REVIEWS

Community-Based Rehabilitation in Settings of Armed Conflict, Natural Disaster, or Mass Displacement: A Scoping Review

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ABSTRACT

Purpose: CBR approaches have been implemented in many countries and a wide range of settings. This study aimed to synthesise knowledge available in the scientific literature about health-related CBR programmes in settings affected by armed conflict, natural disaster or mass displacement.

Method: Databases searched in this scoping review were MEDLINE, CINAHL, EMBASE, PsycInfo and Google Scholar. Articles were included if they focused on health-related CBR undertaken in communities affected by armed conflict, natural disaster or mass displacement. Descriptive statistics and qualitative content analysis were used to analyse the selected articles.

Results: Of the 5537 articles screened, 31 met the eligibility criteria. Collectively, they address diverse CBR programmes across crisis settings. Factors that promoted successful CBR implementation were strong community and family support, and the development of CBR activities tailored to local cultural and social contexts. Barriers included human resource limitations and insufficient collaboration. Authors of the selected articles made recommendations for CBR implementation in crisis settings, including prioritising efforts to enhance community involvement, investment in crisis preparedness, initiatives to increase disability awareness, and the adoption of long-term management

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strategies.

Conclusion: CBR programmes can make important contributions in crisis settings. Community involvement and access to resources are crucial for programmes to effectively respond to the needs of the individuals and communities they aim to serve and for the sustainability of these initiatives. The findings of this review can help to inform CBR stakeholders regarding opportunities and challenges for developing and carrying out CBR programmes in crisis settings, including initiatives to establish guidance or policy.

Key words: persons with disabilities, health, programmes, implementation

INTRODUCTION

Community-based rehabilitation (CBR) is "a strategy within general community development for the rehabilitation, equalisation of opportunities and social inclusion of all people with disabilities" (International Labour Office, UNESCO, WHO, 2004). It was initiated by the World Health Organisation (WHO) following the International Conference on Primary Health Care in 1978 (Khasnabis et al, 2010). The scope of CBR has since widened and is now understood as a multisectoral strategy that addresses the broader needs of persons with disabilities and supports their participation and integration into their communities (Khasnabis et al, 2010). CBR programmes aim to improve the overall quality of life of persons with disabilities (Khasnabis et al, 2010). As of 2010, CBR programmes had been implemented in over 90 nations worldwide, mostly in low- and middle-income countries (Khasnabis et al, 2010).

Humanitarian crises are situations where there are widespread and elevated threats to the health and well-being of populations. They may result from a sudden, recurrent or progressive disaster, or due to armed conflict or political instability. Such events may spur mass displacement of populations within countries or across national borders (Kirbyshire et al, 2017). In crisis settings, persons with disabilities are at elevated risks of experiencing harm, including separation from caregivers, exclusion from registries or shelters, loss of assistive devices, barriers to mobility, inaccessibility of services, and heightened risk of exploitation and abuse (WHO, 2011).

CBR approaches may already exist in settings where a crisis occurs, or could be initiated while a crisis is ongoing or in its aftermath, thus providing assistance and support to persons with disabilities who are caught up in an emergency (Eide,

2010). Boyce, Koros and Hodgson (2002) described the positive impacts of CBR projects on civil society initiatives, promoting economic and social reconstruction in settings affected by an armed conflict. CBR programmes in crisis settings can support people with long-standing disabilities, as well as persons who experience the onset of a new disability due to an injury or illness which may be exacerbated by limited access to care and assistance. Most refugees are displaced to neighbouring low- or middle-income countries, where access to services and support may also be limited, increasing the likelihood of people experiencing increased impairment and barriers to participation (Landry et al, 2020). While CBR programmes are implemented in various humanitarian crisis settings, their application has distinctive challenges and potential benefits in contexts affected by war, disaster or displacement.

Objective

The authors of this article undertook a scoping literature review to appraise academic literature regarding the implementation of CBR in settings affected by a natural disaster, armed conflict or mass displacement.

