BRIEF REPORT

Preliminary Investigation into the Role of Physiotherapists in Disaster Response

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NGO = non-governmental organization

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Abstract

Introduction: Increasingly, disasters and disaster response have become prominent issues in recent years. Despite their involvement, there have been almost no investigations into the roles of physiotherapists in emergency disaster responses. Additionally, physiotherapists are not employed in emergency disaster response by many of the principal non-governmental organizations supplying such care, although they are included in military responses in the United States and United Kingdom, and in Disaster Medical Assistance Teams in the US. This paper, based on a small qualitative study, focuses on the potential role and nature of input of physiotherapists in disaster response.

Methods: A qualitative approach was chosen due to the emergent nature of the phenomenon. Four physiotherapists, all of whom had been involved in some type of disaster response, agreed to participate. Semi-structured telephone interviews were used to explore participants' experiences following disaster response, and to gain ideas about future roles for physiotherapists. Interviews were recorded, transcribed, and later analyzed using coding and categorization of data.

Results: Four main themes emerged: (1) descriptions of disasters; (2) current roles of the physiotherapist; (3) future roles of physiotherapists; and (4) overcoming barriers. Although all four physiotherapists had been ill-prepared for disaster response, they took on multiple roles, primarily in organization and treatment. However, participants identified several barriers to future involvement, including organizational and professional barriers, and gave suggestions for overcoming these.

Conclusions: The participants had participated in disaster response, but in ill-defined roles, indicating a need for a greater understanding of disaster response among the physiotherapy community and by organizations supplying such care. The findings of this study have implications for such organizations in terms of employing skilled physiotherapists in order to improve disaster response. In future disasters, physiotherapy will be of benefit in treating and preventing rescue worker injury and treating musculoskeletal, critical, respiratory, and burn patients.

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Introduction

Disasters, as defined by the Center for Research on the Epidemiology of Disasters, are events or situations that overwhelm local capacity, and thus, require external assistance from national or international bodies.[1] After a brief investigation, it was discovered that many of the principal non-governmental organizations (NGOs) providing disaster relief do not include physiotherapists as part of their healthcare teams. The question "is there a role for physiotherapists in emergency disaster responses, and if so, what is this role?" arose. The results of a study exploring the experiences of physiotherapists who had been involved in disaster response will be presented. The research focused on the emergency phase of the *disaster cycle* as the period when emergency

care is provided for victims immediately following the disaster.[2,3] In this paper, disaster response refers to this phase, while disaster is used as defined previously.

Physiotherapists are present in disaster response efforts. Waldrop reported on interviews with physiotherapists who had been involved in the response following several disasters in the United States.[4] Although participants provided a variety of physiotherapy treatments, the lack of a clearly defined role for physiotherapists meant that disaster response organizers and therapists did not know how to use their skills to provide maximum effect. A 2004 guide, produced by the US Public Health Service's Office of Emergency Readiness, provides what may be the most comprehensive description of the role of physiotherapists in disaster response.[5]

Physiotherapists employed by the armed forces in the UK[6] and US[4] are trained and prepared to support the military during disasters. In this context, they may play a primary role in triage, treating acute orthopedic trauma, and wound care,[4] as well as respiratory care in critical and ward settings.[4,6] Grissom and Farmer noted the inclusion of a respiratory therapist in the US Army's mobile critical care unit, and state that critical care in disasters should be provided by the same personnel using the same protocols routinely used in non-disaster situations.[7] The same principle could be used to justify the involvement of physiotherapists in the treatment of many types of casualties commonly seen in disaster response, including respiratory complaints, burns and critical cases, and orthopedic and musculoskeletal injuries.

In summary, more of a potential role than an actual one for physiotherapists in disaster response is described in the literature. At a time when new roles are developing in disaster response,[8] action and further research are required if physiotherapists are to become involved. The majority of reviewed literature related to the provision of disaster care by the governments of relatively wealthy, developed countries. Therefore, it is not necessarily possible to relate their findings to disaster response by NGOs or in developing countries, where available resources may be limited.

Methods

An exploratory study was conducted using the experiences of physiotherapists who had some previous involvement in disaster response. Potential participants were sought in the US because the country has experienced a number of high-profile disasters in recent years. The American Physical Therapy Association (APTA) aided the research by contacting potentially suitable participants, who volunteered to participate by e-mailing the researcher. In order to be eligible for the study, participants had to be physiotherapists who had been involved in the emergency phase of disaster response. Physiotherapists who had been involved in the rehabilitation stages of disaster response were excluded.[2] Selection bias was eliminated, as all individuals who volunteered to participate were included.

The participants were contacted initially via telephone. Keeping with the exploratory nature of the study, the interviews were conducted in an informal, semi-structured style. The interviews occurred in settings in which the participants felt comfortable expressing themselves.[9] Interviews were conducted between December 2004 and March 2005 and lasted 40–60 minutes, except one which was terminated after 20 minutes as the participant had to attend a meeting.

