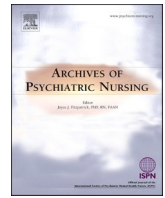


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From a first person perspective: Soldiers' experiences three decades after an avalanche – A qualitative interview study

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ABSTRACT

Study objectives: The aim of this study was to explore indirectly exposed soldiers' subjective experiences following an avalanche. Three decades after the trauma, this study describes the perceived impact of the disaster by peers of those who survived or died in the avalanche.

Method: A qualitative, cross-sectional, study based on 17 individual interviews with persons indirectly exposed to an avalanche. Data was analysed according to qualitative content analysis.

Findings: The findings revealed 'being a significant first person' as the main theme. Two categories were developed: 1) Experience of closeness to the victims 2) Experience of distance post-disaster. The categories elaborated two subcategories each: 1) Could have been me 2) Sadness, grief, shame and guilt over losing friends and 1) Un-organized military service post-disaster 2) Anger towards the system.

Conclusion: The soldiers indirectly exposed to the avalanche need to be seen both as a person and as a group. Both immediately following and decades after the disaster, the informants wanted the military to offer adequate follow-up.

Introduction

The term traumatic event seems to be used to describe catastrophic and severely distressing events as disasters. McFarlane and Norris (2006) defines disasters as traumatic events that are collectively experienced time-limited, and have an acute onset. Worldwide there is, on average, reported one disaster every day (Goldmann & Galea, 2014). However, the impact of a traumatic event on individuals can be compared to a rock hitting the water's surface. The first impact creates a large wave. This is followed by ever-expanding, but smaller and smaller, ripples. Likewise, the impact of any given traumatic event can be broad, but generally its effects are less intense for individuals further removed from the traumatic event (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014).

We assume that traumatic events are not necessarily as intense for the indirectly exposed individuals as for those directly exposed. However, previous research has indicated that populations indirectly exposed to traumatic events can report mental health problems similar to those of directly exposed populations (s) (Bakker, Småstuen, Reichelt, Gjerstad, Tønnessen et al., 2019; Bakker, Småstuen, Reichelt, Gjerstad, Weisaeth et al., 2019) and, further, that closeness in relationship to the

deceased has been shown to be of importance (Neria et al., 2007; Neria et al., 2008; North et al., 2011; Solberg et al., 2015). Another study highlights that loss of peers, friends and comrades in a military context has been associated with elevated risk of anger, guilt, depressive symptoms and prolonged grief (Papa et al., 2008). Further, Parkes and Prigerson (2010) argue that degree of grief is dependent on attachment to those injured or killed, similarly to how John Bowlby (1998) describes the relationship between attachment and loss (Bowlby, 1998; Parkes & Prigerson, 2010). A parallel to this community of attached close relations might be the familial relationship and the importance of seeing the whole family as a group as well as individuals (Bell, 2014; Wright & Leahey, 2019). However, there is limited research and knowledge both on how indirectly exposed military personnel experience the perceived impact of a disaster/trauma on relations of peers and comrades who survived or died, and how, post-trauma, they experience follow-up by the military as an institution.

Studies performed by Neria et al. (2007), Neria et al. (2008), North et al. (2011), Solberg et al. (2015) and Papa et al. (2008) indicate that, post-disaster, indirectly exposed individuals can also be vulnerable. Previous research has indicated that if individuals involved in traumatic events acquire a sense of mistrust of the institutions they supposed

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would offer them help, their embitterment may arise from a feeling of being treated unfairly, while accompanying negative emotions such as vengefulness or anger may intensify other posttraumatic stress reactions (Nanni et al., 2018; Nilsen et al., 2019; Thoresen et al., 2018).

A previous study on military personnel returning from war argues that soldiers may be further adversely affected by a non-supportive military organization and claims that the scarcity of secure relationships in addition to lower social support from the military organization and/or community mediated the association between posttraumatic stress disorder and poor social functioning (Tsai et al., 2012). Lastly, there is a previous qualitative study conducted on a sample of comrades and peer soldiers of the indirectly exposed soldiers in this current study, who survived the same avalanche. All the directly exposed survivors in this previous study described a lack of support from the military organization directly after the disaster and in the three decades post-disaster (anonymous). We therefore aimed to explore indirectly exposed soldiers' subjective experiences following an avalanche that occurred in a military context.

