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# Older people's needs following major disasters: a qualitative study of Iranian elders' experiences of the Bam earthquake

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***ABSTRACT***

Elders have long been recognised as among the most vulnerable people in disaster events. This paper reports a qualitative study of the self-perceived needs of older people in the aftermath of the Bam earthquake in Iran in 2003. A total of 56 people aged from 65 to 88 years were recruited to the study using purposive sampling, including 29 men and 27 women. Six focus group discussions and ten semi-structured individual interviews were conducted. Each focus group involved six to ten people from the cities of Bam and Baravat and their rural suburbs. Content analysis was used to analyse the transcribed data. The analysis identified four major themes among the informants' concerns: inappropriate service delivery, affronts to dignity, feeling insecure and emotional distress. A disaster-prone country like Iran needs to be appropriately prepared with culturally sensitive plans to meet the needs of those who suffer from their effects, not least older people. Emergency relief managers should note that for many older people in a disaster zone, customary forms of relief are neither required nor appropriate, and that their distinctive immediate and long-term needs should be assessed and met. Relief agencies need to be trained to be age-sensitive and should mainstream older people's rights in the planning and implementation of both the response and recovery phases of assistance.

***KEY WORDS*** – older people's needs, disaster, Iran, qualitative study.

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## Introduction

Older people are known to be among the most vulnerable groups in the aftermath of disasters like terrorist attacks, hurricanes, earthquakes and intense heat waves (Lamb, O'Brien and Fenza 2008; Gibson and Hayunga 2006). Their high vulnerability arises from personal characteristics that increase their susceptibility to the impact of hazards (Cherniack 2008) such as: having chronic illnesses that need specific and frequent medical treatment; the changes with advanced age in sensory capacities and organ function (Desai *et al.* 2001); difficulties in adapting to and coping with exposure to heat, cold, sunlight, dampness and bad weather (Hess 2004*a*: 93; Whitman *et al.* 1997); slower reaction times (Eliopoulos 2005); the need for more time to process information and to move physically in the environment; altered presentations of illness; low income; psychosocial issues specific to old age like transition and loss (Hess 2004*b*: 656); being slower than younger adults to seek assistance; receiving less than average aid; and last but not least acquiring new responsibilities such as looking after orphans and children whose relatives are missing. Despite their elevated vulnerability during emergencies, many response efforts do not take the special needs of older persons into account, especially in the initial phases when elders' needs are greatest (Mudur 2005). In communities with already weak non-family support for older people, disaster events make a bad situation worse.

Knowing that older people are the most rapidly growing segment of Iran's population and being aware of their high vulnerability to the consequences of disasters inspired the reported research. We believed that a better understanding of elders' own expressions of their needs following a disaster would challenge taken-for-granted and stereotypical views of the relief they require, and that this would encourage and enable the provision of more suitable and effective services. The present study was therefore designed to establish older people's own assessment of their needs following the Bam earthquake. It is part of a bigger project to design the most appropriate service package for addressing the health and health-care needs of older people in disasters.

On 26 December 2003, an earthquake measuring 6.6 on the Richter scale took place in the ancient city of Bam in south-east Iran and its suburbs and environs. This catastrophe killed more than 26,000 of Bam's population, left 30,000 injured and more than 45,000 homeless (Ardalan *et al.* 2005). Moreover, it effectively destroyed the ancient city of Bam and the world's largest dried clay structure, Bam citadel.

**Study design**

The participants were chosen using purposive sampling. The inclusion criteria were:

- Inhabitants of the earthquake-stricken areas, namely Bam and Baravat and the rural environs, who experienced the earthquake.
- Those who did not live outside the stricken area for more than one month after the event.
- Aged 60 or more years at the time of earthquake.
- Able and willing to describe their experiences of the event.

Potential participants were introduced to us by Bam District Health Centre. All who fulfilled the inclusion criteria were invited to join a focus-group discussion, and those who could not were interviewed individually. Six focus groups of six to ten people and ten individual interviews were conducted. Almost all who were contacted participated in the study.

