PSYCHOSOCIAL DISASTER PREPAREDNESS

A COMPARISON BETWEEN THE LITERATURE AND THE PSYCHIATRIC UNITS AT THE HOSPITAL DISTRICT OF HELSINKI AND UUSIMAA

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Uppdragsgivare:	Helsingfors och Nylands sjukvårdsdistrikt (HNS)

SAMMANDRAG

AVSIKT: Studiens avsikt är att undersöka förhållandet mellan HNS' psykosociala katastrof- och beredskapsplaner och litteraturen.

BAKGRUND: Det finns en tendens att prioritera den medicinska beredskapen framom den psykosociala beredskapen. Detta är ovist med tanke på att de psykosociala konsekvenserna kan vara större än de fysiska. HNS har ett ansvar att förbereda sig för katastrofer både nationellt och internationellt. Krisarbetet styrs av beredskapsplanerna.

METOD: Studien är en deskriptiv litteraturstudie. Systematiska databassökningar i PubMed, Cinahl and ProQuest Hospital Collection resulterade i 327 artiklar. Slutligen valdes och analyserades 17 artiklar och 2 riktlinjedokument. Analysen resulterade i 5 nyckelkomponenter som jämfördes med HNS' beredskapsdokument.

RESULTAT: De 5 nyckelkomponenterna är beredskapsplanering, undervisning och övning, psykosociala interventioner, mental triage samt samhälleligt engagemang. Jämförelsen visade att HNS' beredskapsdokument i stort är tidsenliga och i harmoni med litteraturen.

KONKLUSION: HNS kunde vidare förbättra sin beredskap genom att utveckla följande 8 områden: undervisnings- och övningsplanen; relationer med övriga organisationer; skräddarsydda planer för specifika katastrofer; den polikliniska beredskapen; avdelningsberedskapen; den nationella/internationella beredskapen; IT-beredskapen samt katastrofforskningen inom det psykosociala området.

Studien begränsas av den låga evidensnivån på artiklarna.

Nyckelord:	Krisberedskap, psykosocial, planer, Disaster preparedness, psychosocial, plans, Helsingfors och Nylands sjukvårdsdistrikt
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ABSTRACT

AIM: The aim of the study is to examine how the psychosocial disaster preparedness plans of the Hospital District of Helsinki and Uusimaa (HUS) relate to current literature.

BACKGROUND: There is a tendency to prioritize medical preparedness considerably more than psychosocial preparedness. This is unwise, because the psychosocial consequences can be greater than the physical. HUS has a responsibility to prepare for both national and international disasters. The response is guided by preparedness plans.

METHOD: The method is a descriptive literature review. Systematic database searches in PubMed, Cinahl and ProQuest Hospital Collection resulted in 327 articles. Finally 17 articles and 2 policy documents were chosen and analysed. The analysis resulted in 5 key components that were compared with the preparedness plans and documents of HUS.

FINDINGS: The five key components were preparedness planning, teaching and training, psychosocial interventions, mental health triage, and community outreach. Comparison showed that HUS preparedness plans and documents are to a large extent up-to-date and in harmony with the literature.

CONCLUSION: In order to improve its preparedness, HUS could develop further the following 8 areas: the teaching and training plan; relations with other response organisations; tailored plans to specific disasters; policlinic preparedness; inpatient department preparedness; national/international preparedness; IT preparedness and disaster mental health research.

The limitation in this study is the low standard of evidence of the articles.

Keywords:	Disaster preparedness, psychosocial, plans, the Hospital District of Helsinki and Uusimaa
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TIIVISTELMÄ:

TAVOITE: Opinnäytetyön tavoitteena on tutkia, miten HUS:in psykososiaaliset valmiussuunnitelmat vastaavat alan kirjallisuuden periaatteita.

TAUSTA: Tapana on priorisoida lääkinnällistä valmiutta huomattavasti enemmän kuin psykososiaalista valmiutta. Tämä ei ole viisasta, koska psykososiaaliset vaikutukset voivat olla fyysisiä suurempia. HUS:lla on vastuu varautua sekä kansallisiin että kansainvälisiin katastrofeihin. Kriisityötä ohjaavat valmiussuunnitelmat.

TUTKIMUSMENETELMÄ: Tämä on kuvaileva kirjallisuuskatsaus. Systemaattiset haut tietokannoista (PubMed, Cinahl ja ProQuest Hospital Collection) antoivat 327 artikkelia. Lopulta 17 artikkelia ja 2 ohjeasiakirjaa valittiin ja analysoitiin. Analysoinnista muodostui 5 avainkomponenttia, joita verrattiin HUS:in valmiussuunnitelmiin ja asiakirjoihin.

TULOKSET: Nämä 5 avainkomponenttia ovat valmiussuunnittelu, opetus ja harjoitus, psykososiaaliset interventiot, psyykkinen kiireellisyysluokittelu (triage) ja yhteiskunnallinen vuorovaikutus. Vertailu osoitti, että HUS:in valmiussuunnitelmat ja asiakirjat ovat ajan tasalla ja sopusoinnussa kirjallisuuden kanssa.

PÄÄTELMÄ: Valmiutensa parantamiseksi HUS voi vielä kehittää seuraavia 8 aluetta: opetus- ja harjoitussuunnitelma; suhteet muihin katastrofityötä tekeviin järjestöihin; räätälöidyt suunnitelmat spesifisiin katastrofeihin; poliklinikkojen valmius; potilasosastojen valmius; kansallinen ja kansainvälinen valmius; tietotekniikkavalmius ja psykiatrinen katastrofitutkimus.

Tämän tutkimuksen rajoitteena on artikkeleiden matala evidenssitaso.

Avainsanat:	Valmiussuunnitelma, psykososiaalinen, katastrofi, suuronnettomuus, Helsingin ja Uudenmaan sairaanhoitopiiri
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CONTENTS

Figures

Tables

FOREWORD

On 27 September 1994 passengers boarded MS Estonia in order to travel from Tallinn to Stockholm. Few paid even a thought to the fact that reaching their arrival destination would not be guaranteed. On 28 September 1994 at about 01:00 the first sign of trouble was heard on MS Estonia in a metallic bang. In about 50 minutes the boat had sunk leaving hundreds of passengers struggling for their lives in the cold water that dark September night. The citizens of the Nordic and Baltic countries woke up that morning shocked by the news, wondering how this could have happened. We may never get all the answers to why MS Estonia sunk. Many lives were lost tragically that night, leaving painful scars in many souls.

Still today thousands of people travel between these capital cities as they cross the Baltic Sea. The question for us today is: have we forgotten that we are vulnerable to disasters? Are we really prepared to face what we dread? Are we living in a way today so that there is no regret when tomorrow comes? Are our disaster preparedness plans updated, revised and exercised? Are we too optimistic about the future?

The motive for my master's thesis is to bring awareness and offer tools to the subject of disaster management. This study will focus especially on the psychosocial aspects of disaster management and on what could be done within the Helsinki and Uusimaa hospital district, so that, if a ferry sinks again or some other disaster occurs, we will be prepared. And, hopefully, it will be less dark and less cold than the experience of the victims of MS Estonia.

1 BACKGROUND

1.1 Psychosocial consequences of a disaster

In this study a disaster is defined as an occurrence that creates a widespread harmful impact on people. A disaster leaves behind lost lives, injury, displacement as well as damage to property. Survivors might have seen a family member or friend die without being able to help. Survivors might be physically injured for life or having their home destroyed. Individuals might be traumatized for life. (PAHO 2012:1)

A disaster affects also the community as a whole. According to Ursano *et al.* (2007:4-5) disasters overwhelm functions and resources of the entire community. The earthquake in Haiti in 2010 either destroyed or left more than 50 hospitals and health centres unusable. (PAHO 2012:1) The community might experience a sudden influx of strangers: people trying to help and media representatives. And the sense of security and safety might be lost for a long time. In addition, a disaster also amplifies pre-existing problems in the community. (PFA 2011:2, IASC 2007:2) A weak infrastructure will be even weaker during a disaster.

