

# Demands for psychosocial support from communities vulnerable to natural disasters

Demandas de atenção psicossocial de comunidades vulneráveis a desastres de origem natural Demandas de atención psicosocial de comunidades vulnerables a desastres de origen natural

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#### **ABSTRACT**

**Objective:** To identify the demands for the psychosocial care of vulnerable communities in the Vale do Itajaí, Santa Catarina **Methods:** Qualitative research, multiple case study, through narrative interviews with health professionals in three municipalities, from January to May 2018. The analysis of the narratives followed a formal analysis of the text, structural description of the content, analytical abstraction, analysis of knowledge, and contrastive comparison. **Results:** The described categories were: Meanings of the demands for support before the flood; Meanings of the demands during the occurrence of the disaster; Meanings of demands after the flood: psychosocial care; Meanings of the demands for monitoring the territory after the disaster. **Conclusion:** The identification of demands for mental health care after the disaster occurs through the search for health services, specific symptoms, and consequences of adapting to the recovery phase, such as migratory processes and temporary housing. The research contributes to the culture of care with a multiprofessional perspective in health care for the population affected by disasters.

**Descriptors:** Primary Health Care; Mental Health Services; Disaster Phases; Nursing; Family Health.

#### **RESUMO**

Objetivo: Identificar as demandas de atenção psicossocial das comunidades vulneráveis no Vale do Itajaí, Santa Catarina **Métodos**: Pesquisa qualitativa, estudo de casos múltiplos, por meio de entrevistas narrativas com profissionais da saúde em três municípios, de janeiro a maio de 2018. A análise das narrativas seguiu análise formal do texto, descrição estrutural do conteúdo, abstração analítica, análise do conhecimento e comparação contrativa. **Resultados**: Foram descritas como categorias: Significados das demandas de atenção pré-inundação; Significados das demandas durante o evento do desastre; Significados das demandas pós-inundação: atenção psicossocial; Significados das demandas de vigilância do território após o desastre. **Conclusão**: Demandas para o cuidado à saúde mental pós-desastres são identificadas pela busca aos serviços, nos sintomas específicos e nas consequências de adaptação à fase de recuperação, como processos migratórios e moradias provisórias. A pesquisa contribui para a cultura do cuidado com perspectiva multiprofissional na atenção à saúde da população atingida em desastres.

**Descritores:** Atenção Primária à Saúde; Serviços de Saúde Mental; Fases do Desastre; Enfermagem; Saúde da Família.

#### **RESUMEN**

Objetivo: Identificar las demandas de atención psicosocial de las comunidades vulnerables en el Vale do Itajaí, Santa Catarina Métodos: Investigación cualitativa, estudio de casos múltiples, por medio de entrevistas narrativas con profesionales de la salud en tres municipios, de enero a mayo de 2018. El análisis de las narrativas ha seguido análisis formal del texto, descripción estructural del contenido, abstracción analítica, análisis del conocimiento y comparación contractiva. Resultados: Han sido descritas como categorías: Significados de las demandas de atención pre-inundación; Significados de las demandas durante el evento del desastre; Significados de las demandas pos inundación: atención psicosocial; Significados de las demandas de vigilancia del territorio después el desastre. Conclusión: Demandas para el cuidado a la salud mental pos desastres son identificadas por la búsqueda a los servicios, en los síntomas específicos y en las consecuencias de adaptación a la fase de recuperación, como procesos migratorios y moradas provisorias. La investigación contribuye para la cultura del cuidado con perspectiva multiprofesional en la atención a la salud de la población atingida en desastres.

**Descriptores:** Atención Primaria a la Salud; Servicios de Salud Mental; Fases del Desastre; Enfermaría; Salud de la Familia.

#### **INTRODUCTION**

The impact of disasters on society depends on the condition of the vulnerability of the location, evidenced by the severity of theses disasters and the limits on the ability to reduce risk <sup>(1)</sup>. Natural disasters of natural were responsible for 11 thousand deaths in the world between 2012 and 2016, which represents 0.15 deaths per 100,000 inhabitants. In this context, Brazil presents 0.1 death per 100,000 inhabitants<sup>(2)</sup>.

Recently, the governments of the Member States of the Pan American Health Organization (PAHO) developed the Sustainable Health Agenda for the Americas 2018-2030, a policy benchmark and strategic planning with collective objectives for the region to achieve better levels of health and well-being as a whole. One of these objectives is "strengthen national and regional capacities to prepare for, prevent, detect, monitor and respond to disease outbreaks, and emergencies and disasters that affect the health of the population" [3].

According to data on the Americas region, there were 682 disasters (21% of all disasters in the world) between 2010 and 2016, with 277,037 injured and 12,954 killed, and the economic costs represented 32.8% of the total cost of damage from disasters in the world<sup>(3)</sup>. In this sense, the vulnerability in disaster situations involves several aspects (environmental, sociodemographic, political), and the participation of the population in the strategies contributes to the achievement of the goals of Disaster Risk Reduction.