*Data collection*

All the focus groups were held in the Bam District Health Centre. The focus groups used a semi-structured format that allowed the moderator to pose open-ended questions, to seek clarification of the participants' statements, and to initiate new topics when necessary. The interviews were conducted in the Persian language, the mother tongue of all participants as well as the researchers. Among the questions posed were: What did you need after the earthquake? What changes/problems did you experience that you consider were related to your age (and please give examples)? Questions probed for information about health needs, basic needs, psychological needs and getting social services, and the participants were encouraged to elaborate and exemplify. To ensure detailed discussion in the focus groups and to improve the reliability and validity of the data and the analysis, questions were rephrased and disaggregated from the original versions, and the participants' verifications of the moderator's summaries were obtained.[1] Following a review of the focus-group literature, a Discussion Guide was developed that reflects established and recommended procedures (Greenbaum 2000; Krueger 1994). This was used to promote consistency among the six focus groups, and similarly an Interviewers' Guide applied to the face-to-face interviews.

At the beginning of each focus group, the moderator explained the aims of the research and its importance, and emphasised that participation was voluntary and confidential, and that anyone could withdraw at any time with no consequences for their access to services. Each focus group lasted

approximately 80 minutes and the individual interviews lasted between 60 and 90 minutes. The sessions were audio-taped. The tapes were transcribed verbatim, and the transcripts checked for accuracy. During the transcription and data coding, personal names and identifying details were removed or replaced by pseudonyms.

*The participants*

In total 56 people participated in the study, 46 in the focus groups (25 men and 21 women) and ten in the individual interviews (four men and six women). Their ages were between 65 and 88 years and they had received between no and nine years of education: 70 per cent were illiterate, 20 per cent had less than six years of education, and 10 per cent had between six and nine years of education. As to their current occupational status, one-quarter (27%) were employed, and others were on sick leave (12%), housewives (24%), and pensioners (22%), with the rest (15%) being unemployed and on social security support because they had no other income.

## Data analysis

Content analysis – identifying, coding and categorising the participants' responses to the questions of interest – was employed to analyse the transcribed focus-group discussions. The text was read through several times to obtain a sense of the whole, and where possible interpretations of the underlying meanings were made. Line-by-line coding of all the transcripts was done independently by the first two authors. Codes as abbreviated phrases on concepts or themes were generated from the data, and the major themes that emerged were identified and categorised. Disagreements were resolved at consensus meetings with all the researchers.

## Findings

The analysis found that four major themes recurred in the elders' assessments of their self-perceived needs following the disaster: (a) inappropriate service delivery given their special circumstances; (b) affronts to their dignity in the ways that the relief aid was provided; (c) feelings of personal insecurity and of their vulnerability to theft; and (d) emotional distress. Each of these will be considered in turn with reference to the participants' statements.

*Inappropriate service delivery given elders' special circumstances*

It is a truism that earthquake survivors are of different ages and genders and have different needs, but the participants reported that almost all the aid agencies distributed food and equipment for a general population and regardless of the recipients' age-related needs. By their accounts, the particular health conditions of elders do not seem to have been considered by the relief agencies: some had chronic illnesses and some were frail, or were lacking in general vigour and susceptible to diseases and hence needed special consideration. Considering their physical weaknesses and limitations, the participants did not receive appropriate attention. They were not physically able to get the benefit of some of the provided equipment and facilities, and they had no help to overcome their physical restrictions. In their elaborations, the participants discussed the required services in terms of basic, health and other needs, the last including the help they needed to adjust to new life tasks following changes in their personal and family circumstances.

