic demand, a consequence of the lack of employment and informality as a source of income. These aspects culminated in the movement of the construction of residences in the peripheral regions of the city, places lacking essential or local public services that in turn, should not be used for housing purposes[6-7].

Disorganized housing construction encompasses aspects such as inadequate soil and location of risk areas, as well as lack of knowledge regarding access rights to health that also favor the occurrence of a disaster. Other aspects such as those related to socioeconomic issues add to the potential for disaster-related damage, such as: illiteracy or people with low levels of schooling inserted in areas at risk[5].

After numerous debates and events in the national scenario, in 2012, Law No. 12,608/12 was enacted, which provides for the Municipality's duty to carry out the care response to the population and services that suffered damages and / or losses in disasters, triggering decentralization attention to the relief action, victim assistance actions, actions to restore essential services, reconstruction, prevention and mitigation[6].

In this sense, when the civil defense and health areas are intersected, it faces the general objectives of the National Civil Defense Council (CONDEC) and the other sectors within it that intertwine so that existing disasters prevention, response and reconstruction. According to these guidelines, the execution of scientific production acting to prevent and improve the response to the disaster becomes clear and necessary, as a way to complement those studies related to the related areas[7].

Thus, it is assumed that training residents and health professionals to provide an adequate response to victims is a strategy that would result in health education actions and a reduction in the initial response time and reduction of possible damages, as well as improvement in the primary care to the health of the affected, avoiding a greater number of people being referred to the high complexity, due to lack of quality in the prehospital care. These assumptions confirm the adherence of nursing management in crisis situations such as disasters.

As a guiding question of the study was raised the importance of the care training of residents living in areas of risk and the impact to the management of care.

Based on these premises, the study aims to investigate the production of studies on the training of vulnerable population in natural disasters.

METHOD

The study is an integrative review, consisting of the phases: conception of the main question, search in the specialized databases, collection of the data found, verification of included studies, discussion of the elucidations and presentation of the integrative review. In the first stage of the study, which produced the guiding question: what is the importance of the assistance training of residents living in risk areas? Defined from the use of the strategy PICo (P = Population, I = Interest, Co = Context)[8].

The descriptors used were determined from the DeCS tool (Descriptors in Health Sciences), totaling 10 descriptors selected for the review of the present study: Community Involvement; Education; Disaster vulnerability; Natural disaster; Disaster planning; Population at Risk; Natural Risk; Disasters; Disaster.

The electronic bibliographical survey was done in the bases contained in the Virtual Health Library (VHL); LILACS (Latin American and Caribbean Literature in Health Sciences); MEDLINE (International Literature on Health Sciences) and SciELO (Scientific Electronic Library Online).

In order to cross-analyze production, the search for

scientific publications in two specialized databases: CI-NAHL (Cumulative Index to Nursing and Allied Health Literature) and Web of Scienci was used for the electronic bibliographic survey. In these bases the descriptors used were arranged only in English and with the Boolean operator AND. The descriptors used at that moment in English and in union with the Boolean Operator AND were: Community Involvement; Education; Vulnerability; Natural Disasters; Disaster Planning; Population in Risk; Natural Risk; Disaster; Disasters.

The inclusion criteria used were: all types of studies (experimental, quasi-experimental, observational and review) that related to natural disasters (landslides, floods, droughts, floods, floods among others) and the response to the disaster; having as searched languages: Portuguese, English and Spanish; published between the years 2012 to 2017.

Data collection at the VHL bases occurred from July to August 2017 and at the CINAHL and Web of Science databases in August 2017. The abstracts were analyzed with the purpose of ascertaining whether they would meet the inclusion criteria of the proposal and if the theme was in line with the objective of the present study.

RESULTS

When searching the VHL portal, we came across a total of 9 studies that resembled the proposed theme. The initial analysis was made through the reading of the abstracts and it was verified that no article directly addressed the realization of the training of residents, who are or live in areas that are vulnerable to the occurrence of natural disaster.