Method

Design

This study had an explorative design, based on qualitative interviews with descriptions that provided knowledge about a group of indirectly exposed soldiers' subjective experiences following an avalanche that occurred in a military context. The informants reported their experiences from immediately after the trauma thirty years ago, which could be viewed as a retrospective perspective; however, they also described their experiences in the long-run and up to the date of the interview, with a cross-sectional perspective. The interviews were analysed by means of inductive qualitative content analysis as described by Graneheim and Lundman (2004).

Participants

The background scenario for this study started a few minutes past 1:00 p.m., March 5th, 1986, when an avalanche struck a platoon of 31 young soldiers from an engineering corps during a military NATO winter exercise called Anchor Express in Vassdalen, Norway, leaving 16 dead and 15 survivors (Bakker, Eriksen, Reichelt et al., 2019). The participants/soldiers (informants) in this current study are indirectly exposed peers/comrades of the 31 soldiers who were hit by the avalanche. Recruitment of the informants took place between fall 2016 and fall 2017. In total, 24 indirectly exposed soldiers were contacted by mail, in accordance with the sampling strategy. Seven of the indirectly exposed soldiers declined to participate. The mean age at time of the avalanche was 21 years; mean age at the time of the interviews was 53 years.

Individual face-to-face interviews were performed with 17 of the 24 contacted male informants. All of the 17 informants in this study are peers/comrades of both the surviving and the deceased soldiers.

Practical procedure

This qualitative study uses in-depth interviews with broad open-ended questions. The interviews were guided by a thematic interview guide. The interviews lasted from 27 min to 181 min, amounting to 609 pages of transcribed text (font size 12, line space was single-spaced). A few interviews took place in the first author's office, but most of them occurred in hotel rooms in the informants' hometowns. The first author (LPB) performed all the interviews, which were recorded as audio files, transcribed verbatim by a professional firm, and safely stored. The audio files and transcripts did not contain the names of the informants, and a separate "key" with the informants' names was created on a secure, separate drive, matching the file with the informants' codes. The verbatim account was reviewed only by the first (LPB) and last authors (EKG).

Data analyses

Qualitative content analysis

Content analysis is a method of analysing written or verbal communication in a systematic way (Graneheim & Lundman, 2004). This approach entails searching for manifest and latent meanings and is performed in several steps. The first and last author read the transcription individually and determined their meaning units before collaborating to decide the interpretation of manifest and latent concepts to provide subcategories, categories and a theme (Graneheim et al., 2017; Graneheim & Lundman, 2004). Graneheim and Lundman (2004) recommend this approach as a means of achieving credibility and trustworthiness. The authors suggest presenting the findings in a table that grasps the content and could be understood in two directions, i.e. from meaning units to themes and vice versa. The first and last author participated fully in this analysis process. In the first step we wanted to become acquainted with the data from the interviews without applying any theoretical perspective. The first and last authors' impressions of every interview were written down separately, summarized in a short text of 350–750 words, and thereafter discussed in depth several times by all three authors. An early consensus on the impressions of the interviews was established through these discussions. Further, all three authors came to agreement regarding the actual theme and suggested descriptions (the manifest meaning) that emerged from the text data (Graneheim et al., 2017; Graneheim & Lundman, 2004). The quotations as well as the transparent presentation of the meaning units, subcategories, categories and theme serve as background for the reader to develop familiarity with the data and confidence in the authors' interpretation of the material.

Examples of the development from units of meaning into subcategories, categories and theme are given in Table 1.

Findings

Data from these 17 interviews are presented in two main categories, which emerged from the content analysis: (1) Experience of closeness to the victims; (2) Experience of distance post-disaster (see Table 1).

