Psychosocial impacts on health workers: narratives 10 years after the disaster

Impactos psicossociais sobre trabalhadores da saúde: narrativas 10 anos após o desastre

Gisele Cristina Manfrini[a]
https://orcid.org/0000-0003-0445-1610
E-mail: gisamanfrini@gmail.com

Ivonete Teresinha Schülter Buss Heidemann[a]
https://orcid.org/0000-0001-6216-1633
E-mail: ivoneteheideman@gmail.com

Francisco da Silva Costa[b]
https://orcid.org/0000-0001-7041-7811
E-mail: costafs@geografia.uminho.pt

Harrysson Luiz da Silva[a]
https://orcid.org/0000-0002-3421-1143
E-mail: harrysson@uol.com.br

Sara Mendes Boeira Lopes[a]
https://orcid.org/0000-0002-0360-0234
E-mail: saramblopes@gmail.com

[a]Universidade Federal de Santa Catarina. Florianópolis, SC, Brasil.

[b]Universidade do Minho. Braga, Portugal.

Abstract

The article aims to understand the psychosocial impacts experienced by health workers after a disaster situation in the state of Santa Catarina in Southern region of Brazil. To that end, a qualitative study of multiple cases and narrative interviews with professionals from mental health services, primary health care, and municipal managers in Itajaí, Blumenau, and Rio do Sul was carried out. The analysis of the narratives followed the steps of the Fritz Schütze method. The psychosocial impacts on the health and work of respondents, directly and/or indirectly affected by the natural disaster that happened in 2008 in the region, and subsequent events of lesser intensity, were described. In the three cases the impacts were perceived similarly, although the consequences of the event in the municipal network were faced differently in each location. The results reveal the importance of promoting health at work and developing personal skills, resilience in the face of adverse situations, and need for continuing and constant education.

Keywords: Psychosocial Impact; Natural Disasters; Health Personnel; Mental Health Services; Primary Health Care.

Corresponding author
Gisele Cristina Manfrini
Centro de Ciências da Saúde, CCS Campus Universitário, Trindade.
Florianópolis, SC, Brasil. CEP: 88040-900.

Resumo

O artigo tem como objetivo compreender os impactos psicossociais vivenciados por trabalhadores de saúde após situação de desastre no estado de Santa Catarina, na região Sul do Brasil. Para tal, realizou-se estudo qualitativo de múltiplos casos e entrevistas narrativas com profissionais de serviços de saúde mental, atenção primária à saúde e gestores municipais em Itajaí, Blumenau e Rio do Sul. A análise das narrativas seguiu as etapas do método de Fritz Schütze. Descreveram-se os impactos psicossociais sobre a saúde e o trabalho dos entrevistados, afetados direta e/ou indiretamente pelo desastre natural ocorrido em 2008 na região, e subsequentes eventos de menor intensidade. Nos três casos, os impactos foram percebidos semelhantemente, ainda que as consequências do evento na rede municipal tenham sido enfrentadas de formas diferentes em cada localidade. Os resultados revelam a importância da promoção da saúde no trabalho e do desenvolvimento de habilidades pessoais, a resiliência frente a situações adversas e a necessidade de educação contínua e permanente.
Palavras-chave: Impacto Psicossocial; Desastres Naturais; Pessoal de Saúde; Serviços de Saúde Mental; Atenção Primária à Saúde.

Introduction

Socio-environmental disasters are increasingly frequent in people's daily lives, regardless of whether they reside in risk areas or not. Combined with the action of man, these natural events can cause social, economic, and environmental damages and losses with intense impacts and incalculable territorial destruction. Their consequences include poor sanitation, food and water scarcity, electricity shortages, increase of populations' social vulnerability, and worsened public health problems.

In 2008, the Vale do Itajaí region in Santa Catarina faced a serious disaster, which caused psychosocial impacts on the affected population whose consequences remain to the present moment. Disasters can be associated with cultural and social elements, especially affecting portions of the population such as the poorest, minorities, women, older adults, and children, and increasing their social vulnerability (Avila; Mattedi, 2017).