Ethical approval was sought and granted by the Coventry University Ethics Committee. Prior written consent was gained from participants before the conduct of the interview. Since some of the material covered in the interviews could be distressing, prior to the interview, participants were informed that they could withdraw at any time.

The interview tapes were transcribed and the data were processed by the researcher to produce categories that then were organized into larger themes. An independent researcher later checked the categorization of a small section of data in order to increase reliability.[10]

Results

Initial Uncertainty

A lack of disaster preparedness was revealed by the experiences of the participants. None of the participants had participated in the disaster response as part of a pre-formed disaster response team. Some were requested to help by local organizers or NGOs, indicating a perceived need for their skills at the time, while others were involved on their own initiative. However, most participants stated that they had not been sure of their role in the effort.

Roles of the Physiotherapist

The roles taken by the participants could be grouped into two areas: (1) patient care; and (2) organization of physiotherapy and other services. One participant took a major organizational role, turning the Physiotherapy Department into an emergency treatment room, gathering equipment for doctors, and directing treatment.

In terms of patient treatment, the physiotherapists' role differed according to location. Triage was one area in which the participants were able to help:

> *[we] were triaging the patients… helping degree the wounds, checking for internal bleeding, taking vital signs and doing musculoskeletal exams…dressing minor wounds and helping the physicians assess patients…*

Rescue workers were treated using mainly manual therapy and some electrotherapy:

> *We did some very gentle joint manipulations, myofascial release, obviously massage…*

The types of patients treated fell into two main groups: rescue workers, who sustained a variety of minor musculoskeletal injuries and respiratory problems, and those injured in the disaster. Medical conditions included a variety of musculoskeletal injuries, wounds, compression injuries, ballistic injuries, high velocity penetrating wounds, internal bleeding, and critically ill victims.

Generally, the participants felt they could have been more effective in the disaster effort; one mentions how he and others would have been willing to be involved in the immediate relief effort:

> *… everyone was very ready to do the immediate disaster work…like I said, we had made an effort to get down there that day but it wasn't possible unfortunately.*

Wound care, triage, and treatment of musculoskeletal complaints and first aid were areas highlighted where participants felt their skills could have been better utilized. The preventative role physiotherapists could have played was emphasized; it was felt that physiotherapist involvement in planning could have prevented musculoskeletal and respiratory problems among rescue workers.

Future Roles in Disaster Response

All the participants felt strongly that there should be a role for physiotherapists in disaster response. When questioned, one answered:

> *Oh, without question! And I have been very outspoken about that.*

And another:

> *…absolutely—anybody who has the level of education and in many cases experience that physical therapists here in the States have...*

The participants suggested that for the physiotherapist working in emergency disaster relief, there should be multiple roles, including work in musculoskeletal, neuromuscular, wound care and tissue viability, triage, cardiorespiratory support, and burns. It also was thought that physiotherapists could take on some of the physicians' workload, allowing them to care for more critical cases.[13]

When asked whether they felt there was a role for physiotherapists with emergency relief organizations, particularly in developing countries, respondents agreed there should be, but seemed less clear about what this would involve. One interviewee felt that the work in these situations probably would not differ much from that after 11 September 2001 when physiotherapists were able to be of assistance. The main difference probably lies in the funding available for health care, and the lack of established facilities in the developing world.[8,12]

However, as one participant mentioned, it is a fact that in many emergency disaster response agencies, the primary focus is on the medical care because with the vast numbers of casualties, there often is not time to consider anything besides immediate, lifesaving work.[8] Therefore, it is possible that physiotherapists working in this area may have to take a medical view, but equally, their holistic approach may help to balance this very medical focus.

Barriers to Involvement in Disaster Response

Participants noted several barriers to the involvement of physiotherapists in disaster relief, as did Waldrop.[4] There was a strong feeling among the participants that one of the main barriers was organizational:

> *…the official role of physiotherapy was to help transport patients…My problem with that was I felt we had a lot more useful skills to administer to people…*

Reluctance was encountered from both physiotherapy and disaster response organizations when trying to promote the role of physiotherapists. Another barrier was the lack of official recognition of physiotherapists' work in the field:

> *we have a unique body of knowledge which is not being recognized in any official capacity. So while I felt we did a phenomenal job of responding to the Oklahoma City bombing, it didn't really show up on anyone's radar screens.*

There was not enough knowledge of how physiotherapists could have helped:

> *The problem here is that a lot of doctors don't know what we do…and that we can be of use in acute care situations…*

Another barrier is the physiotherapy profession, as found by some participants, and the lack of knowledge on the subject, both among physiotherapists and those responsible for organizing relief efforts.