Experience of closeness to the victims

The category 'experience of closeness to the victims' tells us that the informants felt attached to the victims in terms of friendship and common experiences. From the data the authors developed two subcategories that describe the informants' perspectives: (1) Could have been me and (2) Sadness, grief, shame and guilt over losing friends.

Could have been me

Many pointed out and discussed that they could have been those who died in or survived the avalanche, and were reminded of it when they returned to the barracks:

"Many in my quarters were killed in the incident, but I survived [...]."

Other informants talked about how it was a coincidence that it was not they who were taken by the avalanche, and further described nightmares and the difficult sense of knowing that they could have been the victims.

"I was actually supposed to be at the site of the accident [...]. I've thought about that a lot [...]."

"My family and I reflect on the fact that it could have been me who died that day".

"I had nightmares and dreamt that I was in the avalanche [...] and others dug me out [...]."

Table 1
Examples of development from units of meaning to theme.

Title: "From a first person perspective: Soldiers' experiences three decades after an avalanche - A qualitative interview study"			
Unit of meaning	Subcategory	Category	Theme
"Many in my quarters were killed in the incident, but I survived [...]". "I had nightmares and dreamt that I was in the avalanche [...] and others dug me out [...]". "I was actually supposed to be at the site of the accident [...]. I've thought about that a lot [...]".	Could have been me		
"You miss the mates you lost, the strong bonds we had [...]". "Straight after I felt guilty that I hadn't been physically struck by the avalanche, and that it was unfair for those who had [...]".	Sadness, grief, shame and guilt over losing friends		
"After the accident, my/our military service wasn't organised at all [...]". "Felt that we were just kept at the camp after the accident [...]". "We were given nothing to do after the accident [...]. In that situation, that was maybe the worst thing the military could have done for us [...]". "Everything was frustrating and my military service dissolved into a kind of anarchy [...]. I remember saying it was better for me to come home where I had a strong social network who were ready to take me in [...]".	Unorganized military service post-disaster	Experience of closeness to the victims	
"I considered myself finished with the military because of what happened and the follow-up I was never given [...]. Full credit to my family for their support in all the years that followed [...], and friends who are here through thick and thin [...]". "If I had been given any professional help it would definitely have made things easier [...]". There was zero follow-up from the military [...]. And the civilian health professions, they have no idea about the military, and they are of no help to me [...]".	Anger towards the system		Being a significant first person
"I had a sense of anger related to my feeling that I should have been able to do more [...]. I still carry that anger with me to this very day [...]". "We hated everything about the military, we felt that the military had brought terrible harm on us and our mates [...]. We weren't going to take any more orders. We were totally against it. They had ordered us into the avalanche zone [...]". "Those of us who weren't hit by the avalanche physically felt a bit like spare parts [...]. The others had people who cared about them around them, and I had no one [...]. But the five-year reunions, they've been great for me. There have always been good conversations with likeminded people there [...]".		Experience of distance post-disaster	

Sadness, grief, shame and guilt over losing friends

Several informants talk about their sadness and grief over losing their comrades, and in that regard the quality of their closeness was pointed out:

"You miss the mates you lost, the strong bonds we had".

They talked about feelings of sadness, grief and shame when wishing that they had been taken by the avalanche, so that they also could feel included in the group that received follow-up from the military.

"There are times when I have wished that I was the one who was taken by the avalanche, just to feel that I was more included in the group than I felt I was [...]".

Some of the informants mentioned that they had a feeling of not having done enough to save those who died or help those who survived, and that, even today, they still felt powerless regarding the subject of not having been allowed to help dig their comrades out of the avalanche. Others described a prolonged grief over the loss of their comrades. Further, some informants talked about the fact that it should have been them in the platoon struck by the avalanche. These feelings were described as a sense of guilt that they could have done something to prevent the disaster and, further, a sense of shame for not being one of those directly exposed to the avalanche:

"The fact that I was not allowed to contribute [...] I have struggled with it for many years [...]".

"We were not allowed to dig out our comrades [...] to this day I get chills when I think of my good comrades who died that day [...]".