The psychosocial impacts due to disasters confer several implications to the population in affected municipalities, including health teams, workers, and others who, in general, suffer from political, economic, and management vulnerabilities in the absence of effective plans to minimize the psychosocial effects in disasters (Noal; Rabelo; Chachamovich, 2019).

Thus, post-disaster mental health problems may be elevated but sometimes felt unequally by all. Social impacts in situations of natural disasters occur with greater intensity in people with low socioeconomic status and socially determined risks, which could be modified by political (Nahar et al., 2014) and intersectoral actions. Disaster risk management and community-level intervention planning greatly contribute to reducing the distress of those affected and improving access to post-event mental health care (Morganstein; Ursano, 2020).

Within the context of the Brazilian National Health System (SUS), the Family Health Strategy (ESF) reorients its health model toward a comprehensive approach based on primary health care (APS). APS is the population's preferred gateway to the system and coordinates care in the health care network (RAS) (Brasil, 2012). The ESF expansion contributed to

cover and prioritize the public health of vulnerable areas after disaster situations (Wagner et al., 2017) by recognizing affected territories and providing articulated support with the health care network. In the different stages of the disaster cycle, professional competencies must be advanced by acting toward affected communities and people's leading role, the coping with vulnerabilities, and empowerment to guarantee human rights (Dário; Malagutti, 2019).

Among the professionals in the ESF, we highlight the contribution of community health agents (ACS) (Santos; Days; Alves, 2019) to psychosocial care and the establishment of intersectoral actions between health teams and Civil Defense agents. Thus, APS plays a relevant role in risk management by coordinating care for the affected population since knowledge of the territory and their bond with them helps emergency professionals' performance. This study aims to understand the psychosocial impacts healthcare providers experienced after a disaster in the state of Santa Catarina, in Southern Brazil.

Method

A qualitative, descriptive, and integrated (Creswell, 2014) multiple-case study (Yin, 2015) was conducted to describe the studied phenomenon in its real-life context (Yin, 2015). It is classified as integrated as it involves the presence of subunits of analysis within each case (Favero; Rodrigues, 2016), such as the demand of affected families in their psychosocial care needs and the experiences of Care and Psychosocial Care Center teams (Caps).

This study was conducted in the Primary Health Care services of the ESF and Caps (I, II, alcohol and drugs, and pediatric), which integrate the Blumenau, Itajaí, and Rio do Sul RAS in Vale do Itajaí, state of Santa Catarina.

According to the University Centre for Disaster Studies and Research at Universidade Federal de Santa Catarina (Ceped UFSC, 2011), these municipalities suffered from more than 10 flash and gradual floods between 1991 and 2010, with Blumenau and Rio do Sul being the most affected by gradual floods.

This research was conducted from 2016 to 2019 and its results are currently being disseminated. Data were collected from November 2017 to July 2018.

Family Health Units and municipal Caps were selected from the locations mapped as risk areas or with a recent history of disasters, thus classified from state and municipal Civil Defense records. In Rio do Sul, five Family Health Units, one adult Caps II and Primary Care Management were chosen. In Itajaí, four Family Health Units, three Caps (II adult, alcohol and drugs, and pediatric), Primary Health Care Management and Mental Health Coordination were selected; and in Blumenau, four Family Health Units, three Caps (II adult, III alcohol and drugs, and pediatric), Primary Care Management, Occupational Health, and Municipal Mental Health Coordination were chosen.

ACS and managers who accepted our invitation and made themselves available for data collection were chosen as professional participants in this research. In Rio do Sul, 24 service professionals and two health managers were interviewed; in Itajaí, 41 service professionals and two health managers; and in Blumenau, 37 service professionals and three health managers.

The profile of our interviewees characterizes our research subjects: mostly ACS, followed by nurses, nursing technicians, psychologists, social workers, pharmacists, occupational therapists, physical educators, and physicians. Most were aged from 25 to 45 years and had more than 10 years of training in the profession and 5 to 10 years of work experience in their respective services. Our invitation to participate in this study was extended to the entire team in each service by phone or email to each responsible coordinator and meetings were then scheduled for interviews.