The results of the integrative review obtained in the VHL portal, were arranged in tables and are arranged by columns as follows: Descriptors that were defined, from the DeCS tool, articles that were found without the use of filters that are available in the advanced search of the

VHL, the articles that were selected with (filters) and the articles that had some relation with the objective of the integrative revision. The filters that were used are: Full text available, Country / Region as subject and Year of publication.

The results found in this first stage of the research were directly related to the disaster, but no article was directed to education as a source of training for residents and/or passers-by in vulnerable areas. The first descriptor used was "Population at Risk", resulting in 1 study related to the theme among the 102,415 that were found. In sequence, with the descriptor "Natural Risk", 3 studies were found that resembled the theme, and in this, the total result was 26,762.

The descriptors Disaster and Disaster, had 2 and 3 studies respectively that were related to the search objective, which shows that the descriptors of singular form and in the plural, can obtain different results. Of these, 9,516 in the singular and 44,810 in the macro form were found when the search was for the plural descriptor, of the others, did not have results for the present research.

In Table 2, the descriptors are ordered using the Boolean operator AND, but only those with favorable results have been used.

Following the research, after arranging the descriptors in an individualized way, they were exposed in the search together with the Boolean operator AND, of all combinations, only two generated product. The descriptors combined Population at Risk AND Risk Zone and Natural Risk AND Disaster, both originated 1 result, respectively. By analyzing the data in this combination, it was possible to verify that previously one of these descriptors conceived favorable results, in this case, Population at Risk resulted in 1 study and Disaster, generated 2 products.

In Table 3, all the studies found in the first search of the integrative review were found, the topics were or-

TABLE 1 – Articles found in the VHL. Rio de Janeiro, RJ, Brazil, 2017

Descriptors	Articles without filter	Articles with filter	Articles that resemble the theme of work
Population at Risk	102.415	959	1
Natural Risk	26.762	160	3
Disaster	9.516	18	2
Disasters	44.810	18	3
Involvement of	289	28	0
Community	723.302	3.997	0
Natural disaster	2.147	11	0
Disaster Planning	2.914	3	0
Disaster vulnerability	1.103	5	0
Risk Zone	38.446	364	0
Total	507.559	2.259	9

Source: Own authorship, 2017.

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TABLE 2 – Articles found according to the descriptors with the boolean operator AND.

Descriptors	Articles without filter	Articles with filter	Articles that resemble the theme of work
Population at Risk AND Risk Zone	4.492	55	1
Natural Risk AND Disaster	400	15	1

Source: Own authorship, 2017

TABLE 3 – Articles found with the individual specification

Name of Authors	Year of publication	Title
Roberto Luiz do Carmo/ Tathiane Mayumi Anazawa	2014	Disaster mortality in Brazil: what the data show
Neison Cabral Ferreira Freire/ Cristine Vieira do Bonfim/ Claudia Eleonor Natenzon	2014	Socio-environmental vulnerability, floods and health repercussions in peripheral regions: the case of Alagoas, Brazil
Carlos Machado de Freitas/ Elaine Silva Miranda/ Claudia Garcia Serpa Osorio-de-Castro	2014	Reducing the risks of natural disasters as a challenge to collective health
Eduardo Marandola Jr./ Cesar Marques/ Luiz Tiago de Paula/ Letícia Braga Cassaneli	2013	Urban growth and risk areas on the north coast of São Paulo
Luciana de Resende Londe/ Victor Marchezini/ Rodrigo Silva da Conceição/ Katia Cristina Bortoletto/ Ana Elisa Pereira Silva/ Elisa Volker dos Santos/ Regina Tortorella Reani	2015	Impacts of socioenvironmental disasters on public health: case studies from the States of Santa Catarina in 2008 and Pernambuco in 2010
Vânia da Rocha	2015	The role of the Community Health Agent in the prevention of landslide disasters in the communities of Rio de Janeiro - RJ, Brazil
Lívia Maria Vidal Romão/ Evanira Rodrigues MaiaII/ Grayce Alencar AlbuquerqueIII	2014	Environmental risks: nurses' perception of family health strategy in ascribed areas
Paula Pimenta-de-Souza/ Elaine Silva Miranda/ Claudia Garcia Serpa Osorio-de-Castro1	2014	Preparation of pharmaceutical disaster assistance: a study in five Brazilian municipalities
Mary Jane Paris Spink 1	2014	Living in risk areas: tensions between environmental disaster management and everyday meanings of risk
Ansu Mancal/ Patrícia Verônica Pinheiro Sales Lima/ Ahmad Saeed Khan/ Maria Irles de Oliveira Mayorga	2016	À espera da seca que vem: capacidade adaptativa em comunidades rurais do semiárido
Camilla Figueiredo de Castro/ Dayane Carla Menezes Simões/ Elizabete Vianna Delamarque/ Vera Lucia Edais Pepe	2014	Mass events, disasters and public health