However, aspects resulting from the vulnerability of the population affected by disasters, such as the loss of homes, jobs, the impossibility of continuing to live in the same place due to the environmental destruction of inhabited territories, have a direct or indirect impact on health, with physical and psychosocial impacts on the people involved<sup>(3)</sup> and expose the need to strengthen and restore support networks<sup>(4-5)</sup>. The health service network is a vital support resource and also needs to be prepared to meet the demands resulting from the impacts of disasters.

Multiprofessional teams in which nurses, doctors, psychologists, social workers, and other professions are involved promote care actions for the affected community and can provide support to work teams in disaster events. Joint interventions by these professionals show the need for continuous actions in the provision of health services, especially for psychosocial support to people affected by natural disasters. Admittedly, the Brazilian South Region<sup>(1)</sup> is the one that presents: 1) the highest percentage of floods between 2000 and 2017, with an emphasis on occurrences in winter and spring; 2) the state of Santa Catarina appears as the third state with the most significant area affected by hydrologic events, a percentage of 89.8% of the affected geographical area; and 3) the Vale do Itajaí, located in the eastern end of the state of Santa Catarina, has a history of confronting this type of natural disaster with public health implications. Thus, it is essential to outline psychosocial care strategies before, during, and after disasters, which reflects in actions to prepare for, respond, and recovery in the face of such events<sup>(6-7)</sup>.

However, research in the health field on this topic in Brazil is still incipient. Also, psychosocial care strategies in Brazil are not yet clearly integrated with steps for risk and disaster reduction, more specifically for planning health and nursing actions. In this context, this study derived from a research macro project working since 2016, which proposes the following problem: How do professionals

from the SUS Health Care Network in the region of Vale do Itajaí/ SC perceive the psychosocial impact on the health of the families and what are their care practices in disaster transitions?

#### **OBJECTIVE**

To identify the demands - of the health teams of the Health Care Network in the Vale do Itajaí, Santa Catarina - for psychosocial care from vulnerable communities.

#### **METHODS**

#### **Ethical aspects**

This research was approved by the Human Research Ethics Committee of the Federal University of Santa Catarina, based on Resolution 466/12 of 06/12/2012.

# Type of study

Qualitative approach, collective (or multiple) case study<sup>(8)</sup>, descriptive and integrated<sup>(9)</sup>. This research is a descriptive case study for its purpose of describing the phenomenon in its real-life context<sup>(8)</sup> and is further classified as integrated because it involves the presence of subunits of analysis within each case<sup>(10)</sup>, such as the demand of families affected by disasters according to their needs for psychosocial care, the different stages of the civil protection and defense process.

# Study scenario

The study was carried out in the Primary Health Care services (Estratégia de Saúde da Família - ESF) and Centros de Atenção Psicossocial (CAPS I/II/alcohol and drugs/children - Psychosocial Care Centers) that are part of the Health Care Network, of the Unified Health System (SUS), of the cities of Blumenau, Itajaí and Rio do Sul, located in the Vale do Itajaí, in the state of Santa Catarina.

According to the Centro de Estudos e Pesquisas Sobre Desastres, da Universidade Federal de Santa Catarina (CEPED/UFSC - Center for Studies and Research on Disasters, of the Federal University of Santa Catarina), these municipalities had more than ten occurrences of natural disasters, by sudden and gradual flooding, between 1991 and 2010. The municipalities of Blumenau and Rio do Sul were the most affected by gradual floods<sup>(11)</sup>.

Unidades de Saúde da Família (USF-Family Health Units) were selected from locations mapped as risk areas or with a recent history of disasters, classified like this according to the records of the Civil Defense of the state and each municipality. All CAPS in the municipal health networks were also considered.

#### **Data source**

The data sources were interviews conducted with 24 health interviewees from the city of Rio do Sul, from five USF, one adult CAPS II, and two health managers. In Itajaí, 41 were interviewed, from four USF, three CAPS (II adult/alcohol and drugs/children and adolescents), and two health managers. In the municipality of Blumenau, 37 were interviewed, from four USF, three CAPS (1II

adult/III alcohol and drugs/child) and three health managers. The interviewees' profile characterizes the research subjects; they were mostly in the role of Community Health Agents (CHA), followed by nurses, nursing technicians, psychologists, social workers, pharmacists, occupational therapists, physical educators, and physicians. The majority between 25 and 45 years old, public servants, with more than ten years of training in the profession and between 5 to 10 years of work experience in the respective services. The cases were identified as 1 - Itajaí, 2 - Rio do Sul and 3 - Blumenau, whose interviewees' narratives were complemented by identification by codes for working area: PC(primary care) or PsC (psychosocial care) and the acronym referring to the profession or function.

#### Data collection and organization

The narrative interviews were audio-recorded and transcribed, in addition to the field observation records. Data were collected from January to May 2018. The interview with professionals, community health agents, and managers started with the interviewer's statement: "You are being interviewed for a survey that seeks to learn about professional care for families in transition from disasters. What can you tell me about your experiences of psychosocial care for families at work, considering the context of disasters?" Therefore, other deepening issues were addressed, integrated with the objective of the study.