"Straight after I felt guilty that I hadn't been physically struck by the avalanche, and that it was unfair for those who had [...]".

Experience of distance post-disaster

The category 'experience of distance post-disaster' highlighted the immediate administration of the military service and the random follow-up offered. We argue that the informants bring two perspectives to the fore – here presented as subcategories: (1) Unorganized military service post-disaster and (2) Anger towards the system.

Unorganized military service post-disaster

The subcategory 'unorganized military service post-disaster' tells us that the informants felt that they were not seen as first persons directly after the avalanche. Post-disaster, the informants describe a sense of being overlooked and left to their own devices, with no meaningful duties to fulfil.

"After the accident, my/our military service wasn't organised at all [...]".

"Felt that we were just kept at the camp after the accident [...]".

"We were given nothing to do after the accident [...]. In that situation, that was maybe the worst thing the military could have done for us [...]".

"Everything was frustrating and my military service dissolved into a kind of anarchy [...]. I remember saying it was better for me to come home where I had a strong social network who were ready to take me in [...]".

Others described that they felt that vital information was withheld immediately after the disaster. Had this information been given at an early stage, it could possibly have helped in answering questions that many have pondered long after the disaster.

“The flow of information was poor, we were held back, we asked about things, but we did not get to know anything. It was chaos [...]”.

“We had a lot of questions that we pondered for a long time, that might not have been necessary to think about if we had received the information at an early stage post-disaster [...]”.

Anger towards the system

Most of the informants talked about the importance of trust in their close relationships such as family, partners, friends and peers. These relationships were described as relations they could rely on. On the other hand, most of the informants pointed out that they had a low level of institutional trust regarding the military as an organization and a sense of dissatisfaction with the public health system. This was reported by the informants when they described their anger towards the military because the system had neglected their needs. They described a general feeling of being let down by the military and not feeling treated or seen as first persons' post-disaster.

“I considered myself finished with the military because of what happened and the follow-up I was never given [...]. Full credit to my family for their support in all the years that followed [...], and friends who are here through thick and thin [...]”.

“If I had been given any professional help it would definitely have made things easier [...]. There was zero follow-up from the military [...]. And the civilian health professions, they have no idea about the military, and they are of no help to me [...]”.

“I had a sense of anger related to my feeling that I should have been able to do more [...]. I still carry that anger with me to this very day [...]”.

“We hated everything about the military, we felt that the military had brought terrible harm on us and our mates [...]. We weren't going to take any more orders. We were totally against it. They had ordered us into the avalanche zone [...]”.

“Those of us who weren't hit by the avalanche physically felt a bit like spare parts [...]. The others had people who cared about them around them, and I had no one [...]. But the five-year reunions, they've been great for me. There have always been good conversations with likeminded people there [...]”.

Further, some informants talked about an anger towards the military system regarding the fact that they were not allowed to help on site immediately after the avalanche. Several described that they wanted to contribute in the post-disaster search party, however, they were not allowed to do that.

“We were angry because we were not allowed by the military leaders to enter the avalanche area to search for and to help our peers and comrades [...]”.

Overall interpretation: being a significant first person

The conversations demonstrated that the experiences of being seen as a significant first person, a person first in the line, whether you were indirectly or directly exposed to the avalanche, were described as important by the informants. Despite no physical harm, they felt intensely influenced by what had happened. An overall synthesis of the categories generated from the data material reveals a comprehensive understanding that the informants wished for all personnel affected by the avalanche to be met as significant first persons, not only as a group. The overall latent theme was therefore summarized in the concept: *'being a significant first person'*.

Discussion

The main aim of this study was to explore indirectly exposed soldiers' subjective experiences following an avalanche in a military context. The findings formed the overarching theme: *'being a significant first person'* and revealed the need for and importance of being seen as a first person after a trauma, whether you are indirectly or directly exposed to a traumatic event in a military context.