The impact of a disaster on an individual depends on several things. Firstly, it depends on what type of disaster it is. Wilful human-induced incidents such as terrorism tend to cause greater psychological impact than natural disasters. (Ursano et al 2007:29-30) Secondly, it depends on the level of exposure: is the person a bystander or a victim? Thirdly, it depends on personal vulnerability. (PAHO 2012:58)

People with a pre-disaster weakness are naturally vulnerable to disasters (PHA 2011:2-3, PAHO 2012:73). These include people with psychiatric disorders and the elderly. Other high-risk groups include people that are lacking a social network and children. Research

Table 1. High-risk groups

HIGH-RISK GROUPS
• Direct exposure to life threat • Injured • First responders • Bereaved • Pre-existing psychiatric disorder • Poor people • Single parents • Children • Elderly • Women

also shows that women are more likely to be psychologically affected by a disaster. These high-risk groups are to be given special attention in disaster preparedness planning. (IASC 2007:3-4, Ursano *et al.* 2007:12, Leppävuori *et al.* 2009:145-146)

It is important to differentiate between normal reactivity and psychiatric disorders when looking at the impact of a disaster. It can be difficult to differentiate between signs of exposure (mental distress) and symptoms of dysfunction (mental disorder). (Leppävuori *et al.* 2009:144-144, Everly & Parker *et al.* 2005:19-21, PAHO 2012:59) Feeling distress and grief may be a very normal and helpful reaction. It is not a mental disorder to feel anger, disbelief, sadness, fear, and irritability, sleep disturbance and loss of concentration following a trauma. The majority of people exposed to disasters do not develop psychiatric disorders (Everly & Parker *et al.* 2005:19). There might even be positive consequences of disasters. Communities and individuals may experience a new positive beginning or growth after a disaster. (Ursano *et al.* 2007:8-11, 35, 122, PAHO 2012:59)

Post-traumatic stress disorder (PTSD) is the signature diagnosis following a disaster. It is often a severe, chronic and disabling disorder. (PAHO 2012:70) Acute stress disorder (ASD) is similar to PTSD but with less chronic symptoms. Both PTSD and ASD require special attention in psychosocial disaster planning due to their widespread distress and dysfunction. Symptoms of dissociation, a failure to integrate events into one's personality, are connected to the PTSD. This can be viewed as a conscious or unconscious mental safety procedure to protect oneself. One can mentally and emotionally disconnect oneself from traumatic unresolved events. Symptoms of both ASD and PTSD include re-experience, anxiousness, hyper arousal and avoidance/numbing. Symptoms of ASD persist for no more than one month. The diagnosis of PTSD is made only when symptoms have persisted for at least one month after disaster. (Leppävuori *et al.* 2009:145-149, Ursano *et al.* 2007:140-141) The updated version from 2014 of current care guidelines by Duodecim for PTSD can be found at www.kaypahoito.fi.

Table 2. Disaster-related disorders

DISASTER-RELATED DISORDERS
• Adjustment disorder
• Generalized anxiety disorder
• Acute stress disorder (ASD)
• Post-traumatic stress disorder (PTSD)
• Major depression
• Substance use disorder
• Somatization
• Panic disorder

Another prevalent disorder is major depression. This can express itself in feelings of hopelessness and helplessness that can persist for a long time. Other anxiety disorders, such as panic disorder are not as prevalent as PTSD. Alcohol and drug abuse is common especially among men after disasters. Drug use can be an attempt to self-medicate or to cope with the situation. Another disorder is somatization, which is characterized by multiple medically unexplained complaints. Again, the psychological impact correlates to the level of exposure. (Ursano *et al.* 2007:8-10, 32-35)

1.2 Recent disasters in Finland

Every country is faced with disasters from time to time. Finland is not an exception to this. This section will give examples of disasters that have exposed Finnish citizens to traumatic things both in Finland and abroad. According to Ursano *et al.* (2007:30-31) disasters are classified as natural disasters, technological accidents or wilful human-induced incidents. A disaster can also be a combination of several types of disasters, for example a combination of a natural disaster and accident.

The sinking of MS Estonia in 1994 was mentioned in the foreword. According to the Joint Accident Investigation Commission (1994), the front visor, used to take in cars, was opened by waves. The ferry sunk in an hour killing 852 people from several countries. Only 138 people were rescued. The wreck was found in international waters within Finland's Search and Rescue Region. The visor was missing and the ramp partly open. This disaster can be seen as a combination of a natural and technological disaster.

Two train accidents occurred at a short interval, in 1996 and 1998. These are also technological accidents based on technological failure. The first one occurred in Jokela. The train was carrying 144 people, of which 4 died and 75 people were injured. The second train accident happened in Jyväskylä, leaving 10 people dead, 8 people seriously injured and 86 lightly injured.

Wilful human-induced incidents are another type of disaster. Finnish citizens have suffered from several terror attacks. The terror attack against the World Trade Center in

New York in 2001 affected Finnish people in various ways. Finnish citizens were stuck in New York after the attack and airplanes on the way to New York had to turn back to Finland. In 2002 Finland was affected more directly by a terror attack on Finnish soil. A man detonated a bomb at the Myyrmäki shopping mall killing 7 people and injuring dozens of people.

Table 3. Disasters in Finland since 1994 (Garoff et al. 2013)

YEAR	DISASTER	DEATHS	INJURED
1994	The shipwreck of MS Sally Albatross	-	-
1994	The sinking of MS ESTONIA	852	-
1996	Train accident in Jokela	4	75
1998	Train accident in Jyväskylä	10	94
2001	WTC-terror attack in New York	3000	-
2001	Airplane accident in Milano	110	-
2002	Bomb at Myyrmäki shopping mall	7	>20
2004	Konginkangas buss accident	23	14
2004	Tsunami in southeast Asia	179 (Finnish citizens)	250
2007	School shooting at Jokela	9	-
2008	Buss accident in Malaga	9	38
2008	School shooting at Kauhajoki	10	-
2009	House on fire in Naantali	5	9
2009	Shooting at Sello shopping mall	6	-

1.3 Disaster management

The goal of disaster management is to reduce the number and effects of disasters. Disaster management is divided into several fields that are overlapping. Disaster risk reduction and mitigation is aiming at reducing the number of disasters. (www.unisdr.org) Risk reduction action steps include, for example, strengthening the local health care system or developing early warning systems. Disaster preparedness is aiming at developing sufficient readiness to face disasters through planning. Disaster response is a wide range of interventions aiming at reducing the effects of disasters. This includes initial rescue and medical work that is aiming at saving lives through emergency care. Disaster response also includes psychosocial responses that are aiming at reducing mental and so-

cial consequences through relief work and humanitarian assistance. Recovering and rebuilding takes place in the aftermath of a disaster and can last for many years. (www.unocha.org, ifrc.org)

1.4 Main actors in disaster preparedness in Finland

The Finnish parliament and government exercise the highest political power in Finland. The government consists of 11 ministries. The Ministry of Social Affairs and Health has a crucial role in disaster preparedness. Laws, regulations and agreements regulate both the medical and the psychosocial preparedness. The 112 Emergency Response Centre, the Police of Finland, the Finnish Military Defence Force etc. are important state-led organisations.