METHOD

Study Design

The methodological framework of Arksey and O'Malley (2005) guided the development of a scoping review to answer the question, "What is known about the implementation of CBR in situations of armed conflict, natural disaster or mass displacement?" The review process is presented in an adapted Preferred Reporting Items for Systematic Reviews and Meta-Analyses chart (see Figure 1). Detailed descriptions of actions taken during the five stages of the scoping review are summarised below and in Supplementary Table 1.

Figure 1: PRISMA Flow Diagram: Processes for Study Screening, Eligibility and Inclusion
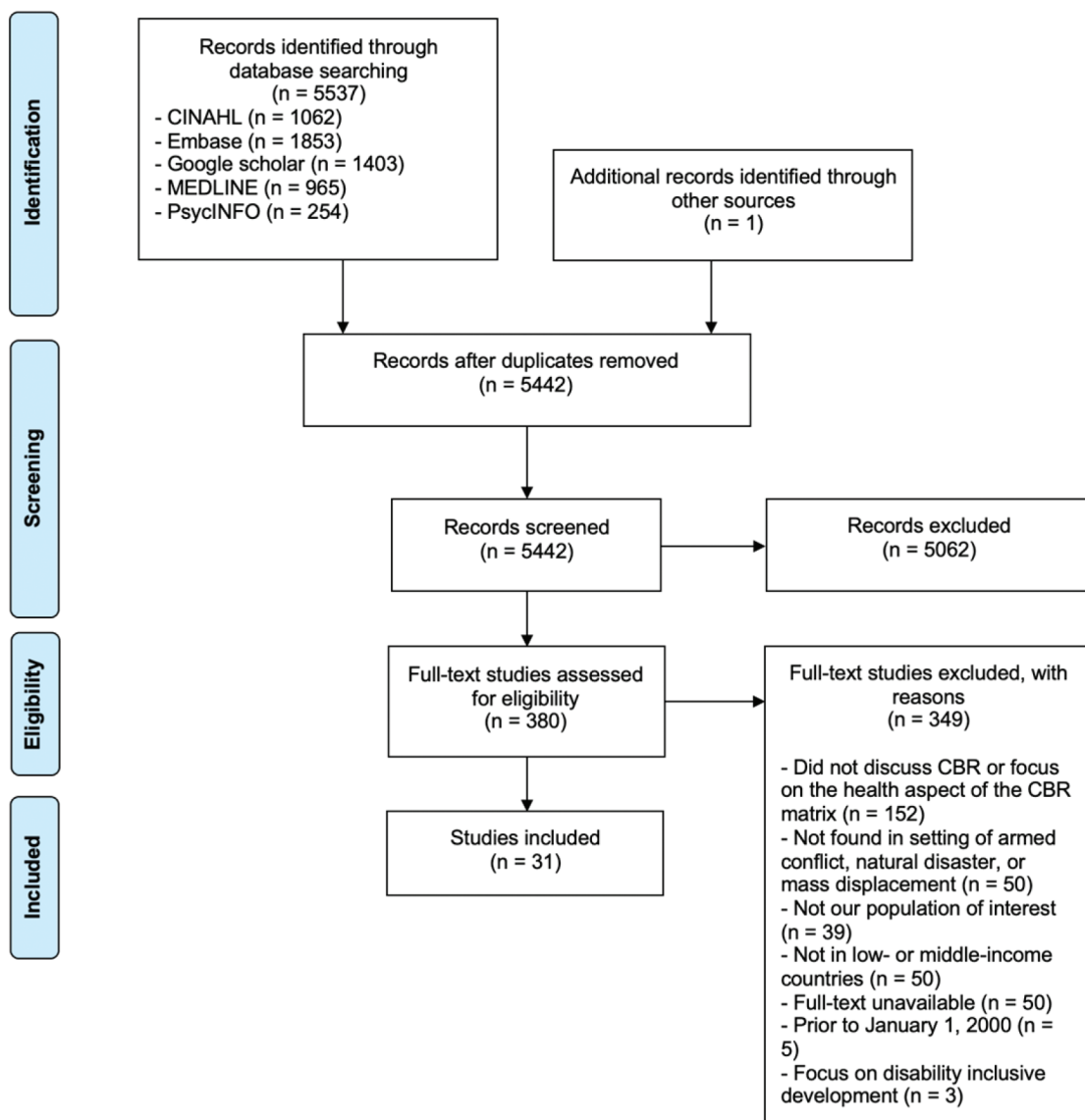
Note: PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analyses; CBR = community-based rehabilitation