Although loss and grief are a familiar part of military service, there are limited studies that explore the psychological, social and everyday consequences of loss in a military context. However, the informants in our study reported that the loss over their deceased peers and comrades was perceived as difficult in several ways, e.g., by the feelings of sadness, grief, anger, shame and guilt. All these reported difficulties are reflected in previous research and supported in several military studies, e.g., [Papa et al. \(2008\)](#). In their study of war veterans, these authors found that loss of friends and comrades during combat or war were associated with elevated risk of depressive symptoms, guilt, anger, and prolonged grief. Further, another study of parents who lost their sons in an avalanche accident in a military context (the same avalanche disaster as described in this current study) indicated that some of them displayed bitterness and anger related to their loss ([Kristensen et al., 2012](#)). The results from the same study also indicated that 44% of the parents suffered from major depressive disorder (MDD) in the first two years following their loss ([Kristensen et al., 2012](#)).

However, a critical factor in understanding why the indirectly exposed informants in this current study may experience emotions related to the disaster, such as sadness, grief, anger, shame and guilt, may be substantially explained by their ability to identify with the peers and comrades who were directly affected by the trauma. [Westphal and Convoy \(2015\)](#) argue that traumatic loss of comrades in a military context can be as powerful as the loss of a sibling, parent, or a spouse and, further, another study of veterans showed that 30 years after the loss of comrades, the level of prolonged grief was comparable to that of bereaved individuals whose spouse had recently died ([Pivar & Field, 2004](#)). Further, [Westphal and Convoy \(2015\)](#) exemplify and argue that military personnel can feel shame and guilt in situations when soldiers were randomly removed from a task in which their replacements were killed, and they may believe that they themselves should, instead, be dead. All the psychological challenges and consequences of loss in a military context, described in the research above, could also be the case for our informants. Further, there are disaster studies (other than in a military context) that confirm that the loss of close friends, relatives, or acquaintances can increase the risk of mental health consequences in affected populations ([Heir & Weisaeth, 2008](#); [Norris et al., 2002](#)). According to previous research, the prevalence of mental health problems is higher among individuals who are directly exposed to a traumatic event than it is in indirectly exposed individuals ([Neria et al., 2008](#); [North et al., 2011](#); [Solberg et al., 2015](#)). However, previous research on indirect exposure to traumatic events has indicated a similar response and pattern of symptoms as directly exposed individuals ([Neria et al., 2008](#); [Suvak et al., 2008](#)). Several of the indirectly exposed informants in this current study talked about a variety of mental health challenges and consequences, e.g., post-disaster dreams and nightmares.

Further, several informants in our study highlight the importance of being seen as a first person by their family and significant others in order to regain a normal life post-disaster. Additionally, several of them lost their trust in the military as an organization due to their lack of adequate follow-up during the post-disaster years; they described being left to their own devices. Previous research has shown the importance of social support ([North, 2016](#)) and of trust in the institutions (e.g. military, police, justice) regarding survivors' well-being and their post-disaster healing processes in the short and long term ([Nilsen et al., 2019](#); [Thoresen et al., 2018](#)). From this current study we have also learned that informants have no trust in the civilian mental health services since civilian staff do not understand military culture and context. Some

described a lack of trust in civilian psychologists; this finding is in accordance with previous research by Westphal and Convoy (2015). Nurses have an ample opportunity to influence the experience of mental health services offered to soldiers indirectly experiencing traumatic events. In literature, mental health nursing is defined as a patient-centred, professional, goal-directed activity based on sound evidence, focused on the growth, development, and recovery of people with mental health needs (Lakeman, 2012). It involves caring, empathic, insightful, and respectful nurses using interpersonal skills to draw upon and develop the personal resources of individuals and to facilitate change in partnership with the individual and in collaboration with friends, family, and the health care team/system (Lakeman, 2012).