Data were collected from January to May 2018. To carry out these narrative interviews, more than one participant from the same team was allowed to be interviewed individually and collectively since their availability was linked to the time allocated to the team meeting or the ACS' presence in the unit. During interviewers' stay in the field, participant observations were performed and documents and images that complemented the narratives were collected as interviewees spontaneously provided them.

Narrative data were obtained by the narrative interview technique, following Schütze (2010).

Interviews were audio-recorded and transcribed and field observations were registered.

Our meetings with professionals, community health agents, and managers began with the interviewer's statement: "You are being interviewed for a study that seeks to understand professional care to families in transition due to disasters. What can you tell me about your experiences with psychosocial care to families in your work, considering the context of these disasters?" Then, other questions (integrated to the objective of this study) were addressed to further develop our research. Each municipality was visited from three to four times so small research teams could collect and meet concomitant schedules and agreed dates and times.

Data were analyzed by the narrative analysis method in Schütze (2010), which is organized in the following stages: formal analysis of the text; structural description of its content; analytic abstraction; knowledge analysis; and contrasting comparison. From these stages, the following categories of meanings emerged: (1) pre-flood care demands; (2) demands during the disaster event; (3) demands after the floods (psychosocial care); and (4) demands to monitor the territory after the disaster. Cases were identified as 1 (Itajaí), 2 (Rio do Sul), and 3 (Blumenau), and interviewees' narratives were complemented by an activity area code – PC (primary care) or PS (psychosocial care) – and the acronym referring to the profession or function in the service. Results were discussed based on the relevant literature.

This research was submitted to the Ethics Committee on Research with Human Beings, based on Resolution no. 466/2012, and was approved by opinion no. 2.575.581 in 2018. To collect data, informed consent forms were applied to study participants before the interviews.

Results

Service workers' experience of the disaster incurred in psychosocial impacts, suffering in dealing with the impacts on the population under their care, and coping with impacts on their personal or family lives with or without material losses.

Interviewees found the disaster a traumatizing experience and acknowledged health workers' suffering. Most managers worked in municipal service teams at the time of the disaster and understand the meanings attributed by other workers.

> *There is the suffering of the worker because it is the nurse, the dentist, the ACS, the staff who cleans, organizes, straps on their boots. They first clean your house and then clean here, so the staff is tired, but we manage. We have the experience of what we suffer, of what people suffer, but they do not invest in our situation. At no time after 2011 (when floods were frequent), was anything done about the feelings of both the workers and the people. There's help at first but then people have to survive.* (Health Manager_2)

Primary care teams claimed that ACS suffered significant impacts since they live with their families in the affected territories, causing direct losses. Moreover, these communities lack any post-disaster support. ACS had to resume working in a short time, performing registration actions and reorganizing care in health centers. However, they recognize the importance of their role in the care for affected families, despite the scarce psychosocial support to their suffering due to private losses.

> *Employees were shaken because they were also hit directly or indirectly, having to work without any psychological support.* (ASS_CAPSad_2)

> *We were like superheroes, like nothing had happened to us and we had to listen to people like we always do, but that's not unique to the floods,* [...] *We didn't study for this. I was very sad that we had lost everything, that we had lost our child. I lost a lot too but I couldn't tell patients that. I am a human being and my reality was this: everyone talking as if we were psychologists.* (ACS_PC2)

> *We cleaned our residence and our area to be able to work and it was very difficult* [...] *And we had to go to the streets to care for other people's problems and bring* [...], *and then we would come to our house, see our problems... and there was no one to see our*

reality. I'll be quite frank with you: I'm 54 years old but I've never cried so much, in all the floods we've been through, as I did in 2008. (ACS_PC2)

Professionals' psychological suffering is linked to their inexperience in responding to disasters and the unpredictability of their impacts on the community.

I was hit but I am still distressed. [...] *the impact [of the flood] in 2008 was greater. I was left with permanent sequelae for caring for those people. I would come home and I couldn't sleep. I spent two, three days crying for everything I saw. I saw dogs suffering, which shook me a lot.* [...] *At dawn, families had to leave because the flood had begun, and some of them took their dogs and tied them up on the block and when they had to go to shelters they couldn't take the animals, it chills me just remembering that.* (NRS_PC2)

Primary care service workers in the three studied cases find the emotional impacts on both workers and the families served in the long term. The complex demands of the population in this period stressed the teams in the immediate post-disaster work as they offered care under such adverse conditions.