We requested a sample or copy of formal or informal documents or image records that were mentioned in the narratives during the interviews. It was obtained photographic images of the territory, images of the Units' smart maps, a copy of documents with guidance to health services for the flood period, sketches of management strategy for the teams in disaster situations. Information from managers regarding the structure of the respective municipal health networks contextualized the cases.

When the researchers were in the field, participation in a team meeting was allowed, which promoted brief participant observation during the period of the researchers' stay in the services, with complementary records in the data collection instrument.

### **Data Analysis**

The data were analyzed using the narrative analysis method by Fritz Schütze<sup>12</sup>, which is organized in the following steps: formal text analysis; structural description of the content; analytical abstraction; knowledge analysis and contrastive comparison, from which the following categories of meanings emerged: 1) Demands of support before the flood; 2) Demands during the occurrence of the disaster; 3) Demands after the flood: psychosocial care; 4) Demands of monitoring the territory after the disaster.

#### **RESULTS**

The interpretation of the narratives goes through a temporal perspective that refers to the period before the disaster as well as during and after it, whose event reference varies between the experiences lived or considered by the interviewees, which include the three cases studied. They narrated their perceptions about health impacts and demands, in addition to performance

experiences concerning the 2008 event. This event was the occurrence of flooding in a large territorial area, associated with the critical impacts added to the landslides that affected many people and families in these places.

# Meanings of demands for support before the flood

The narratives of the interviewees from CAPS and the ESF reveal demands in the period before the flood that express care needs. Based on experience or not of previous floods, these are behaviors of the population and also of the health teams that show the need to protect the impacts (mainly material) and the longing for information on the part of the leaders, especially the Civil Defense and the city hall, to prepare and respond appropriately to events.

Many people are always keeping track of the Civil Defense in case something happens and so they can already put the furniture up. So, for people who have a financial condition, they can put things up or put everything in a container and send it to a more protected place so as not to lose things. So, I realize that when it rains more, people are very worried. (PsC1\_nur)

The alert for climatic conditions mobilizes the community to be concerned about the risks of flooding, but the communication about this is subtle and happens in the daily contacts of care at the Health Centers.

It started to rain, and you have to start organizing in your head: if it happens, what will you do? This is what happened this week, a lady came to the clinic, and she was already worried because there were some rainy days here and, since then, we only hear about that. (PC2\_CHA)

In this sense, the health service, although informally, is accessed by families in the territory as a reference to obtain information about the risk of a disaster occurring and about measures to prepare for it.

So, in the imminence of a flood, we already begin to observe people's behavior because, in the flood of 2008, we were not sure that this would happen. This had not happened for a long time, and the last one was in 1983. In the flood of 2008, the Civil Defense was not prepared. So people at the same time that they believed it was going to happen, they did not believe it. We were normally attending; nobody was worrying about the material. (PC1\_nur)

In the narrative above, the meaning identified is that, with each event experience, there are changes in behaviors to respond to impacts and minimize them, especially at home. In the perception of professionals, empty health unit in times of rain is a sign that the community is alert and concerned with preparing for the events, as well as the teams at their workplace.

# Meanings of the demands during the occurrence of the disaster

Primary care professionals who remained in care during the floods mentioned demands for care in the face of the vulnerability of the affected families. Families that are economically more

vulnerable suffer greater impacts on their living territory. The losses and the experience of the disaster unsettled these people, who, when possible, migrate to safer places soon after the event.

Those who live on rent do not return. We always say: after the flood, the low areas stayed deserted because only remained those who own the houses, but those who live on rent were so shaken that they left. (PC2\_CHA)

Welcoming people to health services during the disaster means getting in touch with despair and different care needs.

They wanted medication, food, support because they had lost their home and everything that [...] many desperate people barely started talking and were already crying. We have done the dressing, because they came all scratched because of the bushes, but no more orientations were given. (PC3\_CHA)

[...] in some cases, the army was called, and a visit was made when it was possible to get to the place. (PC3\_CHA)

People in psychiatric treatment and in need of psychosocial care are more vulnerable. The scenario and the unpredictability of the event can bring to many of them, given their therapeutic routine and the lack of health assistance planning for these situations, difficulties concerning the team care; or they may be weak to access the services.

CAPS patients start to get scared; there are those who end up isolated, without access to medication, those who take medications for continuous treatment which go to the unit every day to take it... So sometimes you don't have a way to reach them either. They have a breakdown! So, everyone is psychologically shaken, worried: Does it come in? Does it not come in? Take things out or not? Even taking them out, sometimes things are lost. (PC2\_nur)

# Meanings of demands after the flood: psychosocial care

Interviewees attribute meanings differently regarding the care needs of the population assisted by their services after a long period of flooding, especially psychosocial demands. Thus, in the CAPS, they recognize that, in the long run, the experience of losses resulting from the flood may be referred to by the person receiving care, but they do not consider a causal relationship between the mental illness and the event, although they claim that there are essential impacts.