The municipality is another important actor in disaster preparedness. There are 317 municipalities in Finland. According to the national instructions (Korhonen & Ström 2012:69) it is the responsibility of each municipality in Finland to make sure that there is preparedness to handle all kinds of hazards and emergency situations. Preparedness is also continual prevention work to make sure that patient work can continue despite difficult conditions. Examples of the state of emergency situations are: an armed attack (a war situation), a national economic collapse, an extreme catastrophe, a widespread epidemic disease or such alike. The Social and Crisis Emergency Centres, the Primary Health Care Centres, the city hospitals, the fire brigades, schools and ambulance services are important municipality-led organisations. The Social and Crisis Emergency Centre of Vantaa has a nationwide responsibility in disasters.

Many municipalities in Finland have formed joint authorities consisting of several municipalities. The Hospital District of Helsinki and Uusimaa (HUS) is an example of this. It consists of 24 municipalities in the capital region of Finland. This joint authority is divided into 5 hospital areas: the Helsinki University Central Hospital, Hyvinkää, Lohja, Porvoo and Länsi-Uusimaa Hospital areas. The Helsinki University Central Hospital (HUCH) is formed by 17 hospitals and has a nationwide responsibility for treating severe and rare illnesses. HUS has been given a special responsibility by the Ministry of

Social Affairs and Health to assist in emergencies, if needed, in all of Finland and also internationally.

The third sector consists of independent organisations that are not directly connected to the state or the municipalities. The Finnish Association for Mental Health (FAMH) and the Finnish Red Cross are two major actors in the psychosocial disaster preparedness. The FAMH has around 50 local associations spread around the country, consisting of around 5000 members working to bring mental health to the community. (www.mielenterveysseura.fi/en)

The Finnish Red Cross (FRC) is one of Finland's most prominent and largest civic organisations. The FRC is also an organisation with a unique legal standing in Finland. It was founded in 1877. The organisation has 600 local offices spread out in nearly every municipality of Finland. It has 100 000 members. The purpose and function of the FRC in disasters is stipulated in several laws and legislations. The national duty to maintain emergency and disaster preparedness is partly a duty of the FRC. (www.punainenristi.fi)

The agreement from February 2014 between the Finnish Ministry of Health and the Finnish Red Cross focuses on emergency preparedness in more detail. One objective is to make sure there is preparedness in first aid locally. The FRC is to coordinate and train volunteers nationally in first aid according to evidence-based knowledge. The FRC is to keep a register with names of all qualified teachers of first aid.

Another objective is to maintain national and international disaster preparedness. The FRC is to support the authorities by coordinating and training volunteers for national disasters. The FRC is to maintain groups for first aid, psychosocial aid and material aid.

The FRC is also to organise expert groups such as the national psychologist disaster response team. The FRC is also obligated to have international preparedness for disaster response. The international disaster response team consists of medical doctors, nurses, engineers, technicians and IT and telecom experts, etc. This team can be summoned on short notice and has access to hospital equipment.

The main strength of the FRC is the volunteers. The FRC is coordinating an organisation called Vapepa. Vapepa consists of about 50 independent associations in Finland

that all provide volunteers. The FRC is responsible for training this group and calling them into action when needed. Vapepa consists of thousands of volunteers.

Another strength of the FRC is that it is a part of an international network. That means that it can function effectively on a global level and the FRC can request international assistance in disaster in Finland.

The Finnish Lutheran Church is another actor worth mentioning. In case of disaster, they are cooperating with national authorities. They have trained professionals that can assist around Finland. They have also many buildings that can be used as a place of peace and gathering. In addition, they offer crisis services on a day-to-day basis at hospitals at many places. (http://sakasti.evl.fi/sakasti.nsf/sp?open&cid=kriisiinfo)

1.5 The importance of psychosocial preparedness

The widespread harm that follows a disaster requires preparedness. The impact is great as explained earlier. “Chance favours the prepared mind”, said Louis Pasteur (1822-1895) who is known for his discoveries of the principles of vaccination and pasteurization. This applies also to disasters. Preparation reduces the effects of disasters. Unfortunately, historically there is a tendency to prioritize the medical preparedness more than the psychosocial preparedness. (Diaz *et al.* 2006:6, Ursano *et al.* 2007:284-285). This is surprising since studies (Karsenty *et al.* 1991 & Kawana *et al.* 2001) show that the psychological consequences of disaster are even greater than the physical consequences.

Reasons for this failure in psychosocial preparedness might be a lack of understanding of the psychosocial impact of a disaster. Or it might be due to prejudices against psychiatric services or lack of initiative among mental health professionals. Reasons may be many. (Ursano *et al.* 2007:288)

Psychosocial support in this study is defined as interventions aimed at both psychological and social needs. Psychological support is to strengthen the mental health of an individual through inner capacity building and facilitating healthy mental processes. Social support means strengthening social networks such as family and community functions.

(Diaz *et al.* 2006:164-165) It is different from psychiatric support that implies a pathological disease and malfunction.

During recent years more priority has been given to psychosocial preparedness and there is a growing body of information and knowledge in this field. (Diaz *et al.* 2006:6) The basic idea is that if we can reduce physical trauma, then we can also reduce psychological trauma. It is reported that it is difficult to design and implement sound disaster preparedness that addresses psychosocial issues directly. (Ursano *et al.* 2007:284, 291) An example of studies on this topic is made by National institute of mental health (2002) with the title Mental Health and Mass Violence: Evidence-Based Early Psychological Intervention for Victims/Survivors of Mass Violence.

1.6 Unique aspects of psychosocial disaster work

Traditional mental health work differs from disaster mental health work. The national American Red Cross (ARC 2012:1:7-8) highlights several differences. The mental health professional might be used to a certain setting and worksite with computer and desk. The disaster situation might be more chaotic and extempore. The mental health professional might be used to working primarily individually whereas disaster work requires constant teamwork. Initiation normally comes from patients but in disasters patients are searched for. Duration in disaster work might be shorter than usual. Interventions might be delivered in one face-to-face contact. Traditional mental health work tends to be client-centred and focus on emotional states. Disaster situations tend to be task-oriented and focus on urgent needs. Appointments are normally prearranged whereas disaster situations are spontaneous and involve outreach efforts. Survivors might be difficult to track, whereas normally client's contact information is available.

Table 4. Unique aspects of disaster work

Unique aspects of disaster work
• Worksite • Teamwork • Initiation • Duration • Interventions • Scheduling • Accessibility

The American Red Cross presents 3 essential elements of the psychosocial response (ARC 2012:3:3-10). These are identification of mental health needs, promotion of resilience and coping, as well as targeted interventions. Identification of mental health needs is for all clients. Most clients are in need of promotion of resilience and support. Only high-risk clients receive targeted interventions.

Service delivery settings are an important element of the psychosocial response. Shelters are temporary housing for those who have been forced to evacuate their homes. Mobile and fixed feeding sites bring meals to those that are temporarily unable to take care of themselves. Service centres provide information, emergency aid and distributions of supplies.

2 AIM OF THE STUDY

The aim of the study is to examine how the psychosocial disaster preparedness plans of the Hospital District of Helsinki and Uusimaa (HUS) relate to current literature. Development recommendations are given if needed.

3 DATA SELECTION

The selection of relevant data is guided by the aim of the study. (Kangasniemi et al 2013:295-296, Forsberg & Wengström 2013:47) Literature reviews have been frequently used in health care sciences but also criticised as subjective and random. The researcher can't merely choose data that supports the hypothesis. Data collection of this study is transparent and has systematic elements, but it does not reach the high standards of a systematic literature review. (Aveyard 2014:13, Baumeister & Leary 1997, Green; Johnson; Adams 2006)

Preliminary data searches are recommended in order to connect to an existing larger theoretical framework (Kangasniemi et al 2013:291-295). Preliminary searches were made in several databases in January and February 2015. Two relevant articles were found but it became evident that there is very little material on disaster management at the psychiatric hospitals specifically. Psychiatric units are generally focused solely on treating severe psychiatric disorders. But in the case of HUS, psychiatric units are also obligated to assist somatic hospitals, victims with non-pathological reactions, such as distress and fear. The search was extended to disaster mental health in general.