Experience of being met as a *significant first person* is essential for the short and long-term follow-up from the military organization and from the public health services. The first person is the person significantly affected by the happening, described in this study as the one deeply harmed due to loss, sadness, shame, anger and a feeling of being left alone. On some occasions we see the same at funerals where the partner of the deceased receives all the attention, while the deceased's mother does not. Taking into account the theory of attachment and loss (Bowlby, 1998) and the way Parkes and Prigerson (2010) explain the physical and existential pain after the loss of a close relative or loved one, the interpretation of the informants' main message is a reasonable one. They wish to be viewed in line with the closest relatives, the significant first person to their dead or injured peers and comrades, and thereby the significant first person to be taken care of and followed up by the military system. Looking into the family theory linked to nursing, Wright and Leahey (2019) shed light on each member in the family in addition to viewing the family as a unit. Our interpretation from this study's findings suggests that the informants beg to be seen – they want their faces to be recognized. Likewise, the face is linked to the person and this is why we introduce the concept of person, as in person-centred practice (McCormack et al., 2017), to consider the value of the individual personality. However, in addition to being seen as a significant first person, and the one truly affected by the trauma, the informants wish to be part of their group – as Wright and Leahey (2019) consider important in a family unit. The military system might be designated as a “family” for the soldiers and officers, for those directly and indirectly involved in events in their unit.

Implications for practice, policy and research

This article raises awareness of soldiers' need for mental health care, even if they have experienced a traumatic event indirectly. Nurses will often provide care and treatment for soldiers that have experienced traumatic events directly or indirectly, so they should be aware of the potential health needs of this patient group to provide optimal mental health care. Therefore, it is important for psychiatric nurses (and other healthcare professionals) to recognise if patients may be a soldier and if their conditions are attributable to military service. Increased awareness of military culture and context is required in health care services, as well as in healthcare professionals' training and education, to ensure that these vulnerable persons gain access to appropriate support and care.

Indirectly exposed victims with a close relation to the directly exposed victims expressed that they wanted to take part in the rescue of their fellows, and that they had a need to share their trauma experiences with their comrades. They described the importance of staying connected with the group, as well as an institutional trustworthiness towards the military system as a “caregiver”. Further, the importance of post-disaster social support was highlighted.

The authors want to emphasize the value of investigating impairment in the short- and long term in the aftermath of a traumatic event where indirectly exposed military personnel are involved. As shown in this study, the indirectly exposed soldiers reported prolonged grief and mental health consequences 30 years after disaster losses, similar to those of their directly exposed peers. Further, our findings accentuate

the influence of military culture and the importance of recognizing that the traumatic loss of a military comrade can be as powerful as the loss of a sibling, spouse or a parent. This perspective may prove useful to both military leaders and health care personnel working with soldiers and veterans. Care and follow-up of traumatized military personnel require nurses and other health professionals who have knowledge of military culture and trauma care in a military context. This may in turn make them better equipped to advise experienced military leaders on relevant matters. An example may be to allow indirectly exposed peers to contribute to the search and rescue party immediately after a disaster. Further, the military as an organization would be wise to acknowledge the value of following up all victims, both directly and indirectly exposed, for several years post-disasters, as this may instill trust and contribute to individual healing processes.

The military have learned that military groups share a history, common identity, as well as concerns and similar activities, and they tend to keep the trauma experiences within the group – and outsiders are often viewed as intruders. This emphasizes the potential for the military as an institution to create a healing aftermath environment for their personnel. Therefore, to acknowledge that programs of support services needs to be extended for longer periods post-disaster than generally expected, seems to be of importance. On a policy level, the military decision-makers should acknowledge the potential long-term consequences and follow-up post-disaster.

Finally, future studies should explore how military and civilian psychiatric nurses can ensure patient-centred care for indirectly exposed individuals after a traumatic event and, further, how the trustworthiness of the military as an institution may impact their potential healing process.

Strengths and limitations

This study may present an oversimplification of the indirectly exposed informants' subjective experiences of the avalanche; other important experiences, not revealed in the interviews, may have influenced the way they perceived the impact of the disaster. Moreover, the interviews were conducted 30 years after the disaster, hence it is important to note that they could reflect current opinions rather than previous ones. However, the present study yields rare insight into an area of trauma of which barely any other study provides descriptions by indirectly exposed military personnel. This is one advantage of using a qualitative method.