The situation is that everyone is fragile, and they, due to their greater sensitivity, also tend to develop something more easily, both bipolar and schizophrenic. Even those who are not affected are afraid. So, for these people, the chance of them having a relapse [...] is like at the end of the year, Christmas, New Year, this patient is more sensitive. And then, in disaster, it goes the same way. (PsC2\_pharm)

Among the psychosocial demands mentioned, existing mental disorders after the experience of the disaster show worsening of symptoms.

It appears after a while. Now I remember a case: he drunk alcohol sporadically, but after the flood, he increased alcohol consumption

because he lost everything, then he lost his job. Sometimes they don't report like this, but they talk in the course of treatment. [...] in fact, they don't come for the event that happened. They come from their vulnerability, like being homeless. (PsC1\_nur)

New demands arise in Primary Care services due to mental suffering after disasters, such as children who develop obsessive disorders, adults, and the elderly with depression and who, in some situations, need to be referred to the CAPS teams. Mental health teams try not to justify the increase in demand as a reflection of the disaster, even though they have accepted new cases. They consider that the psychosocial demand reflects socioeconomic, work, family, and individual vulnerabilities in a broader perspective beyond the disaster.

In a specific case of the child with social phobia, the difficulty of going to school. In the first interview with the child, this did not come up, but during the appointments, it started coming up, among the many other problems after the flood, the child always said that visualized the toys floating. Because they had lost their bed and the toys [...] this would not leave his mind, and after that, he was afraid of thunderstorms, he was terrified. It started raining, and he was already saying: mom is going to flood! He was a boy who already had a phobia disorder and anxiety and who got worse with the flood. [...] He was terrified and did not want to go to school and lost focus, during the treatment it was worked out. (PsC1\_psy)

Considering that the reflection of psychosocial demands is said to be persistent, since the 2008 event, people remember the meaning of this experience for a long time. However, Primary Care professionals report that there is no flow of care and continuity in the psychosocial care of families affected by floods since the needs raised imply the attention of sectors other than health.

Some children who developed OCD or other severe depression, and then they enter the CAPS/children to the assistance of their suffering that comes from the family background. Sometimes, the family is still in the process of temporary housing... in the past, they were still in shelters [...] Based on the teachers' reports and what they can do in relation to behaviors, they have a lot of doubts about the flow of care. For who they will ask for help, to know how severe, so we talk about it all, and if it is focused on a child we talk about the case [...]. (PsC3\_nur/man)

For the family health teams interviewed, the main demand for care perceived in after the disaster was psychosocial support, with an increase in visits to basic health units.

The greatest demand was psychological. After that, the fluoxetine of life is like water [...] many families with depression, the demand for it in the health unit increased. (PC1\_CHA)

Some days ago, I went to do a pap test on a patient, the sky started to get dark, and she is one of the patients who lost e0verything. She talked to me and looked outside, and then I said: are you worried because of the storm? She replied: I am, and I want to do the exam the other day because it rains very hard there, and I am terrified, distressed, I am terrified of thunder. I have panic disorder if I am not secured in my home. (PC1\_nur)

Given the psychosocial context, the continuity of care for affected families seems to be a challenge after the event. The demands need to be sensibly perceived by the professional in the meetings with people/families of the community so as not to be ignored and postponed in the face of other critical situations.

# Meanings of demands for monitoring the territory after the disaster

The team realizes that, with the manifestations of symptoms, the demand increases, and the demand for the service occurs, mainly due to complaints such as diarrhea, vomiting, and sharp wounds. The priority demands for epidemiological surveillance, expected in situations after the flood, are present in the reports of Primary Care professionals. However, the needs for psychosocial care stand out when compared to infectious diseases, often related to physical and material losses.

There was an elderly couple that I assisted at the shelter; she had diabetes, from one of the neighborhoods that quickly flooded and was one of the people who arrived at the shelter first. She told me: "Dear, I didn't bring my insulin." And I answered: "We'll help you with that if that's what you're worried about." Because when we go to see a person in a situation like this, you can't say what I want to do, but what they need. So she said: "If I don't take the insulin, I can go into a coma, and we lost all our food for the month in the cupboard, and in the fridge, I won't have anything to eat when I get back to my house." Then you are faced with the social part of the event and what there is to say to her at a time like this? It is a very difficult situation... and when the water is low, you cannot think only about preventing leptospirosis. Surveillance always makes a technical note, but the biggest problem is not that [...] of all the patients I have assisted, none had leptospirosis; most of the patients that I cared have sequelae until today, which I assist daily. (PC1\_nur)

The narrative of a community health agent corroborates the previous argument regarding the strong presence of psychosocial demands and that the population is informed of the prevention of other diseases related to periods of floods.

The service of the team in temporary shelters also has particularities in its demands.