Three databases were chosen: PubMed, Cinahl and ProQuest Hospital Collection. Searches were made during March and April 2015. Determining the search words was challenging. After trying different alternatives, these words and combinations were chosen:

disaster OR catastrophe OR crisis AND

"disaster preparedness" OR "disaster management" OR "disaster response" OR "disaster intervention" OR "hospital preparedness" OR "Contingency plan" OR plan AND

psychosocial OR psychiatry OR "psychological first aid" OR "mental health" OR "psychiatric care" OR "psychiatric department" OR "psychiatric ward" OR "psychiatric hospital"

Control searches were made with simpler search methods to make sure that key articles were not missed. The exact same search words and combinations were used for all three databases.

Criteria for inclusion

- National and international articles and studies on preparedness and response in the fields of disaster management were included.
- Only studies with aspects of mental health were included.
- Data was restricted to the English language.
- The search covered the years 2010–2015.
- Full-text articles were included.
- The quality and reliability of the articles was assessed according to abstract, method and clarity.
- The option of peer review was chosen when possible.
- Grey literature was included. (Kangasniemi et al 2013:295-296)

Search results

The searches resulted in 327 articles (PubMed 141, Cinahl 134, ProQuest 52). Based on the titles, 76 articles were chosen (PubMed 42, Cinahl 6, ProQuest 28). 24 articles were chosen after studying the abstracts of these 76 articles (PubMed 6, Cinahl 4, ProQuest 14). These 24 articles were analysed in full text. Finally, 15 articles were chosen due to their quality and relevance to the research question. (PubMed 3, Cinahl 1, ProQuest 11)

Table 5. Search results

Database	Total hits	Articles based on titles	Articles based on abstracts	Articles based on full text
PubMed	141	42	6	3
Cinahl	134	6	4	1
ProQuest	52	28	14	11

Description of articles

Table 6. Description of articles

	Authors, year, place	**Title**	**Method, standard of evidence**	**Relevance**
1	Raphael & Ma. 2011, Australia, China.	Mass catastrophe and disaster psychiatry	Expert opinion	General guidelines for psychosocial disaster management.
2	Wells, Kenneth B. *et al*. 2013. United States.	Community Engagement in Disaster Preparedness and Recovery: A Tale of Two Cities - Los Angeles and New Orleans	Case study	The meaning of community involvement in disaster management with emphasis on relationships, trust and engagement.
3	Reifels, Lennart *et al.* 2013. International.	Lessons learned about psychosocial responses to disaster and mass trauma: an international perspective	Consensus symposium based on research from six disasters in five countries.	Eight lessons learned from research and experience concerning psychosocial disaster management.
4	Johnstone & Turale. 2014. Australia, China	Nurses' experiences of ethical preparedness for public health emergencies and healthcare disasters: A systematic review of qualitative evidence	A systematic literature review.	The authors recognised a significant gap in the literature on nurses' experiences of ethical preparedness.
5	Hamidreza, Khankeh *et al*. 2013. Iran.	Life Recovery After Disasters: A Qualitative Study in the Iranian Context	A qualitative analysis with in-depth and semi-structured interviews.	The study explored the disaster-related rehabilitation process and presents three main concepts.

6	Sederer, Lloyd I. *et al*. 2011. United States.	Lessons Learned From the New York State Mental Health Response to the September 11, 2001, Attacks	A complementary open reflection from the perspective of the New York State and New York City officials and scientists.	Several lessons learned from Project liberty are shared.
7	Shultz, James M. United states. 2011.	The "Trauma Signature:" Understanding the Psychological Consequences of the 2010 Haiti Earthquake	Synthesis of early disaster situation reports.	This high-visibility disaster response underscores the urgency to address 6 unmet needs in future disasters
8	Suzuki et al. 2012. Japan.	Development of disaster mental health guidelines through the Delphi process in Japan	Delphi process	The revised guidelines were developed and presented.
9	Wagner, Laurel Bass. United States. 2013.	The multiple traumas of Hurricane Katrina as witnessed by a psychoanalytic first responder	Expert opinion	A psychoanalytic first responder reflects on psychosocial disaster management.
10	Crabtree, Andrew 2013. Nepal.	Questioning Psychosocial Resilience After Flooding and the Consequences for Disaster Risk Reduction	Field work	States that the majority of people facing a disaster are not resilient.
11	McIntyre & Goff. 2012. United States.	Federal Disaster Mental Health Response and Compliance with Best Practices	Evaluation	Investigation on how difficult it is to comply to recommended practices on psychosocial management.
12	Woods C *et al*. 2014. Australia.	''Out of our control'': Living through Cyclone Yasi	Survey completed by 433 people.	How does people experience a disaster?
13	Kako *et al.* 2014. Japan	Disaster Health After the 2011 Great East Japan Earthquake	Literature review	This review provides the current status of disaster-health research in Japan.
14	Hambrick *et al*. 2014. United States.	Towards Successful Dissemination of Psychological First Aid: A Study of Provider Training Preferences	Interviews	What are disaster mental health training requirements?
15	Cox RS & Danford T. 2014. Canada.	The Need for a Systematic Approach to Disaster Psychosocial Response: A Suggested Competency Framework	Literature review	13 competency domains for psychosocial disaster response

Data from hand searches

Two additional articles were found by hand search (Green; Johnson; Adams 2006) during the preliminary searches in January and February 2015 that fulfilled the inclusion criteria but were not found during the "official" search. One was by Su *et al.* 2011 and the other was by King *et al.* 2015. And two other documents were included as well. These two documents are guidelines that are considered authoritative in many studies. One is Psychological First Aid (PFA) and the other is IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings. The IASC and PFA were chosen due to their relevance even though they were older than 2010. All four documents from hand searches were included in this study.

Table 7. Description of articles from hand searches

	Authors, year, place	**Title**	**Method, standard of evidence**	**Relevance**
16	Su *et al.* 2011. China	The establishment of a standard operation procedure for psychiatric service after an earthquake	Systemic literature review, action research and two years of data collection.	Lessons learned from the Chinese context.
17	King *et al.* 2015. United States.	Competencies for disaster mental health.	Literature review	A comprehensive review that identifies many competence sets.
18	Inter-Agency Standing Committee. 2007. International.	IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings	Policy, guidelines	Describing principles for interagency coordination.
19	National Child Traumatic Stress Network & National Center for PTSD. 2006. International.	Psychological first aid. Field operations Guide.	Policy, guidelines	Describing principles for psychological first aid.

4 METHOD

Data is analysed qualitatively in the study. Qualitative research, also called interpretivism, is looking to make sense of the world and deals with abstract topics such feelings, experiences and complex phenomena. (Siu & Comerasamy 2013:6-7) The character of the study is mostly deductive. Data is partly analysed from the perspective of relevance for the context of HUS.