Supplementary Table 1: Stages involved in the review process

Stages	Actions involved
Stage 1: Identifying the Research Question	Through frequent meetings and discussions, MH and SM developed the concept note for the review. The review team met to determine the research question, secondary objectives, selection criteria, and database search. The research question developed through iterative steps was, *"What is known about community-based rehabilitation (CBR) in settings affected by armed conflict, natural disaster, or mass displacement?"* The secondary objectives guiding this scoping review were: (1) to examine how CBR approaches are implemented in settings affected by armed conflict, natural disaster, and mass displacement; (2) to evaluate how CBR has an impact in those settings; (3) to identify the barriers and facilitators of CBR implementation in the aforementioned settings; and (4) to identify the gaps in knowledge in the literature about CBR in these settings. Due to the extensive nature of CBR, the health domain of the CBR Matrix (Khasnabis et al, 2010) was selected as the focus for the review.
Stage 2: Identifying relevant articles (Search Strategy)	The search was performed using four electronic databases: CINAHL, EMBASE, MEDLINE, and PsycInfo. Google Scholar was also searched for publications, using terms such as CBR, armed conflict, natural disaster, and mass displacement. The Medical Subject Headings terms and keywords used were armed conflicts, human migration, natural disasters, community health services, war, bombing, immigration, forced displacement, massive evacuation, disability inclusive development, and rehabilitation approaches. Boolean operators "AND" and "OR" were used to retrieve relevant literature.
Stage 3: Study Selection	Inter-rater reliability was established on a pilot set of 100 articles. Articles were selected by DL, JK, AM and MV using an iterative approach. Each study was reviewed for relevance, and the reference lists and citations were also reviewed to identify other relevant papers. This process identified one publication (Eide, 2010) through a review of an excluded publication (Martz, 2010).
Stage 4: Charting the Data	A data charting form (Table 1) was collectively developed by the review team. The data extraction process was iterative in nature, where we continually extracted data and updated the data charting form throughout our scoping review. DL, JK, MV, AM independently extracted data from the first ten articles using the data charting form and then met to determine if their approach to data extraction is consistent with the research question, and to ensure that relevant information is being extracted. They then combined their findings in the data charting form. Reviewers DL and JK extracted the data from the articles selected from CINAHL, MEDLINE and Google scholar. AM and MV completed the same process for articles found in Embase and PsycInfo.
Stage 5: Collating, Summarising, and Reporting the Results	The extracted data was documented in Microsoft Excel and digitally collated using a Microsoft Office OneDrive. The analysis for this review included descriptive numerical summary analysis and qualitative thematic analysis (Levac, Colquhoun & O'Brien, 2010). The descriptive numerical summary described the characteristics of the articles, including bibliographic data, types of study methods, geographic locations and level of income of the countries where the research was conducted, the number of physical and mental health initiatives found in the articles, and the various settings (armed conflict, natural disaster, mass displacement) of the included articles. An inductive technique was used to interpret the findings by analysing the themes found. Data was coded, emerging themes were identified, and a concept map was created. Emerging themes were identified by observing patterns and the frequency in which they appeared to answer the research question, such as barriers and facilitators to CBR implementation and the effectiveness of CBR programmes. The results were reported through tables, graphs and figures. The draft of the reports was discussed through email and virtual meetings and finalised by the review team.

Data Collection

The review included peer-reviewed articles on CBR interventions in armed conflict, natural disaster, or mass displacement settings.

Inclusion criteria:

- Articles that aimed to address health-related CBR activities in a crisis setting in a low- or middle-income country, involving children or adults with mental or physical disabilities, as well as families, communities, care providers, policymakers and others involved in CBR.