To assist, we go to the shelters and wait for people to look up for us because the unit is open normally, but in the first days, no one shows up. They stay at home, a little scared, after a week they start to come and when as thinks start to go back to normal, then it gets ugly. The CHAs used to go twice a day, stayed there for a long time, then brought the demands. And when people go home, then they will visit them. [...] there was a case that the person had high blood pressure, and the doctor performed the assistance at the shelter... sometimes also when people are not well, they bring them here. At the shelter, they are idle and have to live there, and some arguments with the neighbors begin. Some come to the clinic three times a day because there is a pain in the finger, then a headache [...] after they go home depending on the material loss, they usually calm down... so, the thing is to leave the shelter, because the anxiety is inside it, they get really shaken, and the pressure changes, they become depressed. (PC2\_nur)

[...] Temporary shelters are not suitable places to live, especially for children. They get the flu, and complications in the lung start to

appear. Shelters are open sheds, and, because of the rain, urinary tract infection also appears. (PC2 CHA)

During home visits after the disaster, community health workers receive several demands from the affected families.

It's pretty exhausting, you know? Because, as soon as the flood finishes, and a prolonged period later, people change their addresses because they don't want to go through the floods again and we have to re-register these people all over again, and here the families are quite large, there are 10, 15 living in the same house. These families come in shifts to solve their problems: I want an appointment, I want a prescription, I want medicine, but they have outdated documents, and I have to update. They lose everything in flood, and it is not only one SUS card, but it is also five, ten. (PC2\_CHA)

On the other hand, some professionals relativize the need for long-term care after the disaster, formulating their criticisms given the high demand from the USF.

Faced with the threat, families want to organize themselves, but I think that the flood served as an excuse for some other things, for example: ah, in flood, I lost the vaccination card. I don't know, but I think I haven't actually seen traumas. The only thing I notice is that families have become more aware of flooding, and when there is a threat of flood, they already want to organize themselves for fear of losing what they have. (PC1\_nur)

In the recovery period, over the ten years after the 2008 disaster, families are relocated from shelters for temporary housing or relocated to houses built in vertical condominiums, as was done in the Vale do Itajaí region, especially in the case of Blumenau. This situation of moving from house to apartment, from one community to another, adds new families in areas covered by already established Primary Care teams, adding new demands with a different sociodemographic and epidemiological profile, which the teams start monitoring and assisting.

People stayed at the school for a long time, from November to February. So, they took people out of there for the beginning of school classes and allocated them at the church, and families spread around the city because of the social service, the army came along and did all the monitoring of the distribution of donations and were also registering the families to the benefit of Minha Casa Minha Vida. First, it was offered to those who had elderly and disabled people. And there were people who didn't want to, they went to pay rent on their own, and there were people who later went back to their closed houses. So, the fear continues even after these ten years. So, there's no way you can wake up in the middle of the night, in the rain and not think about it. There is another house that has an older person, children, a woman with many pregnancies, and they are still there. We communicated the Civil Defense. We have our WhatsApp group, and when it starts raining a lot, we begin to worry... and one goes asking the other about the hill. (PC3\_nur.tech)

The changes in the health territory are an important challenge for health teams and the municipal health care network (which includes psychosocial care teams) in the recovery of an affected community and, many times, at permanent risk for disasters. The monitoring of the teams - mainly of the community agents who daily circulate through the territory and monitor the migratory

movements as well as the return of some families to the risk areas - trigger a culture of disaster that intensifies the risks precisely because of the vulnerability of the people who, with few conditions and inappropriate housing choices are subject to new risks.

#### DISCUSSION

Natural disasters, such as the floods in the state of Santa Catarina, are the subject of several studies, including in nursing area<sup>(4-5,13)</sup>, as well as natural disasters in other regions of the country motivated health researchers<sup>(14-15)</sup> to produce knowledge that contributes to qualified assistance in these situations. This theme is emerging in the country and in the world, requiring research that generates changes in practices and training to reduce risks and disasters.

Although little is produced in the area of Primary Health Care (PHC) in relation to the management, care, recovery, and rehabilitation of populations affected by disasters, it is evident that work is fundamental in these contexts. That is because there is a need for flows and continuity of care, in the longitudinal perspective of the enrolled population and the living territory in which such actions take place, considering that the consequences of events of this type may extend over time<sup>(16-18)</sup>.

The impact of disasters is linked to the vulnerability of the affected population, but this process is also socially constructed due to several associated factors(19) which appear in the findings of the present study as determinants for health: socioeconomic aspects, education, and information, housing, policies at different levels that influence actions in the face of such events. However, to understand the impacts of the disaster on a population, it is necessary to know the community and urban context, which(19) comprises this population, and this aspect is part of the work process of the family health teams. The worker's perception about the vulnerability of families in the affected territories in the cases studied - mainly riverside families and those residing in houses in affected areas, steep terrain and with an inadequate structure for safety -, coincides with another study(20) which shows that, although the factors contribute differently to the social vulnerability among Brazilian cities, the results confirmed that socioeconomic factors and the disparities between the regions of the country are indicative of the population's social vulnerability regarding risks of natural disasters. Regions that have urban areas with high population density and racial diversity accentuate this phenomenon.