There are several types of literature reviews. This study is a descriptive literature review. It is also called Narrative review. The strength of the descriptive literature review is its argumentative nature and sometimes it is the only suitable method for answering a research question. The descriptive review is content driven and focused on understanding. (Kangasniemi et al 2013:291)

Constructing the description is the heart of the descriptive literature review. The goal is not merely to refer to data and make citations but to create a synthesis, a coherent entity. (Baumeister & Leary 1997) This requires good knowledge of the data and is done without changing the original content. The data is analysed critically, taking into account strengths and weaknesses with elements from qualitative content analysis. (Kangasniemi et al 2013:296-297)

The purpose of the descriptive review is to answer questions on phenomena, describe central concepts of phenomena and how they relate to each other. It is usually possible to find a new perspective on a phenomenon through a descriptive literature review. With the help of this method a theoretical framework can be built and problems can be recognised. (Green; Johnson; Adams 2006, Baumeister & Leary 1997, Kangasniemi et al 2013:291-292)

The analysis of the data was divided into five stages. First, all the articles were read and compared to the aim of the study. Secondly, central articles were chosen as key source. Thirdly, key components as well as lessons learned from disasters around the world were identified. These were put into categories. Fourthly, subcategories were added with more substance thus creating the description. Fifthly, the description was compared

to the psychiatric disaster preparedness plans of HUS. Visions for the future are presented along with questions for further research. (Kangasniemi et al 2013:296-299)

5 ETHICAL CONSIDERATIONS

All steps of the research process starting from choice of topic to conclusion need to include ethical considerations (Siu & Comerasamy 2013:88-89, Forsberg & Wengström 2013:69-70). Ethical research ensures truthful research results. This is very important because false research results will possibly lead to misguided clinical work and therefore put vulnerable clients at risk. Good clinical care is built upon research evidence. (Siu & Comerasamy 2013:88-89.) The Helsinki declaration for ethical research principles states that ethical research looks for the patient's best interest. (2014)

The research process began with seeing a need for preparedness for disasters in the psychiatric units. The title of the research was chosen in order to convey what the research is addressing (Siu & Comerasamy 2013:97). The descriptive literature review became the chosen method because of the researcher's limited knowledge of the field. Making interviews or using other methods seemed to require a better understanding of the topic. Descriptive literature review was chosen because a systematic literature review requires more resources than available.

A literature review requires rigor and numerous ethical considerations. It can easily be biased. General principles of ethics in research such as integrity, transparency and accountability need to be applied. Integrity shows itself in honesty, truthfulness and fairness during the whole process. Honesty is to declare own biases, personal ambitions, financial obligation, and affiliation with third party, not misrepresenting data etc. Truthfulness is not to deceive. Fairness is to respect every research report as intellectual property. Transparency is accuracy, openness and accessibility. This means to disclose, be open to criticism and that data is accessible if required. (Siu & Comerasamy 2013:89-92)

The articles are the raw material of literature reviews. The research questions are posed to the literature, not to people in literature reviews (Forsberg & Wengström 2013:69-70). Data needs to be of high quality and stored for 10 years. The quality of literature needs to be assessed. This study uses partly grey literature in the form of policy and guidelines. Grey literature is evaluated in similar ways as other forms of evidence. (Siu & Comerasamy 2013:89, 96-97, 103, 108)

Plagiarism is to present others' material as if it were your own. This can be challenging in literature reviews when the purpose is to present the work of others. It is a question of how findings are presented. When referring to a document, the author of the work is to be mentioned. Critical appraisal means to study the work of another so well that there is no misrepresentation. The researcher's own ideas are to be identifiable. Good referencing means that you refer to original sources. Cheating and falsification, fabrication of data, stealing, false inclusion and exclusion, false analysis of data or false interpretation cannot be part of the research process. (Aveyard 2014:173-174)

The researcher needs to explain how the results were reached and be mindful of how to present them. The results are to be described and presented in a systematic way. It needs to be a rich description. (Siu & Comerasamy 2013:106-107) In this study the results of the literature review will be compared with the preparedness plans of HUS. This comparison aspires to be honest, transparent and fair.

The discussion includes the researcher's own interpretations and reflections. It also evaluates whether the aim of the study has been reached. (Siu & Comerasamy 2013: 106-108)

6 KEY COMPONENTS IN THE LITERATURE

The literature review considered lessons learned and research connected to the following disasters: the Chi-Chi earthquake in Taiwan in 1999; the September 11 attacks on the World Trade Centre in 2001; the Florida hurricanes in 2004; the London bombings in 2005; the Hurricane Katrina in New Orleans in 2005; the Kosi River flooding in Nepal in 2008; the Haiti earthquake in 2010; the Yasi cyclone in Australia in 2011; the Great East Japan earthquake, tsunami and nuclear disaster in 2011; the mass shooting at Utøya Island in Norway in 2011; the earthquake in Northern Italy in 2012; and the Sandy Hook school shooting in United States in 2012.

Five key components of psychosocial disaster management were identified in the literature. These are preparedness planning, teaching and training, psychosocial interventions, mental health triage and community outreach.

6.1 Preparedness planning

No preparedness planning can make one fully prepared for a disaster, but sufficient preparedness planning can significantly reduce the effects of disasters. Psychosocial disaster preparation takes time, because numerous possible hazards need to be analysed. Preparedness planning is to make the best possible plans to ensure protection of people, property and processes. Japanese experts agree almost unanimously that mental health professionals must be represented at planning meetings. (Suzuki *et al.* 2012, Su *et al.* 2011)

Disasters share characteristics but they are also different from each other. It is suggested that the psychosocial response is tailored to specific disasters as much as possible. (Reifels *et al.* 2013, Shultz 2011) The "trauma signature" of the Utøya mass shooting was unique. It was a "centrifugal disaster", which struck at one location where people had gathered temporarily. The sinking of MS Estonia required effective international cooperation and helicopters.

An efficient response requires coordination between organisations (IASC 2007:8, Reifels *et al.* 2013, Sederer *et al*. 2011, King *et al* 2015). Building relationships with other response organisations is critical prior to disaster. (McIntyre & Goff 2012) Disaster management may involve a large amount of both national and international organisations and agencies. (Sederer *et al*. 2011, Suzuki *et al.* 2012) Disasters like the Haiti earthquake in 2010 involved organisations from all around the world.

Coordination may include mobilisation of an overarching coordination group for psychosocial support and identification of qualified organisations and resource persons. And the coordination group needs to agree upon policies and plans for the psychosocial response. This means determining mechanisms, roles and responsibilities. (IASC 2007:22) This work should of course, if possible, be done before the disaster.

Literature suggests integration of research and evaluation into disaster response planning. Doing research immediately after a disaster is challenging but it could be done if protocols are made in advance in disaster-prone areas. It is important that particularly low-intensity interventions are evidence-based instead of evidence-informed. (Reifels *et al*. 2013, Sederer *et al*. 2011) Disaster health research tends to focus more on medical matters than on mental health. (Kako *et al.* 2014) Good documentation makes a smooth handover between service providers and research possible. (Suzuki *et al.* 2012)

6.2 Teaching and training

On-going, different levels of teaching and training of all the mental health professionals involved in disaster response is crucial. (Suzuki *et al.* 2012, Sederer *et al*. 2011) Topics to teach include stress reactions, principles of Psychological First Aid, psychological consequences of a disaster as well as relevance and function of psychosocial services. (Cox & Danford 2014, King *et al.* 2015). Teaching different interventions is important. Psychological First Aid can be taught through lectures, role-plays, manuals etc. Training sessions can be brief but frequent. Training is preferably site specific (using relevant contexts). (Hambrick *et al*. 2014)

One goal of the teaching and training is to facilitate sufficient personal preparedness among mental health professionals. Personal attributes include compassion and willingness to care for others. Essential personal skills include stress management and self-care. One needs to learn to function well in high-stress environments. This includes self-awareness and ability to take care of one's own wellbeing in challenging situations. Being able to be an effective and active team member and taking care of each other is important. (Cox & Danford 2014, King *et al* 2015)