Source: Own authorship, 2017

dered as follows: Name of the authors; Year of publication; descriptor used; descriptor defined by the author to carry out the publication; Title.

Table 4 shows the results of the publications that were selected in the research search, from the CINAHL and Web of Science databases.

All the works obtained in the second stage of the research had results aimed at education as prevention of disasters, as well as the method of qualifying the inhabitants in order to increase the quality of the answer, regarding the time and the effectiveness of the assistance.

It should be emphasized that all studies are of international bases.

DISCUSSION

Considering the total of nine articles found in the VHL portal, which relate to the proposed theme, of these, only one addressed the city of Rio de Janeiro as a research focus. However, the objective of the study was to report on the role of the Community Agent in the prevention of landslide disasters in communities. None of the studies that were found exposed or emphasized the relevance of

TABLE 4 – Articles found in CINAHL and Web Of Science

Authors	Title	Data	Descriptors
Carmen-Paz Castro1/ Juan-Pablo Sarmiento/ Rosita Edwards/ Gabriela Hoberman/ Katherine Wyndham	Disaster risk perception in urban contexts and for people with disabilities: case study in the city of Iquique (Chile)	2017	Risk perception, Disaster, Urban Disability, Earthquake, Tsunami
LamekNahayo/ Christophe Mupenzi/ Alphonse Kayiranga/ FideleKaramage/ Felix Ndayisaba/ EnanMuhireNyesheja/ Lanhai Li	Early alert and community involvement: approach for disaster risk reduction in Rwanda	2016	Community involvement, Disaster risk reduction, Early alert,NyabihuDistrict Rwanda
Ujjwal Preet S. Flora	Disaster Management and Possible Strategies for its Management in India	2014	Disaster management in India, Health issues, Factors responsible, Early warning system, Education and awareness
Elizabeth Frankenberg/ BondanSikoki/ CecepSumantri/ WayanSuriastini/ Duncan Thomas	Education, Vulnerability, and Resilience after a Natural Disaster	2013	development; disaster; education; resilience; vulnerability
Raya Muttarak/ Wolfgang Lutz	Is Education a Key to Reducing Vulnerability to Natural Disasters and hence Unavoidable Climate Change?	2014	adaptive capacity; climate change; differential vulnerability; education; human capital; natural disasters
Aderita Sena/ Kristie L. Ebi/ Carlos Freitas/ Carlos Corvalan/ Christovam Barcellos	Indicators to measure risk of disaster associated with drought: Implications for the health sector	2017	Sem descritores
Laura M. Stough	World Report on Disability, Intellectual Disabilities, and Disaster Preparedness: Costa Rica as a Case Example	2015	Costa Rica, Convention on the Rights of Persons with Disabilities, disaster, intellectual disability, preparedness
Crystal Shannon,	Understanding Community-Level Disaster andEmergency Response Preparedness	2015	emergency preparedness, disaster planning, health promotion, disaster education

Source: Own authorship, 2017

empowering residents and professionals, for preventive, emergency or post-event, involving natural disaster. The other studies found focused on Brazil, but did not report any data on the measure of action to responses during the natural event or on the measures that should be provided after the occurrence of the event[13].