Our interview guide was designed for broad, open questions and emphasized the indirectly exposed informants' subjective experiences of an avalanche in a military context. The strength of this approach was that it facilitated communication by letting the informants tell their story.

The findings described in this paper are based on one-time interviews, 30 years post-disaster. This may have reduced the depth of the discussions compared to having performed repeated interviews during the whole follow-up period. Further, consideration recall bias must be taken into account.

With regard to reflexivity, the interviewer is a military officer, researcher and a registered nurse, and a survivor of a natural disaster, a tsunami. The second author is the commanding general (CG) of the Norwegian Armed Forces Joint Medical Services, researcher and a psychiatrist, while the last author is a registered nurse and researcher. Throughout the whole analysis process, the authors emphasized reflexivity, in particular considering our backgrounds and the possible influence of our preunderstanding on the interpretation of data (Finlay, 2003).

Due to ethical considerations and because we had to reduce the potential of identifying the participants, we have presented the data with limited illustrative quotes. However, the categories are closely described, and the analysis process well documented.

Only males are included, which might be a limitation regarding the transferability of the findings. Nevertheless, a strength of this study may

be that the group is homogeneous (in terms of type of trauma, age, sex, and time since trauma). However, the purpose of qualitative studies is not to generalize, but to shed light on a topic and gain in-depth knowledge from the participants (Polit & Beck, 2017). Further, in this study we have interviewed almost all of the indirectly exposed soldiers that served in the same unit or had a close relationship with the directly exposed soldiers during their service. The high degree of saturation in the findings may indicate that key points were well covered.

Conclusion

The main findings of the current study indicated that it is important to be seen as a first person, both in the short and long term, post-disaster. The informants described that social support from family and significant others seemed to be highly relevant in regaining a normal life post-disaster. Further, the informants particularly described an expectation of adequate follow-up by the military during the three decades' post-disaster, i.e. that the military ought to have carried out its responsibilities regarding adequate follow-up of the group that was indirectly exposed to the disaster, with the institution (i.e. military) recognizing the needs of the persons involved.

Military personnel who indirectly experience traumatic events during their service, and those who have a close relationship to those who survive or die, should therefore be seen as first persons in the same way as directly exposed survivors. Further, they should be offered treatment from the organization that has a natural responsibility for following up its personnel after a traumatic event (in this case the military as an organization). Being seen as a first person after a trauma is both necessary and important and, post-disaster, may emphasize the significance of social support and the engagement of health professionals with indirectly and directly exposed persons alike.

CRedit authorship contribution statement

LPB initiated the study and wrote the first manuscript together with JGR and EKG. LPB conducted the in-depth interviews. LPB and EKG analysed the interviews, first individually and then together. All three authors have made significant contributions by reviewing and approving the final version of the manuscript.

Declaration of competing interest

No potential conflict of interest was reported by the authors.

Acknowledgment

The authors wish to thank all the informants who shared their personal stories.

Ethics approval and consent to participate

The informants were provided with written information and signed the consent form. Before and after all the interviews the informants were told that uncomfortable feelings and thoughts might arise, and that some physical and psychological reactions to the interview may occur and last for a couple of hours, or perhaps as long as a few days after the interview. The interviewer highlighted the fact that such reactions are normal. Furthermore, all informants who wanted professional psychiatric help were offered support from the Institute of Military Psychiatry.

Given the rich data from qualitative interviews and the reporting of the avalanche disaster in the media, there is a possible risk of identification. On the basis of restrictions from the Regional Committee for Medical and Health Research Ethics in Norway, a decision was therefore made to restrict the length of the quoted content to protect the informants' privacy. The study was approved by the Regional Committee for Medical and Health Research Ethics (REK) in Norway with the

following reference number in the REK: 2016/392/REK Sør-øst/REK South-east.

Data availability statement

The raw data is confidential and cannot readily be shared. Data may be shared with researchers obtaining permission from the Norwegian Regional Committee for Medical Ethics.

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