Disaster work involves ethically and morally challenging choices. To illustrate this, a physician and two nurses made a decision to euthanize four elderly patients during the Hurricane Katrina in 2005. They reasoned that the patients didn't have a realistic chance of surviving in a stranded and incapacitated hospital. None of the elderly were expected to die immediately nor had they consented to the lethal dose of drugs they were given. Later the health professionals were arrested and charged with second-degree murder. An ethical framework in decision-making should guide those ethically prepared. A study shows that there is a gap in the literature on this topic. More studies are needed on the topic of ethical disaster preparedness. (Johnstone & Turale 2014)

6.3 Mental health triage

Those that need help now, should get help now. Those that can wait for help, should wait for help. Mental health triage and screening is needed during disasters (Su *et al.* 2011). It means distinguishing people with more serious and urgent needs and optimizing resources. (Cox & Danford 2014) People with serious challenges such as life threatening injuries, self-harm, violence, psychosis etc. need to be referred to specialist treatment. Needs assessment is to be done early on-scene with validated mental health needs assessment tools (Su *et al.* 2011, Shultz 2011). Unity has not been reached on how this screening should be done. (Suzuki *et al.* 2012)

Mental health triage and psychosocial disaster management need to focus on vulnerable groups in society. Vulnerable people are made even more vulnerable by disasters. Poor people might not be able to escape early enough or they might not receive warnings.

(Wagner 2013, Reifels *et al.* 2013, Suzuki *et al.* 2012, King *et al* 2015) These vulnerable groups need to be identified. Special attention is to be given to disaster survivors, children, elderly, adolescents, people with health conditions or disabilities, the elderly etc. (PFA 2006, Suzuki *et al.* 2012) Establishing a survivor register may provide help in identifying survivors in open public disasters. A survivor register was created after the central London suicide bombings in 2005 where 52 died and 775 were injured. (Reifels *et al.* 2013)

Barriers in access to care should be proactively addressed. People in need of help must have access to it. These barriers may be geographical, cultural, language, gender, age, disability etc. Here websites and leaflets may be of assistance. For example, geographical barriers can be overcome by sending psychosocial response teams to disaster-affected regions, such as the Great East Japan earthquake in 2011. (Reifels *et al.* 2013)

6.4 Psychosocial interventions

The initial response needs to take place as early as possible. The earlier, the better. Psychosocial interventions are learned and practiced before the disaster happens and they are based on the results of the mental health triage. Psychosocial interventions are to be at least evidence-informed or based on expert consensus (Shultz 2011) and efforts are to be unified. (Hambrick *et al*. 2014)

Figure 1. Intervention pyramid of IASC 2007

Psychosocial care is provided with either low or high intensity according the intervention pyramid of IASC. The majority of people need merely basic services and security. Many need community and family support. A smaller group needs focused non-specialised support. A small group depending on the size of the disaster needs specialised services, such as psychiatric treatment or psychotherapy. (IASC 2007) Specialised services require more resources. Project Liberty that organised the psychosocial response after the attack on the World Trade Centre in 2001 reported

that they would have needed more funding in order to offer specialised services to all that needed it. (Sederer *et al*. 2011)

Low intensity interventions are often described as Psychological First Aid (PFA). Psychological First Aid is considered an evidence-informed intervention (Hambrick *et al*. 2014, PFA 2006). PFA includes basic support, supportive and humane presence, listening and practical support provided with the focus to promote a sense of safety and calming. One can ask about present worries and physical condition in a non-intrusive way. Asking about psychological problems is not advised in the first hours. PFA is not professional counselling but can be given by anyone. (Shultz 2011, Wagner 2013, Su *et al.* 2011, PFA 2006, Suzuki *et al.* 2012)

Extended roles for mental health professionals are recommended (Reifels *et al.* 2013). This extended role can involve protecting survivors from intrusive media attention. Practical arrangements are to be done so that survivors are protected from excessive attention and unnecessary media exposure in the initial phase. This could include posting notes asking the media to refrain from accessing survivors without permission. (Suzuki *et al.* 2012) Extended roles also involve bereavement and grief support. This includes assisting someone who has recently lost a loved one. Supporting the grieving process can be needed. Practices for death notifications vary from country to country. Spiritual care includes recognition and ability to sensitively discuss spiritual needs. (Cox & Danford 2014)

Interventions for long-term treatments are important. (Shultz 2011, Su *et al.* 2011) Recovering from a disaster may be a long process and some may not even recover fully. Effective rehabilitation can make a big difference for survivors. A clear definition of the multidimensional rehabilitation process is needed. Research in the Iranian context shows that the recovery process requires physical rehabilitation, mental health monitoring and a wide scope of social support. These interventions need to be continuous, culturally sensitive and family-centred as well as aimed at reintegration into society. (Ha-

midreza *et al*. 2013, Sederer *et al*. 2011) The social aspects are stressed in the recovery phase. This means to be connected to family, friends and neighbours. Social support must be facilitated and promoted. (Woods *et al*. 2014)

Staff care during disaster work is essential. Staff care is part of staff management and is aiming at keeping the staff safe and healthy. A welfare program should preferably be developed for this. The program includes continual supervision and mentoring and reasonable working conditions. Reasonable working condition include recreation, rest, and relaxation. Working by rotation ensures there is time for rest. A space for rest and privacy should be secured. Health check-ups involving screenings and interviews should be arranged. (Suzuki *et al.* 2012)

6.5 Community outreach

Reaching out to the community is important. Community outreach supports capacity building in society. Social dimensions and sources of resilience are to be recognised. (Reifels *et al.* 2013) The resilience might be weaker than expected (Crabtree 2013). Working together with the community takes cultural competence (Cox & Danford 2014) and understanding of crisis reactions.

One needs to understand how people react in a disaster and what they need. Research in connection to the Yasi cyclone in Australia in 2011 shows that survivors may feel existential threat causing panic and fear for their lives. Unimaginable and unexpected chaos creates unforgettable memories and feelings of helplessness. Survivors tend to emphasise the centrality of others. Community outreach can address these needs and make a big difference. (Woods *et al*. 2014)

Community outreach can express itself in several ways. According to a study by Wells *et al*. 2013, community involvement and volunteers are essential in disaster management. Focus can be on relationships, trust and engagement. Volunteers can provide basic support if they are taught PFA (Hambrick *et al*. 2014).

Psychoeducation can help the community understand normal and abnormal responses to traumatic events. Self-help initiatives can give tools to the community so that it can take care of itself. (Cox & Danford 2014, Reifels *et al.* 2013)

Using media (videos, written leaflets, websites etc.) in reaching the community is essential. (Suzuki *et al.* 2012, Reifels *et al.* 2013) Media information can be a cause of panic and escalating fears if it is not well planned. A media plan should be made prior to disaster. Media reports can distort information. (Woods *et al*. 2014)

Information services to the public should be given when needed and should be the responsibility of few people. (McIntyre & Goff 2012) Information on where to seek help if necessary should be provided (Suzuki *et al.* 2012, Sederer *et al*. 2011), as well as information and help for people to find their families or loved ones. (PFA 2011:18, 30) A mental health phone consultation service can provide emotional support and information. (Suzuki *et al.* 2012)

7 PSYCHOSOCIAL DISASTER PREPAREDNESS AT HUS

The psychiatric division at HUS consists of inpatient departments, outpatient policlinics and Internet based psychiatry. The staff of about 1700 is spread out around the capital region of Finland (Psykiatriakeskus, Meilahti, Paloniemi, Porvoo, Jorvi, Peijas, Kellokoski and Tammiharju). The psychiatric inpatient departments (including juvenile) number about 40. The outpatient policlinics number about 70. (www.hus.fi)

The psychosocial disaster preparedness of HUS is described in disaster preparedness plans. Each employee at HUS is obliged to study and follow these. Each hospital at HUS has a medical preparedness plan, but there is only one psychiatric preparedness plan at HUS, Psykiatrian tulosyksikön valmiussuunnitelma 2015. The psychiatric disaster preparedness plan is 18 pages including appendices. These documents are confidential. In addition to this, there is a book written by 28 experts of psychosocial management (Leppävuori *et al.* 2009) that describes several elements of the HUS disaster preparedness in more detail. That book is 212 pages. Some of the instructions in the book have changed since 2009, but most haven't. This book is not confidential and not compulsory reading for employees at HUS. Below follows a description of the content of the psychiatric preparedness plan (18 pages) from 2015.