The team's monitoring of the community refers to the knowledge about the socio-environmental determinants that influence the lives of the families they assist. Such as popular mobilization to face the protection gaps in the face of threats in the territory, the struggle for rights in the face of the losses suffered because of the events, as well as the essential and sensitive task of welcoming, listening and motivating ways to respond, prepare for and recover in a resilient way when disasters are repetitive in such contexts of life.

However, depending on the type of disaster, different demands are placed on health professionals in an adverse situation<sup>(21)</sup>. The significant role of nursing in health services, at the different levels of the health system, presents itself as an essential team for acting with competencies inherent in comprehensive care, network health care, including in disaster emergencies<sup>(13-14)</sup>. In this sense, there are many possibilities for health professionals

to act in all phases of the disaster, being possible to identify the demands in the narratives presented by the interviewees in this study. Health care, especially in PHC, involves health promotion, disease prevention, and community coordination to deal with the vulnerability observed in natural disasters.

However, disasters are recognized as socio-environmental given the conditions of vulnerability, which result from social values on a territorial basis associated with the occurrence of natural phenomena, rain for example, which lead to some event such as floods, landslides, which can cause damage. However, such conditions are neither natural nor static; they belong to a process of vulnerability<sup>(22)</sup>.

The health impacts of disasters can be multiple and manifest in the short, medium, and long terms; also, with overlaps, especially in the situation of populations affected by repetitive disasters. This fact alerts to the health care and constitutes a challenge for health monitoring systems at the local (and here considering the conditions of each health network) and national, so that mitigation measures can reduce risks that endure the condition of disaster<sup>(23)</sup>.

Among the demands listed by the interviewees, short-term impacts are revealed, which include an increase in the number of occurrences due to chronic non-communicable diseases, given that, in disasters, there may be a lack of medicines and urgent acute conditions. In the medium term, it may occur vector-borne diseases and those related to exposure to contaminated water. However, there are underreported or unreported diseases that affect people after impact, especially psychosocial damage<sup>(24)</sup>.

Another study analyzed records from the Santa Catarina Information Systems and corroborates the demands after the disaster evidenced by the increase in admissions and hospital care for causes that may be directly or indirectly linked to the 2008 disaster, including fractures, traumas, and stroke. Also, there is an increase, albeit less significant, of hospitalizations for infectious diseases after the flood. The study highlights the absence of records on mental illnesses that have a smoother or slower evolution than other aggravations caused by disasters, but that are related to stressors of the situation experienced caused by impacts of the event<sup>(25)</sup>.

Although of different natures, in the Boate Kiss fire disaster, the health network in the city of Santa Maria/Rio Grande do Sul also needed external support to help local health teams, provide psychological assistance those involved in responding to family members, the community in general and survivors afterward, for an extended period. In the case of family health teams, it was necessary to mobilize strategies to embrace and care for people directly or indirectly affected (in mental distress) and in order to build the bond with the team in the territory as well as coordinate care in the psychosocial care network<sup>(18)</sup>.

The health professionals responsible for the area that covers their actions as a reference team starts to deal, with the recovery of a disaster, with the limits and challenges that enhance the process of the vulnerability of the affected families. Especially on the deterritorialization and expertise of the condemned territories, there are mismatches concerning the meanings attributed to these places that were the homes of those affected, their reference for conquests and community; the families' insistence on staying at the place of residence technically classified as a risk area; the profound insecurities and frustrations that permeate the itinerary from the passage through the shelters to the offers

and proposals for resettlement by housing programs planned by the state<sup>(26)</sup>. Thus, this complex reality of continuity of the disaster as a life transition for families in the territory requires empathy, knowledge, the involvement of health teams with the management policy and risks, and disaster reduction. Approaches between professionals and affected people, in addition to dialogues between sectors, are essential to developing resilience to disasters. It is a multidisciplinary task that involves processes and groups with diverse interests, orientated to the adaptive, dynamic, and systemic capacity that the context requires<sup>(27)</sup>.

Finally, we state that in this research, the perception that approaching mental health care in contexts of disasters does not mean considering people as victims nor the life experience of the event as a traumatic mark. Nevertheless, each person/family expresses uniquely the singularities of the experiences lived. However, considering people's capacity and respecting their pains and suffering in the transition through disaster<sup>(28)</sup> allows a broader look at all the determinants that influence their health as a whole (and not only mental) for promoting their health and recovery from the impacts that cause them suffering.

### **Study Limitations**

The difficulty in obtaining alternative data to the face-to-face interviews with the participants is pointed out as a weakness in the development of the study, in order to complement the analysis of the cases.

# Contributions to the nursing and health field

The contributions of the results of this research refer to the strengthening of psychosocial care to be developed in primary care services to the community that experiences mental suffering before, during, and after disasters. Also, the present study shows the relevance of training nurses and health professionals to understand the relationship between the demand for psychosocial assistance as a reflection of the disaster experience. Besides, it characterizes the need for interdisciplinarity to act in civil defense and protection, as provided for in the National Civil Protection and Defense Policy, as well as the promote interprofessionalism among professionals in the health area, education and all areas of the university to promote management of risks and reduction of natural disasters.