- Empirical and non-empirical articles, irrespective of study design.

- Only English language articles published between January 2000 - July 2021, after screening for relevance to the health domain of the CBR Matrix (Khasnabis et al, 2010).

The search was performed in July 2021 in four electronic databases: CINAHL, EMBASE, MEDLINE, and PsycInfo. Medical Subject Headings related to armed conflicts, human migration, natural disasters, and community health services were used in the search, along with keywords (e.g., war*, bombing*, immigration*, forced displacement*, massive evacuation*, disability inclusive development, and rehabilitation). Google Scholar was searched using terms such as 'community-based rehabilitation', 'armed conflict', 'natural disaster' and 'mass displacement'. The Boolean logic for the search is as follows: Community-based rehabilitation AND (armed conflict OR mass displacement OR disaster). EndNote was used to organise the screening process.

Two teams of two reviewers each screened titles and abstracts. Inter-rater reliability was established between reviewers, using a pilot screening of 100 MEDLINE and Google Scholar publications. The teams discussed their assessments and collaboratively decided to address discrepancies, achieving 90% consistency. Abstracts and full texts of all the retained articles were reviewed. This step was again conducted in pairs. Discrepancies were reviewed and resolved in discussion with other team members. The reference lists and citations of selected articles were then reviewed to identify other relevant papers.

A data charting form was collectively developed and refined iteratively using Microsoft Excel (see Table 1). It included bibliometric (e.g., journal, authors, publication date), contextual (e.g., location, type of humanitarian crisis), and substantive (e.g., barriers and facilitators to implementing CBR) information.

The first four authors independently extracted data from 10 articles and then compared their tables in consultation with their other two colleagues. Differences were discussed, a consensus on how to proceed was arrived at, and the remaining articles were then divided among them to complete data extraction.

Table 1: Data Extraction Form

Bibliographic data	Context and methods	Results
Author(s)	Study design/type of article	Barriers of CBR implementation
Year of publication	Purpose/objectives(s)	Facilitators of CBR implementation
Authors' affiliation location compared to CBR location (local or international)	CBR setting (armed conflict, natural disaster, and/or mass displacement)	Recommendations by the authors
Journal	Geographic location (country)	Miscellaneous (relevant information to be used in the background)
	Country's level of income	
	Description of CBR programme	
	Participants (type of physical and/or mental disability)	
	Specific component of the health aspect of the CBR Matrix (promotion, prevention, medical care, rehabilitation, and/or assistive devices)	
	CBR intervention or programme	

Note: CBR = community-based rehabilitation

Data Analysis

Analysis of the extracted data included basic descriptive statistics and qualitative content analysis (Levac et al, 2010). For the qualitative analysis, an inductive-deductive approach was used. Open coding was applied within the categories of the data extraction Table. Patterns and linkages were then identified based on the codes, creating a concept map of related topics and considerations, and guiding the development of themes.

RESULTS

Identification and Selection of Articles

The initial search yielded 5,537 documents. After removing duplicates, screening and selection, 31 articles were included in the final analysis. The retained articles

address a range of humanitarian crisis settings globally. They include 20 articles focused on specific countries, 9 articles with a global scope, and 2 that were not specific about their sphere of application.

Where articles identified a specific country of focus (see Figure 2), India featured the most often (4 articles), followed by Bosnia and Herzegovina, China, Nepal and Sri Lanka (2 articles each). In terms of the level of income, according to the World Bank Group (n.d.), lower- or middle-income countries were the most prevalent (13 articles), followed by upper middle-income countries (5 articles) and low-income countries (2 articles). The articles most frequently addressed natural disasters (17 articles), followed by armed conflicts (10 articles), with few articles discussing mass displacement or a mix of crisis settings (see Figure 3). Common areas of focus for the articles include implementation processes for CBR programmes, facilitators and barriers to implementation of CBR, and recommendations for future implementation of CBR programmes.