Many ideas were suggested by participants as to what physiotherapists—on a professional and individual level—must do in order to become involved in disaster response. These fell into two main themes; the need for further training, and the need for attitudes to change. First aid training was considered a good asset, and one went as far as to suggest a disaster management module be taught as part of the physiotherapy course. Along with training, experience was thought to be important:

> *you need experienced people who are familiar with the areas…*

This need for experience is revealed in the roles played by the individuals. The more experienced of the four participants took a very proactive role in comparison with the other three participants, who, although they all made valuable contributions to the relief effort, felt they could have been more effective.

Change was important in the attitudes of the participants, including a general lack of awareness within the profession, which one participant admitted to:

> *You know, I hadn't thought of it, I…was a little self-centered in kind of just thinking about my world.*

It was felt that physiotherapy, as a profession needs to take action:

> *…what we need to realize is that we have some tremendous knowledge that not too many people have…So I think the first thing is that physiotherapists need to have a dialogue with ourselves and get over this inferiority complex, we need to start valuing what it is we have to offer. And then we need to offer this to people in need.*

Discussion

During disasters, healthcare providers often are compromised, and all of the participants found themselves involved in different ways in the organizational effort required to provide health services.[4,12] The participants' use of their organizational and managerial skills shows their ability to be an effective part of the large amount of logistical and organizational work required in any disaster response.[4,8] Participants also found creative ways to deal with the emotionally traumatized, an inevitable consequence of disasters and something worth considering in future planning.[8,12] Although not acting within a clearly defined role, the participants' experiences showed that physiotherapists' skills can be utilized in a variety of roles within disaster response.

Physiotherapists should be involved in all their normal areas of work after a disaster, a view shared by Grissom and Farmer.[7] From the results of this investigation, it seems that there would be multiple roles for physiotherapists in disaster relief. However, in a small disaster response team, it probably would not be feasible to have more than one physiotherapist, which might mean that the traditional model of specializa-

tion in one area would have to be abandoned for a broader approach, as has been described by military physiotherapists.[6]

Physiotherapists have unique skills to contribute to the area of disaster response, as noted by the participants. The main strengths of physiotherapy were believed to be the functional focus of the profession and the ability to carry out thorough, musculoskeletal examinations, often with limited resources. Acute musculoskeletal work has been very effective in accident and emergency (A&E) departments and in disaster situations.[13,14]

Rando described respiratory therapists as being disinterested, apathetic, or even in denial about emergency preparedness,[11] and Waldrop cites a physiotherapist who believed that there is no consideration of physiotherapists' role during disasters.[4] There are new roles opening up in disaster response,[8] but it seems to be up to physiotherapy as a profession to be its own advocate, starting with individual awareness.

The implication for the profession as a whole is that the need for further training, as identified here and in the literature, must be recognized and addressed, and experience must be shared.

Future Research

Using the existing literature, it is not possible to determine the number of physiotherapists involved in disaster response. A more comprehensive study could quantify the numbers of physiotherapists and gather their experiences. The statistics taken from previous disaster casualties could be reviewed and analyzed in terms of numbers and types of patients who might have benefited from physiotherapy. The army and Disaster Medical Assistance Teams are organizations that already use physiotherapists in disaster response efforts.[15] The roles of physiotherapists in these planned efforts should be researched further, and the effectiveness of physiotherapy as part of these efforts must be evaluated in order to make a case for, or against, the inclusion of physiotherapists in disaster response.

Limitations

Being a very small, preliminary study, there are a number of factors that limit the application of the findings. The experiences of the participants fall into a narrow range, as many of them were involved in the same type of work, three were involved in the same disaster, and all the disasters were due to manmade hazards and occurred within the US. This compares with a wide range of natural and manmade disasters where healthcare response will be required, many of which may be expected to occur in countries with fewer resources than a highly developed country like the US. Another limiting factor in applying the results to organizations' planning response efforts is that all the participants were involved circumstantially and not as part of a planned effort. As an initial, phenomenological study, the findings identify the previous involvement of physiotherapists in disaster response and make suggestions based on their experiences. However, in order for these to have scientific significance, further research will be required.

Conclusions

The results of this study indicate that although it may not be accepted widely, there has been and is a potential role for physiotherapists in disaster response. Physiotherapists have participated in disaster response with some success, but in ill-defined roles, possibly limiting their effectiveness in the field. Several unique areas of skill were found to be offered by physiotherapists, including those of assessing and treating casualties with acute injuries, preventing injury among rescue workers, and possibly preventing or lessening the burden of chronic dysfunction amongst patients after the emergency phase. In addition, it has been noted that the focus of disaster response programs primarily is medical, and that physiotherapists potentially could relieve some of the workload of the medics by attending to selected patients, as well as possibly adding a more functional and holistic balance. These findings have implications for responsible organizations in terms of employing skilled physiotherapists with the necessary experience to improve disaster response. Equally, however, responsibility must lie with physiotherapists themselves in raising awareness within the profession of disaster response and considering new ways of working which must be flexible and incorporate multiple areas of skill.

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