# FINAL CONSIDERATIONS

This research highlights the importance of the Health Care Network in municipalities in the region of Vale do Itajaí/SC and highlights the need to consider the psychosocial demands of the population directly and indirectly affected by disasters. Such demands imply interdisciplinary and intersectoral actions and the development of skills of the existing multidisciplinary teams in planning sustainable actions for the promotion of the community's mental health, support in professional interventions to the network during events and after them. They also reflect the scarcity of training in the region and the socialization of protocols or care plans in the face of the situations experienced during disasters that must understand the complex relationships

between the necessary interventions after the disaster and the preventive actions before the disaster. This evidence implies assistance difficulties, human and material resources, as well as resolving health problems as a consequence of intense social and economic impacts on the population and municipality affected.

The contributions of the results of this research refer to the strengthening of psychosocial care to be developed in primary care services to the community that experiences mental suffering before, during, and after disasters. Also, the present study shows the relevance of training nurses and health professionals to understand the relationship between the demand for psychosocial assistance as a reflection of the disaster experience. Besides, it characterizes the need for interdisciplinarity to act in civil defense and protection, as provided for in the National Civil Protection and Defense Policy, as well as for promoting interprofessionalism among professionals in the health area, education and all areas of the university to promote management of risks and reduction of natural disasters.

The study demonstrates the relevance of psychosocial demands in the recovery process after the disaster, which requires multiprofessional action in several settings, from CAPs, USF, temporary shelters, temporary housing, as well as in after occupation stages, which are usually conflicting and without any support from public institutions. Primary care health professionals, particularly nurses, have the potential to develop actions relevant to emergency public policy - namely, in the organization of contingency plans and articulation of the health care network concerning human resources and provision of materials to cope with the disaster. We highlight the insufficiency of documentation about the mental illness associated with after the disaster, congruent to the silent installation of aggravations of this nature, but which have proven to mirror the stress caused by the impact of the event.

There is an urgent need for further studies on this topic, with possibilities for nurses to work in collaboration with the multiprofessional team, in coping with disaster situations, from health promotion and prevention of the affected areas, considering the social determinants that interfere in this situation of vulnerability of the affected populations. We propose, therefore, active participation of the health sector articulated to an intersectoral collaboration, for the reduction of climate change and reduction of disaster risks in order to achieve sustainable development. It is the role of universities also to promote outreach actions in communities and sectors of society, as well as to develop research to operate and collaborate with the actions of the world milestones established for Disaster Risk Reduction.