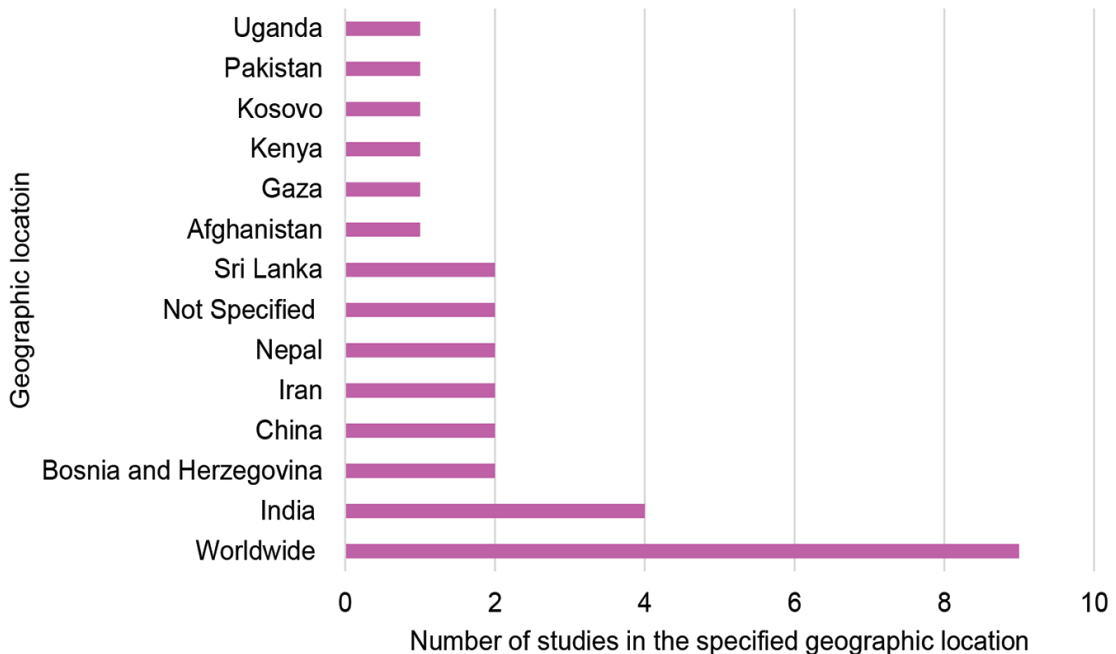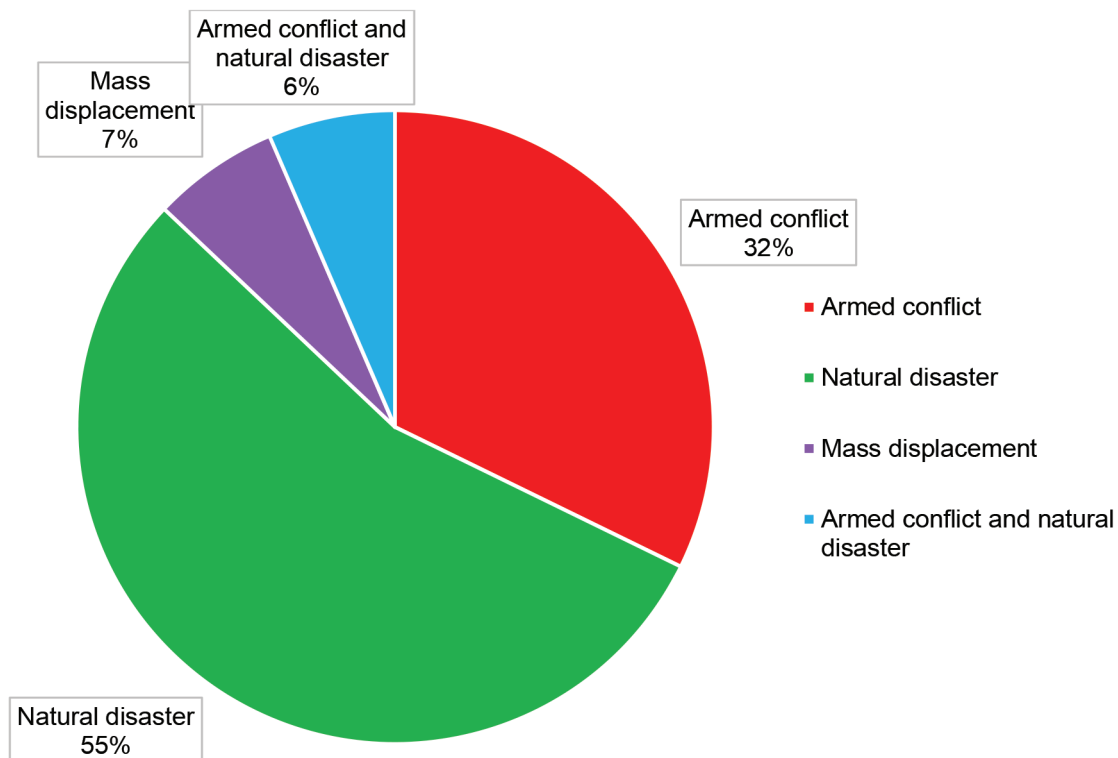**Figure 2: Summary of Geographic Locations in Included Articles**