The purpose of the psychiatric disaster preparedness plan is to describe coordination of operations on a division level. The responsibilities and hierarchy of leadership are explained. The charter for how the alarm reaches the whole organisation is presented. Disaster mobilisation is classified according to the number of patients: basic alarm (15-100 patients) and full alarm (over 100 patients). Communication on a division level and with other organisations happens with VIRVE devices. Cooperation with other actors is also described. These actors include the Social and Crisis Emergency Centres of the municipality, the Finnish Red Cross, the Police force and faith-based organisations. Staff care is mentioned. This includes debriefing and defusing as well as supervision on a unit-level. Teaching and training is mentioned.

The psychiatric disaster response has three elements. *Disaster response teams* are one element. The main function of the disaster response teams is to support somatic hospitals. Teams are not sent primarily to the accident site but to hospitals that are receiving the injured. The mobilisation of these multiprofessional teams is explained. The core group comes from the emergency psychiatric policlinics and can be extended with personnel from the inpatient departments. The teams offer assistance in the form of consultations, mental health triage, crisis interventions, psychosocial support and referrals to the physically injured. Support is also offered to family and friends that have come to the hospitals.

The *inpatient departments* form a second element in the disaster response. The inpatient departments are to be prepared to receive and treat greater numbers of patients suffering from urgent psychiatric symptoms. Brief directions are given on how to free places at the wards. These units are to be prepared to assist the psychiatric disaster response teams with personnel as well.

National and international operations are a third element in the psychiatric disaster response. A special responsibility is given by the Finnish Ministry of Social Affairs and Health to assist in emergencies if needed in all of Finland and internationally. Medical treatment, evacuation and psychiatric services are part of HUS' responsibility in international operations. Nordic cooperation is possible if necessary.

All in all, the book (Leppävuori *et al.* 2009) offers an in-depth explanation of key components of psychosocial management such as the disaster mental health system of Finland, disaster mental health actors, the preparedness plan of HUS, crisis communication, leadership, documentation, ethics, interventions, neuropsycho-biology, mental health triage and consultation, stress reactions, medications, paediatrics, adolescence, staff-care and supervision.

8 COMPARISON BETWEEN HUS AND THE LITERATURE

The psychiatric disaster preparedness plan of HUS, together with the extended instructions (Leppävuori *et al.* 2009), contains extensive information on psychosocial disaster management and most of the key components from the literature are identified and explored.

Table 8. Comparison between the literature and HUS

COMPONENTS	HUS	LITERATURE	SOURCES
Preparedness planning	More of an all-hazard approach but mentions special features of NBC (nuclear, biological, chemical) accidents.	Tailoring plans to specific disasters. Importance of studying the trauma signature.	Reifels *et al.* 2013, Shultz 2011
Coordination	The responsibilities and hierarchy of leadership is explained. Overview of functions of disaster mental health actors.	An efficient response requires coordination between organisations. Building relationships with other response organisations prior to disaster.	IASC 2007:8, Reifels *et al.* 2013, Sederer *et al*. 2011, King *et al* 2015, McIntyre & Goff 2012
Coordination	National perspective	Global perspective	IASC 2007, Sederer *et al*. 2011, Suzuki *et al.* 2012
Research	Not emphasised.	Integration of research and evaluation into disaster response planning. Disaster health research tends to focus more on medical matters than on mental health.	Reifels *et al*. 2013, Kako *et al.* 2014
Teaching and training	Examples of teaching are mentioned and those responsible to organise it.	On-going, different levels of teaching and training of all the mental health professionals involved in disaster response is crucial	Suzuki *et al.* 2012, Sederer *et al*. 2011
Personal preparedness	There is a chapter on this.	Facilitation of sufficient personal preparedness includes personal attributes and skills (stress management, self-care, function in high-stress environments.)	Cox & Danford 2014, King *et al* 2015
Ethical preparedness	There is a chapter on this.	Developing an ethical framework for decision-making.	Johnstone & Turale 2014

Mental health triage	Is done by disaster response teams.	Mental health triage and screening is needed after disasters.	Su *et al.* 2011, Cox & Danford 2014, Shultz 2011, Suzuki *et al.* 2012
Focus on vulnerable populations	High-risk factors are described.	Targeting at-risk population groups and removal of barriers in access to care.	Wagner 2013, Reifels *et al.* 2013, Suzuki *et al.* 2012, King *et al* 2015) PFA 2006
Psychosocial interventions	Both low and high intensity interventions are described on a group and one-to one level.	Psychosocial care is provided with low intensity and high intensity. Intervention pyramid of IASC.	IASC 2007, Sederer *et al.* 2011, PFA 2006, Shultz 2011, Wagner 2013, Su *et al.* 2011, Suzuki *et al.* 2012
Extended roles	Not emphasised.	Extended roles for mental health professionals (bereavement and grief support, death notifications, spiritual care, long-term treatment)	Reifels *et al.* 2013, Suzuki *et al.* 2012, Cox & Danford 2014, Shultz 2011, Su *et al.* 2011, Hamidreza *et al*. 2013, Sederer *et al*. 2011, Woods *et al*. 2014
Staff care	Is described in detail.	A welfare program should be developed.	Suzuki *et al.* 2012
Community outreach	The meaning of peer support is stressed.	Community outreach is to support capacity building in the society.	Reifels *et al.* 2013, Woods *et al*. 2014
Volunteers	Described as the responsibility of the Finnish Red Cross.	Volunteers can make a huge difference.	Wells *et al*. 2013
Use of media	There is a chapter on principles for communication to the public.	Psychoeducation is to teach the community about normal responses to traumatic events and psychological reactions.	Cox & Danford 2014, Reifels *et al.* 2013, Suzuki *et al.* 2012
Information services	Is part of preparedness plans	Information services to the public should be given when needed	McIntyre & Goff 2012, Suzuki *et al.* 2012, Sederer *et al*. 2011, PFA 2006

Differences of emphasis are found in some areas. HUS has more of an all-hazard planning whereas the literature recommends tailoring to specific disasters. HUS has a national perspective whereas the literature has a global one. Moreover, the literature emphasises the extended roles of mental health professionals as well as disaster mental health research.

9 EIGHT DEVELOPMENT RECOMMENDATIONS FOR HUS

1. Teaching and training. Regular times for teaching and training could be offered to mental health professionals at both inpatient departments and policlinics. This can bring awareness and give tools for personal preparedness. It is also a good opportunity to utilize experience and good existing material. Disaster interventions and screening tools can be taught as well as grief and bereavement support.

2. Relationship building with other organisations. Disaster management requires inter-agency cooperation. Familiarization with other response actors (municipality, third sector, the Lutheran church etc.) prior to disaster can contribute to avoiding miscommunication and misunderstandings.

3. Preparedness plans. There could be more work done in analysing special features of different disasters and threats. This could help in tailoring the response to a specific disaster (for example terrorism). Mental health professionals should attend preparedness meetings and preparedness plans are to take vulnerable populations into consideration.