I can't sleep when it starts raining. There's no danger there but I think there is, I think everyone was traumatized. Many take medication now because of what they have experienced. Many lost their homes and were left distressed. It kept raining, most refused to leave their homes, staying there during the day and somewhere else at night. Few stayed in the shelter up there. (ACS_PC_3)

We found an imbalance in the disposition of teams, reinforced by feelings of sadness and helplessness of the healthcare providers involved in areas affected by the disaster since they found themselves in the same condition as the families they cared for and, at the same time, had to show empathy to care for and motivate others to face the situation.

Going back to work takes strength because you know that you depend on it. Since I had to provide for my home all my life, there is no such thing for me: I worked on the streets and worked at home because my elderly mother... for her... you know how the elderly are, I didn't want to go back but there was no way around it. (ACS_PC2)

Primary care workers recalled that the urgency of seeking a safe shelter during the disaster and being alert to the threats of heavy rains remain very present memories, even 10 years after the event.

What I can talk about is 2008. I got married on May 31 and the flood happened on November 29. I was going to go back to work on a Monday. I stayed up all night following [the news] and people would say "It won't reach here," but when it was about 5 o'clock in the morning I looked at the street and everything was quiet, so I fell asleep. About 6:10, a rock hit the window. I looked at my neighbors and they said, "Aren't you going to leave the house?" When we looked there was already about 30 cm of water, I just thought: "I have to work tomorrow." I just took my hospital clothes and my documents and left the house [...]. *My house was destroyed because, as it was newly made, the structure was not firm yet. It had cracks, the floor gave way entirely, I had to tear everything out and do it all over again.* (NRS_TCN_PC_2)

The studied municipalities represent distinct health networks regarding the constitution of services, their total population, and management organization. Regarding the perceived post-disaster psychosocial impacts on health workers, participants mentioned no institutional projects or interventions specifically aimed at promoting mental health or coping with psychosocial impacts during the research period. Our analysis evince that participants' narratives show the impacts workers' personal suffered by being directly affected by the disaster and the indirect effects on those who suffered from the repercussions of the damage caused to the population. The municipal administration in Blumenau had a Coordination of Occupational Health invested in interventional activities to prevent mental health problems and cope with occupational stress in health care teams' work process.

Discussion

This study shows that the work process in the reported disaster situations is reflected on psychosocial impacts on health workers. Healthcare providers are at risk of extreme stress in disaster-affected areas (Umeda et al., 2020). Harvey et al. (2015) found that a large number of health workers report continuous psychological consequences from exposure to trauma, especially post-traumatic stress disorder (PTSD).

Psychological stress and trauma can be defined as primary – when the person is directly exposed to or involved with events and dangers – and secondary – resulting from exposure to other people's experiences (Surya et al., 2017). This definition contributes to our understanding of the narratives of Vale do Itajaí interviewees referring to experiences of care in disaster situations, heavily affected communities, and temporary shelters. Although we naturally find ways of coping in response to stress and distress, some of them are unhealthy, resulting in long-term mental health problems for workers and decreased overall willingness to work (Surya et al., 2017).

A study that focused on the impacts on nurses after the 2011 earthquake in Japan found strong self-condemnation, separation, accumulated fatigue, stress, and an elevated tendency toward PTSD, manifested by avoidance, hyper-arousal, and avoidance of situations or activities that caused them unpleasant emotions or paralysis (Sato et al., 2018).

People who work in disaster responses are at higher risk of experiencing depression, anxiety, and PTSD, depending on prior factors, such as training or familiarity with the job, mental distress prior to the disaster, volunteer work, or needing to care for unfamiliar tasks (Pensa et al., 2018), whereas the following factors amplify negative impacts on the mental health of workers in disaster responses: role ambiguity, physical injuries, perceived lack of job security, and post-disaster life changes such as property damage and losses. These results resonate with the narratives of our Vale do Itajaí interviewees.