As regards *basic needs* during the weeks immediately after the earthquake, one participant said, 'I couldn't eat the delivered foods because I lost my dentures during the earthquake. It took some weeks to get new ones'. Another recollected that there were 'just a few toilets in our zone, so that we had to wait in a long queue. You know how much that can be difficult for someone like me, at my age'. With reference to particular *health-care needs*, one participant said, 'I have diabetes and I lost my pills. There were no choices with the delivered food so I didn't have the food that controls my blood sugar. No one asked about or was aware of my need for special food'. On *other needs*, an elderly woman made the following comments:

> They gave me a tent but I wasn't able to put it up and there was nobody to help me set it up. I could not do it myself. … To get a loan, to get help for rebuilding of our houses, to find a new job and for lots of other reasons, we had to apply in person through an official process, which meant going to several government offices, from one to another. Would you tell me how I could manage to do all they asked in my miserable condition?

*Affronts to dignity in the ways that the relief aid was provided*

The participants believed that the ways in which they were helped with basic needs affronted their dignity, particularly during the first days and weeks. The relief services were made available in ways that became competitive and that disadvantaged older people. As one informant said:

> It was much worse to bear some people's behaviour than the earthquake itself. Getting help so you wouldn't die couldn't have been dealt with worse. Some

people were running after the food containers to get the things they wanted. Do you think I could have managed to join them? No, of course not, I've spent years trying to maintain my dignity and respect in the community.

The participants disliked not only the methods of delivering services, but wished they had been asked about their requirements in their own places rather than having to go out to seek help and to make their requests. Asking for help in public was itself regarded as degrading. As one informant said:

> We weren't going to the aid centres to ask for anything. You can imagine how hard and degrading it can be going there, it's begging. … If they [the aid agencies] brought us something, they would have helped us survive, but we did not like to go to them and plea for help.[2]

Those who lost their properties in the earthquake did not even like to ask close relatives for things they needed. Seemingly to do so would threaten the status they desire in their family as respected seniors. They found their new situation, of needing the help of younger relatives and the aid agencies, as difficult to bear. As one informant said, 'I don't want to lose face by asking for anything from my children'. Another recalled, 'I wasn't able to get the stuff my family needed. I was really ashamed to be stuck at home, and then my son went and got something for us'. The informants prioritised maintaining their respect over meeting other needs. Actually they did not struggle much to ensure their survival and comfort, but instead were most concerned to preserve their status and seniority. As one said, in the chaotic conditions after the earthquake, 'it was much more important to behave appropriately than to get any help or services'.

*Feelings of insecurity*

The participants vividly described their sense of insecurity after the earthquake especially while they lived in tents. They said that lots of poor people came from distant rural areas that had not been affected by the earthquake, to get some of the articles distributed as relief and to loot or rob the damaged properties. The participants reported that the jails were damaged during the disaster, that all the convicts circulated in the city, and that they were afraid of them. They said they felt more insecure and vulnerable than younger adults. As one said:

> We could not go far from our tent because there were lots of people from poor rural areas eager to pick up our things. Perhaps the thieves thought we couldn't protect our stuff very well, and indeed there was more filching from old people than from the rest.

Similar thoughts were expressed by several of the participants. One recalled that 'we were all the time afraid of being robbed; it was a common

thing, especially in the first days. We could not sleep in peace, knowing there were many criminals moving around'. Another explained that 'the only income I had before the earthquake was from my sheep, and they were stolen when I was having treatment in the health care centre. So, I lost what the earthquake did not get from me'.

### *Emotional distress*

Many of the participants were still emotionally upset although it was some years since the earthquake, and some showed distress even during the interviews. It seemed that it was still difficult for them to adjust to their new life situation and to put behind them the mental anguish and sadness caused by the disaster and its consequences. They described different causes of their distress, such as losing their children, close relatives and friends, experiencing hopeless days, having witnessed the destruction of Bam citadel, one of the most celebrated ancient monuments in the country, of which they were proud, and losing valued personal documents and memorabilia.[3] Two informants expressed deep despondency:

> Now I wish I had died with my beloved family. For a parent it is terrible to see the children that you raised, who had lots of hopes for their future, lost in a few minutes in front of your own eyes.

> I can't do anything but mourn for my children. The only thing that calms me down a bit is to visit their graves on Thursdays. You see nothing was left here; I couldn't find my beloved's belongings although I looked all around.