4. Policlinic preparedness. The policlinics are mainly responsible for the multiprofessional disaster response teams. All team members need to have a basic understanding of the purpose of the teams. There needs to be a plan on how the teams are mobilised and extended. Names and contact information must be available. The nature of the extended roles should be discussed. Understanding of mental health triage and low-intense interventions are crucial as well as familiarity with somatic hospitals and other response organisations.

5. Inpatient department preparedness. Inpatient departments must have an understanding of their responsibility during a disaster. They are to assess resource readiness. This includes assessment of surge capacity, medication management, staff availability, security, interventions etc. (Mendez 2010). Questions for discussion include: What are the alternatives for swift referrals to next level of care? Who is assisting the disaster response teams if necessary? What are the reasons to not come when called to work during a disaster?

6. National/international preparedness. National and international operations can be developed through early preparedness. The candidate members of this unit must be

identified early enough. These are to be experts on their fields and summoned on short notice. This mobile team can be a great help in disaster management and valuable experience for HUS while fulfilling the responsibility given by the Finnish Ministry of Social Affairs and Health. This mobile unit needs to connect with other international organisations such as the Red Cross.

7. IT preparedness. A website/platform can be used to give information to the public as well as to mental health professionals. HUS could participate in community outreach by developing websites that give information on stress reactions and where/when to seek help etc. The section for professionals could contain material on disaster management and preparedness plans from all HUS hospitals. This section can be restricted to internal use only.

8. Disaster mental health research. It is important to utilize existing research from disaster management around the world and encourage new research on disaster mental health related topics. Disaster management skills can also be used in smaller emergencies.

10 DISCUSSION

All countries around the world have been shaken by catastrophic events at some point. Finland is not an exception to this. Wars, school shootings and the sinking of MS Estonia are now part of our identity and history. Recently, Paris was shaken by terrorist attacks, and more than 100 people were killed. Disasters come as a shock and they leave deep scars in our souls.

One wonders, is it even possible to be prepared for them? It might not be possible to be fully prepared, but preparedness makes a difference. That is the reason this study was made. This study is drawing from experiences from disasters from all around the world. These experiences show how help can be offered in a meaningful way.

HUS is the context of this study. It is an organisation with great potential. It has a staff of about 1700 people, about 40 psychiatric inpatient departments and about 70 outpatient policlinics. The aim of the study was to examine how the psychosocial preparedness plans of HUS relate to the literature and to offer recommendations for improvement if necessary.

The comparison between HUS and the results of the descriptive literature shows that the written instructions are in harmony with the literature and to a large extent up-to-date. The key components of psychosocial disaster management are identified and explored in HUS preparedness instructions. This study confirms the accuracy of HUS preparedness plans.

However, it is useful to stress that excellent preparedness plans don't necessary mean excellent preparedness in practice. All employees at HUS have to read the preparedness plans in order for them to create preparedness. And employees need to understand and internalize what they read. Currently the local disaster preparedness plan is the only compulsory reading for all employees. It is unclear whether employees even know of the book by Leppävuori *et al.* (2009). Having an excellent book is not bringing preparedness unless it is read, studied and taught.

The capital region hasn't faced a local disaster with more than 50 casualties for a long time. It is tempting to become lazy in our preparedness. And it is tempting to not budget money for preparedness work. This is dangerous and should be addressed. History teaches us that disasters come when we least expect them.

Disaster management skills are not only for major disasters. Disaster management skills mean that we can also handle smaller emergencies. They follow similar patterns. Therefore, it is important to continually improve disaster management skills.

It is important to stress the meaning of psychosocial support when talking about emergency management. The psychosocial impact can even be greater than the physical impact. The patient might suffer more from unfriendly and unsympathetic behaviour from the staff than from the pain of delivering a baby. Good medical treatment is of course important but it is not the only thing needed. Considering parameters such as pulse, blood pressure and saturation is important. But human beings have feelings and thoughts that also need to be considered. This is psychosocial support.

Psychosocial support is both cheap and expensive. It doesn't involve machines or expensive gadgets. But it costs time. Human beings give psychosocial support to other human beings. It is based on human principles rather than physics or chemistry. It is about trust, respect and love. And it can make all the difference when combined with good medical treatment. Psychosocial support should be a bigger part of emergency care in Finland.

Further research is recommended in disaster mental health. It is advisable to use qualitative interviews as a data collection method in order to better understand psychosocial disaster preparedness and management. One alternative is to interview people that have experienced a disaster in Finland. One of the largest disasters was MS Estonia in 1994. In that disaster more than 800 people (from several countries) died according to the Joint Accident Investigation Commission. An interview with either or both survivors and rescuers could prove informative. This could be done as a group interview or one-to-one. This would probably give very useful information on disaster preparation but it

would be a very demanding research process. There would be many ethical aspects to take into consideration.

Preparedness includes both theoretical preparedness and practical preparedness. It doesn't appear by itself but comes through hard preparedness work. Regular teaching and training sessions are a must. All employees at HUS need to have a basic awareness and understanding of disaster management. We need to understand that disasters can happen anytime and anywhere. We need to know the importance of personal and collective preparation. We need to be prepared both at home and at work. Preparedness plans are crucial information, not boring reading. Everyone needs to know what is their responsibility and further information must be available to those with more interest.

11 CRITICAL REVIEW

The low standard of evidence in articles is a limitation in this study. The articles analysed were mainly discussions, expert opinions and policy documents. But some articles were based on numerous empirical studies such as Reifels *et al.* (2013). Doing research in immediate disaster situations is extremely demanding.

Questions relevant for this study are: Does the instrument measure what it is supposed to measure? (Forsberg & Wengström 2013:106-107) Does the description of the literature review represent key components in literature 2010-2015? Are the results of the descriptive literature review a valid instrument to measure the effectiveness of HUS preparedness plans?

Three databases were used to finding articles. More databases could have been used in order to find even more articles, as well as doing a full systematic literature review. This would have strengthened the level of evidence in the study. Using more Finnish articles would also have been important.

The researcher of this study is an employee at HUS and this study was made with permission from HUS. This means that there is a risk for a biased perspective if faithfulness to one's employer is greater than the faithfulness to evidence. Being an employee also means that the study is viewed in the light of the context of HUS. On the other hand, an employee has potential for good inside information of culture and habit, as well as restricted information, to make relevant suggestions for improvement that an outsider would not have.

12 CONCLUSION

Disasters like the sinking of Estonia in 1994 happen whether we want it or not. Our option is to be sufficiently prepared. Not only in medical matters but also in psychosocial matters. All actors are to be prepared for the worst. Working together is key, because only together we are strong.

HUS has an important role to play. The know-how and experience of HUS is unique in Finland. But HUS also needs to recognise its limitations. HUS doesn't have resources to help with some practical matters, for example with temporary housing. The responsibility of HUS is to offer high quality psychiatric services as well as psychosocial support to survivors and families visiting the hospitals.

A disaster shakes the very foundations of life. A family member might be lost in a split second or one might be injured for life. Some people are more vulnerable to disasters than others. This includes those with pre-existing psychiatric disorders.

This study was a testimony to the high quality of HUS preparedness plans when including the book by Leppävuori *et al.* (2009). Together they present the same key components as the literature: preparedness planning, teaching and training, psychosocial interventions, mental health triage and community outreach.

In order to improve its preparedness, HUS should develop further the following: the teaching and training plan; relations to other response organisations; tailored plans to specific disasters; policlinic preparedness; inpatient department preparedness; national/international preparedness; IT preparedness and disaster mental health research.

According to Louis Pasteur who was cited earlier in this study, preparedness is crucial in achievements. We can make great achievements in psychosocial disaster management if our minds and hearts are prepared.

Putting these key components into practice means that we are better prepared if a ferry sinks again or some other disaster occurs. And, hopefully, it will be less dark and less cold than the experience of the victims of MS Estonia.

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