Regarding the risks of physical and mental injury to workers (KC; Fitzgerald; Chhetri, 2019), we found an important relation between types of injuries, disaster, and response, as well as workers' skills and the socioeconomic, populational, geographical, climatic, governmental vulnerability of the disaster site. Factors that increased the propensity for physical injury and mental harm in volunteers and external health teams referred to poor familiarity with the local context and lack of training and access to protective equipment. Mental disorders prior to the disaster and exposure to potentially traumatic disaster events produce greater risks to the mental health of workers in these situations (Xi et al., 2019).

Psychological conditions in the face of disasters may be associated with previous factors, such as professional experience, specific training, income, life events, and job satisfaction; disaster-related factors, such as exposure, traumatogenic experiences, perceived safety, and injuries; social factors linked to or independent of the event (organization, support network, support); and post-disaster factors, i.e., the impacts to employees' lives (Brooks et al., 2017). In a population of healthcare providers in the UK, positive and negative psychological outcomes after a disaster experience at work expressed similarities with this research regarding the lack of training to deal with psychological impacts and mental health, the resistance to seek help to treat particular and personal psychological issues, insufficient workplace support, and perception of the importance of the support found in interpersonal relationships at work and from administrators/managers (Brooks et al., 2019).

APS workers highlighted the meanings of the psychosocial impacts perceived in the ACS affected by the disasters, corroborated by a study about workers who lived in the same affected area or who continuously worked in it to provide direct support to survivors and who received criticism from the local community, increasing their psychological suffering and risk of PTSD (Ueda et al., 2017). Lack of communication in the workplace has been shown to be a risk factor for mental distress. Results on social workers showed high risks of mental suffering due to the increasing and excessive demands of work for social welfare in the face of the consequences of disasters, with progressively reduced support from volunteers and compensatory staff to collaborate in assisting those affected over time.

The literature (O'Sullivan et al., 2008; Cronin; Ryan; Brier, 2007) reinforces the impact of excessive demands on social workers during disasters, recalling significant narratives of the cases in Vale do Itajaí, in which healthcare providers often felt unprepared and unsure that they would be able to effectively support others, which can result in psychological exhaustion.

Health organizations must adopt disaster planning measures that benefit employees' mental health, including fostering education to reduce stigma and encourage workers to refrain from neglecting their mental health; motivate open communication about psychological issues; develop listening skills and empathy; promote positive relationships and support among colleagues and strengthen teams; educate workers to seek help when needed for their well-being, understand psychological traumas and recognize symptoms that help alleviate stigmas about oneself and others, avoiding judgments that negatively interfere with their relationships (Brooks et al., 2019).

A resilient workforce outside crisis situations motivates workers to cope during crisis situations. This can be achieved with an educational approach prior to disasters; training strategies for emotional well-being, knowledge, coping, and stress management in emergency situations; readiness for post-disaster trauma interventions; planning for emergencies with provision of social support; and training to recognize vulnerability (Sato et al., 2018).

Corroborating this research, solidarity and support between healthcare providers and communities seem to be a positive factor that generated beneficial impacts both in the assistance to affected communities and in the recovery of the psychological well-being of workers who suffered negative consequences in the workplace affected by the disaster (Sato et al., 2018). Thus, mutual care indicated an improvement in the interpersonal relationship of workers with the community for post-disaster coping.

Organizational support that protects the workforce in difficult circumstances and reflects a greater ability to provide adequate care to vulnerable people in disasters includes psychosocial support after crises. It deals with responsible involvement in fieldwork, encouraging cooperation, creativity, and teamwork, as well as training relaxation and resilience skills and harnessing local resources to strengthen mental health (Surya et al., 2017). The literature is vast on stress and mental health of victims in the context of disasters but has scarcely explored the management of health workers regarding stresses due to exposure to extreme situations (Cronin; Ryan; Brier, 2007). In the case of healthcare providers, psychosocial impacts (Mendes, 2015) should highlight the importance of developing a psychodynamic of risk responses and promoting personal readiness for emergencies in the context of disasters.