To sum up, it seems that the elders who participated in the study found that the relief operations were incompatible with their age-related needs and were not provided in a way that respected their dignity. In addition, feeling insecure and being emotionally distressed were dominant features of the elders' life experiences even years after the earthquake event.

## Discussion

The study has shed light on elders' self-perceived needs following the Bam earthquake of 2003 in Iran. The findings reveal that older people were to a large extent sidelined by the relief efforts after the earthquake, and that many did not actively ask for help for cultural reasons. They were not seen as having special needs during the emergency relief and in the recovery programme. The participants believed that the emergency services were largely inappropriate for their needs, found that their dignity was affronted, and they experienced feelings of insecurity and emotional distress.

While the relief operation was extensive and enormous quantities of goods and services were distributed in Bam by many governmental and non-governmental relief organisations, as in most disasters the efforts largely ignored elders' special needs (HelpAge International 2008). Many organisations gave priority to women's and children's needs but few elderly oriented services were delivered. It seems that the United Nations Organisation's (1991) principles for developing and implementing social and civil practice towards older people – to promote their independence, participation, care, self-fulfilment and dignity – were largely forgotten during the Bam earthquake. The general-purpose relief was inappropriate for the elders. Their weakened physical condition, limited mobility, needs for prosthetic aids like walking frames, hearing aids, spectacles and dentures, and the high prevalence of chronic diseases like diabetes, hypertension and other cardiovascular problems among them, should be addressed by health professionals and relief agencies both in planning for disaster relief and in its execution.

Elderly people's family position and socio-economic status in their communities and the cultural background more generally strongly influenced the way in which older people perceived and reacted to the emergency relief. These factors contributed to a prevalent sense of being degraded and of their dignity being affronted. Bam's inhabitants enjoyed relatively good socio-economic conditions prior to the earthquake, which derived from the productive local citrus fruit orchards and palm groves (Ghafory-Ashtiany and Hosseini 2008). Furthermore, because the norm in Islam and in Iranian culture to respect one's elders remains strong, old people usually benefit from many different social supports, but many of these are no longer available after a disaster. The direct and indirect impacts of a disaster can change a respected old person to someone who is dispensable in the harsh environment of survival, and can lead to proliferating mental and spiritual hurts.

Although the police made great efforts to restore law and order within a few hours of the earthquake, personal security and the protection of property was a real concern in Bam for a while. The survivors were scattered throughout the affected area because many preferred to remain at or by their homes, even those that had been destroyed, and many poor people entered the area to seek relief hand-outs or to loot. There was no attempt to make the best use of the local communities' capacities, by identifying groups of vulnerable people who might have been brought together and assigned to young people to provide support and care.

Culture plays a significant role in psychological processes (Prince and Davies 2007). Suar, Mishra and Khuntia (2007) noted an example of its role in generating psychological distress after the Orisa cyclone in India in

1999. In the region, they argued that people are like gardeners who expand their family tree and, as they approach their deaths, hope to see all their family members happy. Following the cyclone, elderly people experienced separation anxiety, despair and dejection at being detached from their kin. The Iranian elders who participated in this study expressed similar emotional distress but for different reasons that are consistent with the findings of studies that have shown elders to be among the most vulnerable in disasters (Matthieu and Ivanoff 2006). In fact, an earthquake can put older people at high risk of their lives for many reasons (Chou *et al.* 2003), such as the death of their spouse or children (Murphy *et al.* 2003), physical health problems (Qin, Agerbo and Mortensen 2003) and lack of income (Petrovich *et al.* 2001). Studies have found that older people have a great need for social support during a disaster to mitigate the effects of stress (Fernandez *et al.* 2002) and following a disaster are among those most vulnerable to psychological distress (Suar, Mishra and Khuntia 2007; Hess 2004*b*). Iran's health system provided a planned mental health intervention in Bam, and around 51 per cent of the affected population were covered by the programme eight months after the earthquake (Akbari *et al.* 2005). Our findings reveal that mental health programmes should consider the distinctive emotional distress of older people, and make more effort to ensure the appropriateness of the interventions and their continuation over the long term.