The publications found at CINAHL and the Web of Science demonstrate the importance of providing prevention education to residents, however, with a view to providing a quality response in the aftermath of the disaster. The article "Early warning and community involvement: approach to disaster risk reduction in Rwanda", for example, addressed the impact assessment of early warning and community involvement in disaster risk reduction in Nyabihu District, West Rwanda [20].

If the study is compared to specialized services in Brazil, the National Center for Natural Disaster Monitoring and Alarms (Cemaden) exists in the country. Its mission is to monitor natural hazards in areas of risk in Brazilian municipalities. in turn, are vulnerable to the occurrence of natural disasters, which reminds us of the need for studies that address the issue in the national scenario.

The study, titled "Understanding Community-Level Disaster and Emergency Response Preparedness", confirms the impact of studies within the proposed theme, that the issue of education for community dwellers as prevention of post-disaster be a continuous process and with positive impact to the practice in disaster risk reduction. The text affirms that educating the residents of the communities is of extreme importance, but not returning to training for the first emergency assistance, but to provide knowledge about the pre-event, what to do during the event and how to succeed the restructuring of services after the event[26].

The study was carried out with 423 local residents and the result showed that the residents themselves stated that they were not prepared for the occurrence of a natural disaster, either to perform a good care re-

sponse or even to be prepared to identify the signs of the disaster , and thus prepare for the moment of the climax of the catastrophe[26].

The Brazilian scenario enriched with the exorbitant number of people residing in places vulnerable to the occurrence of natural disasters, based on the studies analyzed by the present research, showed the deficit that the scientific productions are in agreement with the theme of the action of response to the disaster, faced with the objective of the National Secretariat of Civil Protection and Defense (SEDEC) to expand and qualify the capacity to respond to disasters, it is worthwhile to carry out a greater number of research that addresses the response to the disaster and preventive actions in the scope of academic importance[24-29].

Brazil is the only country in the Americas that is among the 10 countries with the highest number of people affected by disasters between 1995 and 2015 and according to the latest Brazilian Yearbook of Natural Disasters, the highest number of deaths due to natural disasters in 2013 , was by mass movement (slip), followed by the floods and floods. The geographic location of the 40 disasters recorded in the country was 22, located in the state of Minas Gerais, comprising 53% of the total, and 9 in the state of Rio de Janeiro[24 - 25].

Analyzing the events that are most seen in the State and following this number obtained by the Ministry of National Integration, shows how much is necessary to carry out research, actions and intervention products, aimed at elucidating issues of improvement or effectiveness in the scope of assistance and response to natural disasters that may occur at the national level[30].

CONCLUSION

The results and discussions point to the current possibilities in which Brazil is in need of research and publications of studies focused on the issue of management in disasters. Considering the increase in urbanization in the city of Rio de Janeiro, for example, and the socioeconomic aspects of the population, one must reflect on the existence of residents living in situations of risk, resulting from geophysical reconfiguration and demographic density in large cities.

This analysis is pertinent with regard to the consequences related to the social impact on the occurrence of landslides or floods and the health consequences of the affected populations, as well as the response capacity of the victims offered by the competent bodies.

In this sense, the objectives of the National Secretariat of Civil Protection and Defense should be considered, to which they support the production of educational offers in order to prevent the consequences that may be generated by a disaster. Having as thought the empowerment of populations that live in or live in an area of risk.

Thus, it is necessary the incentive to correlate the actions already carried out by the sectors related to the theme and socialization for the academic community in order to instrumentalize the training of health professionals, to generate the interface between primary care, inserted in the communities with areas of risk and empowerment of vulnerable populations, since the best response to disaster will always be the first.

For this reason, it is necessary that the community and the public administration be prepared and organized for actions to empower the population involved in the process, in order to allow early diagnosis and decision-making in aspects related to reduction and disaster risks. Thus, the study shows that the interface of nursing management is preponderant for strategic action in the disaster scenario, based on nurses' competences within primary health care.

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