Final considerations

The cases referring to Rio do Sul, Itajaí, and Blumenau provided us an understanding of workers' perceptions of psychosocial impacts and population health, including service workers who were directly or indirectly affected by the events. Results express the necessary continuity of studies on the subject to contribute to the risk and disaster management plans of the health sector, especially in SUS.

Interventional research can contribute to fostering and preventive strategies by health services and teams working in risk territories, as well as encouraging care networks to integrate risk and disaster management actions toward the resilience of the health sector in the face of psychosocial impacts in disasters. Moreover, investments should target cycles of permanent education on approaches to mental health, health promotion, and interventions in the face of psychosocial demands in municipalities, before, during, and after crises. Effective practices of shared care in mental health and development of care technologies with intersectoral actions should include planning that considers local vulnerabilities and preparation and contingency measures against disasters.

References

AVILA, M. R. R.; MATTEDI, M. A. Desastre e território: a produção da vulnerabilidade a desastres na cidade de Blumenau/SC. *Urbe*, Curitiba, v. 9, n. 2, p. 187-202, 2017. DOI: 10.1590/2175-3369.009.002.AO03

BRASIL. Ministério da Saúde. *Política Nacional de Atenção Básica*. Brasília, DF, 2012. Disponível em: <http://189.28.128.100/dab/docs/publicacoes/geral/pnab.pdf>. Acesso em: 20 maio 2020.

BROOKS, S. K. et al. Protecting the psychological wellbeing of staff exposed to disaster or emergency at work: a qualitative study. *BMC Psychology*, Berlin, v. 7, 78, 2019. DOI: 10.1186/s40359-019-0360-6

BROOKS, S. K. et al. Social and occupational factors associated with psychological wellbeing among occupational groups affected by disaster: a systematic review. *Journal of Mental Health*, Abingdon, v. 26, n. 4, p. 373-384, 2017. DOI: 10.1080/09638237.2017.1294732

CEPED UFSC – CENTRO UNIVERSITÁRIO DE ESTUDOS E PESQUISAS SOBRE DESASTRES. *Atlas brasileiro de desastres naturais 1991 a 2010*: volume Santa Catarina. Florianópolis, 2011.

CRESWELL, J. W. *Investigação qualitativa e projeto de pesquisa*: escolhendo entre cinco abordagens. 3. ed. Porto Alegre: Penso, 2014.

CRONIN, M. S.; RYAN, D. M.; BRIER, D. Support for staff working in disaster situations: a social work perspective. *International Social Work*, Thousand Oaks, v. 50, n. 3, p. 370-382, 2007. DOI: 10.1177/0020872807076050

DÁRIO, P. P.; MALAGUTTI, W. Desastres naturais: contribuições para atuação do psicólogo nos desastres hidrológicos. *Journal of Management & Primary Health Care*, Uberlândia, v. 10, e4, 2019. DOI: 10.14295/jmphc.v10i0.503

FAVERO, L.; RODRIGUES, J. A. P. Pesquisa estudo de caso. In: LACERDA, M. R.; COSTENARO, R. G. S. (Org.). *Metodologias da pesquisa para a enfermagem e saúde*: da teoria à prática. Porto Alegre: Moriá, 2016. p. 291-354.

HARVEY, S. B et al. *Expert guidelines*: diagnosis and treatment of post-traumatic stress disorder in emergency service workers. Sydney: Black Dog Institute, 2015. Disponível em: <https://www.blackdoginstitute.org.au/wp-content/uploads/2020/04/expert-guidelines-diagnosis-and-treatment-of-post-traumatic-stress-disorder-in-emergency-service-workers.pdf>. Acesso em: 20 maio 2020.

KC, J. K.; FITZGERALD, G.; CHHETRI, M. B. P. Health risks and challenges in earthquake responders in Nepal: a qualitative research. *Prehospital And Disaster Medicine*, Cambridge, v. 34, n. 3, p. 274-281, 2019. DOI: 10.1017/s1049023x19004370

MENDES, J. M. *Sociologia do risco*: uma breve introdução e algumas lições. Coimbra: Imprensa da Universidade de Coimbra, 2015.