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#### **REFERENCES**

- Ministério da Saúde. Secretaria de Vigilância em Saúde. Boletim Epidemiológico: 2018[Internet]. 2018 [cited 2019 Feb 22];49(10). Available from: http://portalarquivos2.saude.gov.br/images/pdf/2018/novembro/13/boletim-epidemiologico.pdf
- 2. World Health Organization-Who. World health statistics 2018: monitoring health for the SDGs, sustainable development goals[Internet]. Geneva: Who. 2018 [cited 2019 Feb 22]. Available from: https://apps.who.int/iris/bitstream/handle/10665/272596/9789241565585-eng.pdf?ua=1
- Organização Panamericana da Saúde. Opas. Agenda de saúde sustentável para as Américas 2018-2030: um chamado à ação para a saúde e o bem-estar na região [Internet]. 2017 [cited 2019 Feb 22]. Available from: http://iris.paho.org/xmlui/bitstream/handle/123456789/49172/ CSP296-por.pdf?sequence=1&isAllowed=y
- Fernandes GCM, Boehs AE, Denham SA, Nitschke RG, Martini JG. Rural families' interpretations of experiencing unexpected transition in the wake of a natural disaster. Cad Saúde Pública. 2017;33(1):e00161515. doi: 10.1590/0102-311x00161515
- 5. Fernandes GCM, Boehs AE, Heidemann ITSB. Social support during the family transition following a natural disaster. Texto Contexto Enferm. 2013;22(4):1098-105. doi: 10.1590/S0104-07072013000400028
- Orui M, Harada S, Hayashi M. Practical report on long-term disaster mental health services following the great east japan earthquake: psychological and social background of evacuees in Sendai City in the mid- to long-term post-disaster period. Disaster Med Public Health Prep. 2017;11(4):439-50. doi: 10.1017/dmp.2016.157
- Saltini A, Rebecchi D, Callerame C, Fernandez I, Bergonzini E, Starace F. Early Eye Movement Desensitisation and Reprocessing (EMDR) intervention in a disaster mental health care context. Psychol Health Med. 2018;23(3):285-94. doi: 10.1080/13548506.2017.1344255
- 8. Yin RK. Estudo de caso: planejamento e métodos. 5 ed. Porto Alegre: Bookman, 2015. 290p.
- 9. Creswell JW. Investigação qualitativa e projeto de pesquisa: escolhendo entre cinco abordagens. 3 ed. Porto Alegre: Penso, 2014. 341p.
- Favero L, Rodrigues JAP. Pesquisa estudo de caso. In: Lacerda MR, Costenaro RGS. Metodologias da pesquisa para a enfermagem e saúde: da teoria à prática. Porto Alegre: Moriá, 2015, p.291-324.
- 11. Universidade Federal de Santa Catarina. Centro Universitário de Estudos e Pesquisas sobre Desastres. Atlas brasileiro de desastres naturais 1991 a 2010: volume Santa Catarina/ Centro Universitário de Estudos e Pesquisas sobre Desastres. Florianopolis: CEPED UFSC, 2011. 89p.
- 12. Schütze F. Pesquisa biográfica e entrevista narrativa. In: Weller V, Pfaff N. Metodologias da pesquisa qualitativa em educação. Teoria e prática. Petrópolis: Vozes, 2010. p. 211-22.
- 13. Fernandes GCMB, Boehs AE. Family routines changes in the unexpected transition due to natural disasters. Esc Anna Nery [Internet]. 2013 [cited 2019 Feb 22];17(1):160-7. doi: 10.1590/S1414-81452013000100022
- 14. Bandeira AG, Marin SM, Witt RR. Vulnerabilidade a desastres naturais: implicações para a enfermagem. Ciênc Cuid Saúde. 2014;13(4):776-81. doi: 10.4025/cienccuidsaude.v13i4.22135
- 15. Prosdocimi MR, Witt RR. Primary health care nurses' competencies in rural disasters caused by floods. Rural Remote Health. 2018;18:4450. doi: 10.22605/RRH4450
- 16. Freitas CM, Ximenes EF. Enchentes e saúde pública: uma questão na literatura científica recente das causas, consequências e respostas para prevenção e mitigação. Ciênc Saúde Colet. 2012;17(6):1601-16. doi: 10.1590/S1413-81232012000600023
- 17. Oliveira WA, Pompeu ELT. O papel da atenção básica nos desastres de origem natural no Brasil. Rev Saúde Faciplac [Internet]. 2015 [cited 2019 Feb 22];2(1). Available from: http://revista.faciplac.edu.br/index.php/RSF/article/view/103
- 18. Wagner C, Soares MP, Skrebsky B, Unfer B, Ferreira TG. O processo de trabalho dos serviços de saúde frente a desastre de incêndio em casa noturna. Saúde Debate. 2017;41(115):1224-32. doi: 10.1590/0103-1104201711519
- 19. Avila MR, Mattedi MA. Desastre e território: a produção da vulnerabilidade a desastres na cidade de Blumenau/SC. Rev Bras Gestão Urbana. 2017;9(2):187-202. doi: 10.1590/2175-3369.009.002.ao03
- 20. Hummell BML, Cutter SL, Emrich CT. Social Vulnerability to Natural Hazards in Brazil. Int J Disaster Risk Sci. 2016;7:111–122. doi: 10.1007/s13753-016-0090-9
- 21. Mello CM, Witt RR, Dorneles EL, Marin SM. A enfermagem no atendimento em desastres e em eventos com múltiplas vítimas. Vittalle [Internet]. 2013 [cited 2019 Feb 22];25(1):37-44. Available from: https://periodicos.furg.br/vittalle/article/view/6018
- 22. Londe LR, Moura LG, Coutinho MP, Marchezini V, Soriano E. Vulnerability, health and disasters in São Paulo coast (Brazil): challenges for a sustainable development. Ambiente Soc. 2018;21:e01022. doi: 10.1590/1809-4422asoc0102r2vu18l1ao
- 23. Freitas CM, Silva DRX, Sena ARM, Silva EL, Sales LBF, Carvalho ML et al. Desastres naturais e saúde: uma análise da situação do Brasil. Ciênc Saúde Colet. 2014;19(9):3645-56. doi: 10.1590/1413-81232014199.00732014
- 24. Londe LR. et al. Impactos de desastres socioambientais em saúde pública: estudos dos casos dos Estados de Santa Catarina em 2008 e Pernambuco em 2010. Rev Bras Estud Pop. 2015;32(3);537-62. doi: 10.1590/S0102-3098201500000031
- 25. Xavier DR, Barcellos C, Freitas CM. Eventos climáticos extremos e consequências sobre a saúde: o desastre de 2008 em Santa Catarina segundo diferentes fontes de informação. Ambiente Soc. 2014;17(4):273-94. doi: 10.1590/1809-4422asoc1119v1742014

- 26. Vargas MAR. Moradia e pertencimento: a defesa do Lugar de viver e morar por grupos sociais em processo de vulnerabilização. Cad Metrop. 2016;18(36):535-57. doi: 10.1590/2236-9996.2016-3611
- 27. Costa FG, Flauzino RF, Navarro MBMA, Cardoso TAO. Abrigos temporários em desastres: a experiência de São José do Rio Preto, Brasil. Saúde Debate. 2017;41:327-37. doi: 10.1590/0103-11042017s227
- 28. Weintraub ACAM, Noal DS, Vicente LN, Knobloch F. Atuação do psicólogo em situações de desastre: reflexões a partir da práxis. Interface Comun Saúde Educ. 2015;19(53):287-97. doi: 10.1590/1807-57622014.0564