The four themes that were emphasised by the informants are interrelated. For instance, emotional distress can be exacerbated by inappropriate service delivery, and can itself compromise the older person's dignity if it presents as exceptional and misunderstood mental reactions. The emotional sensitivity of the elders following the earthquake may contribute to their self-perception of being inadequate. Such negative responses can be brought about or increased by inappropriate relief and the ways in which it is obtained, especially if they raise the elders' sense of dependency on their children and on young adults in the neighbourhood. In Bam, many found the processes for getting shelter, obtaining loans and proving ownership of property degrading. More research is required on the negative impacts of the procedures involved in restoring order and normality following disasters.

Disasters vary greatly in the severity and extent of the damage and the duration of the impacts. The severely disrupted conditions during the very early phase of major disasters, as with the Bam and Pakistan earthquakes, the South Asian tsunami and Hurricane Katrina, make it difficult to deal with the special needs of especially vulnerable groups, but once the emergency situation begins to stabilise, relief agencies should be more active in meeting group-specific needs. Population surveys that identify

elders and other vulnerable groups and their distinctive needs are required to enable more effective service delivery. Using community volunteers in these roles and in door-to-door service delivery would enhance the capacity of aid agencies to deliver relief more effectively.

Relief agencies aim to provide quality services to the maximum number of survivors. Their success in terms of elderly-oriented services truly depends on their proficiency. The staff of relief agencies need to be educated about older people's rights and the agencies need to mainstream age-responsive service delivery (Plouffe and Kang 2008), while more recognition that older people are community assets could make a substantial contribution to the relief and in recovery programmes. Nobody argues against being ready to provide emergency deliveries for pregnant woman in labour even during the worst phase of a destructive disaster, but few regard providing treatment for older people with heart failure or a history of myocardial infarction as a priority. On the other hand, there is a myth that all older people are helpless in disasters, when many not only take responsibility for themselves, provide care for orphans, children and young women, and in the recovery period contribute economically to their households and remain the key decision-makers (HelpAge International 2008). They also provide young adults with advice based on experience about risk reduction and are the agents in re-connecting relatives and prompting them to help each other. Some become key figures in inspiring hope and in making plans for the future. Service providers should deliver support and assistance in ways that minimise their sense of dependence, and therefore emphasise advice and practical assistance in rebuilding ways of established and new ways of making a living, especially as when compared to young people, elders find it difficult to rebuild their livelihoods and businesses.

## Conclusions

Because Iran is prone to geophysical and climatic disasters (Ardalan *et al.* 2008), the country requires a high level of preparedness including culturally sensitive plans to meet the needs of those who are affected, but there should be more consideration of older people's particular needs. This study has shown that older people have distinctive needs and requirements that generally are not seen in disaster relief as vital or high priority. Their needs should not be dismissed or ignored when responding to the immediate disaster or in the recovery plan. The emergency relief managers should think of older people as a community asset, with a considerable capacity to inspire and direct the efforts of younger adults and to

raise their hopes for the future. They should also be aware that general relief is not appropriate for older people because of their particular characteristics that limit their physical mobility and capacity to react. Relief should address both the immediate needs of elders like appropriate food, clothes and medical care, and their long-term needs like the rehabilitation of their businesses and dealing with prolonged emotional distress. Relief agencies need to be trained to be age-responsive and should mainstream older people's rights in their planning and implementation of response and recovery phases. Mapping of elders' needs would assist effective service delivery and using community capacities would be of great help.

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## NOTES

1 The research was approved by the Ethics Committee of the Institute of Public Health Research of Tehran University of Medical Sciences and of the University of Social Welfare and Rehabilitation.
2 Words in brackets are the authors' explanations and glosses.
3 *Arg-é Bam* [Bam Citadel] is the largest adobe building in the world. It was built before 500 BC, is listed by UNESCO as a World Heritage Site, but was almost totally destroyed by the earthquake on 26 December 2003. For more details, see 'Bam and its cultural landscape' at http://whc.unesco.org/en/list/1208.

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