MORGANSTEIN, J. C.; URSANO, R. J. Ecological disasters and mental health: causes, consequences, and interventions. *Frontiers in Psychiatry*, Lausanne, v. 11, 2020. DOI: 10.3389/fpsyt.2020.00001

NAHAR, N. et al. Increasing the provision of mental health care for vulnerable, disaster-affected people in Bangladesh. *BMC Public Health*, Berlin, v. 14, n. 708, 2014. DOI: 10.1186/1471-2458-14-708

NOAL, D. da S.; RABELO, I. V. M.; CHACHAMOVICH, E. O impacto na saúde mental dos afetados após o rompimento da barragem da Vale. *Cadernos de Saúde Pública*, Rio de Janeiro, v. 35, n. 5, e00048419, 2019. DOI: 10.1590/0102-311X00048419

O'SULLIVAN, T. L. et al. Disaster and emergency management: Canadian nurses' perceptions of preparedness on hospital front lines. *Prehospital and Disaster Medicine*, Cambridge, v. 23, n. S1, p. s11-s19, 2008. DOI: 10.1017/S1049023X00024043

PENSA, M. A. et al. How does a changing climate impact the health of workers? Part 2: weather and climate disasters, worker health, and occupational resiliency. *Journal of Occupational and Environmental Medicine*, Philadelphia, v. 60, n. 8, p. e426-e428, 2018. DOI: 10.1097/JOM.0000000000001356

SANTOS, P. Z. dos; DIAS, J. I.; ALVES, R. B. Educação permanente sobre a atenção psicossocial em situação de desastres para agentes comunitários de saúde: um relato de experiência. *Saúde em Debate*, Rio de Janeiro, v. 43, n. spe 3, p. 200-208, 2019. DOI: 10.1590/0103-11042019S315

SATO, H. et al. Psychosocial consequences among nurses in the affected area of the Great East Japan Earthquake of 2011 and the Fukushima Complex disaster: a qualitative study. *Disaster Medicine and Public Health Preparedness*, Cambridge, v. 13, n. 3, p. 519-526, 2018. DOI: 10.1017/dmp.2018.100

SCHÜTZE, F. Pesquisa biográfica e entrevista narrativa. In: WELLER, W.; PFAFF, N. *Metodologias da pesquisa qualitativa em educação*: teoria e prática. Petrópolis: Vozes, 2010. p. 211-222.

SURYA, M. et al. The importance of mental well-being for health professionals during complex emergencies: it is time we take it seriously. *Global Health*: Science and Practice, Baltimore, v. 5, n. 2, p. 188-196, 2017. DOI: 10.9745/GHSP-D-17-00017

UEDA, I. et al. Criticism by community people and poor workplace communication as risk factors for the mental health of local welfare workers after the Great East Japan Earthquake: a cross-sectional study. *PlOS One*, San Francisco, v. 12, n. 11, e0185930, 2017. DOI: 10.1371/journal.pone.0185930

UMEDA, M. et al. A literature review on psychosocial support for disaster responders: qualitative synthesis with recommended actions for protecting and promoting the mental health of responders. *International Journal of Environmental Research and Public Health*, Basel, v. 17, n. 6, 2020. DOI: 10.3390/ijerph17062011

WAGNER, C. et al. O processo de trabalho dos serviços de saúde frente a desastre de incêndio em casa noturna. *Saúde em Debate*, Rio de Janeiro, v. 41, n. 115, p. 1224-1232, 2017. DOI: 10.1590/0103-1104201711519

XI, Y. et al. Mental health workers perceptions of disaster response in China. *BMC Public Health*, Berlin, v. 19, 11, 2019. DOI: 10.1186/s12889-018-6313-9

YIN, R. K. *Estudo de caso*: planejamento e métodos. 5. ed. Porto Alegre: Bookman, 2015.

Authors' contribution

All authors participated in the conception and planning of the research project; data collection, analysis or interpretation; drafting, and critical review.

Received: 09/03/2022
Resubmitted: 09/03/2022
Approved: 12/19/2022.