Figure 3: Summary of CBR Settings in Included Articles

Note: CBR = community-based rehabilitation

Implementation of CBR programmes in Armed Conflict Settings

In several armed conflict settings, organisations of people with disabilities (OPDs) have played significant roles in delivering CBR for persons with disabilities (Eide, 2010). For example, Masateru, Soosai and Robert (2017) assessed a CBR programme implemented by OPDs in Sri Lanka after the civil war, which included medical support, physical therapy, assistive devices, and livelihood supports. Positive outcomes on the quality of life of persons with disabilities, such as improved socioeconomic conditions, were found post implementation. For example, a female who had a physical disability due to a war injury explained that as a result of the CBR programme, she was able to purchase a sewing machine which she uses as a source of income for her family following the death of her husband due to the conflict (Masateru et al, 2017). In Afghanistan, CBR committees were implemented by community rehabilitation and development workers trained by the WHO, United Nations International Children's Emergency Fund,

and local and international non-governmental organisations (NGOs) (Coleridge, 2002). They implemented the Comprehensive Disabled Afghans Programme, which aimed to identify and refer persons with disabilities to appropriate services, provide home-based training, and educate the community on the issue of disability (Coleridge, 2002).

Implementation of CBR Programmes in Natural Disaster Settings

The selected articles highlight how the increase in healthcare needs, including new injuries resulting in disabilities, could lead to implementing new CBR programmes after a disaster. For instance, after the Sichuan earthquake in 2008, a CBR programme including CBR health services was implemented by the Chinese Association of Rehabilitation Medicine, local health ministries and NGOs (Gosney et al, 2013; Zhang, Reinhardt & Gosney, 2013). Following the 2004 tsunami, the government of India implemented a programme providing a psychosocial model of care through the National Institute of Mental Health and Neurosciences. Workers from governmental agencies, NGOs, and members of the affected communities participated in these responses (Becker, 2007; Kasi, Bhadra & Dyer, 2007; Math et al, 2008).

Implementation of CBR programmes in Mass Displacement Settings

In situations of mass displacement, the United Nations High Commissioner for Refugees (UNHCR) manages CBR programmes. For example, in the Dadaab refugee camp in Kenya, CBR implementation for Somali refugees was managed by the UNHCR in collaboration with two NGOs responsible for health care in the camp - CARE Kenya and Gesellschaft für Technische Zusammenarbeit. The programmes aimed to facilitate rehabilitation by providing basic therapy interventions, inclusive education, and the provision of assistive devices such as wheelchairs, prosthetics, and other mobility aids (Wee, 2010).

Facilitators to Implementation of CBR

Several factors supported or fostered successful CBR interventions in humanitarian crisis settings. The most common facilitators were community involvement and sustainable access to resources (see Figure 4).

Figure 4: Summary of Frequent Facilitators Reported in Included Articles
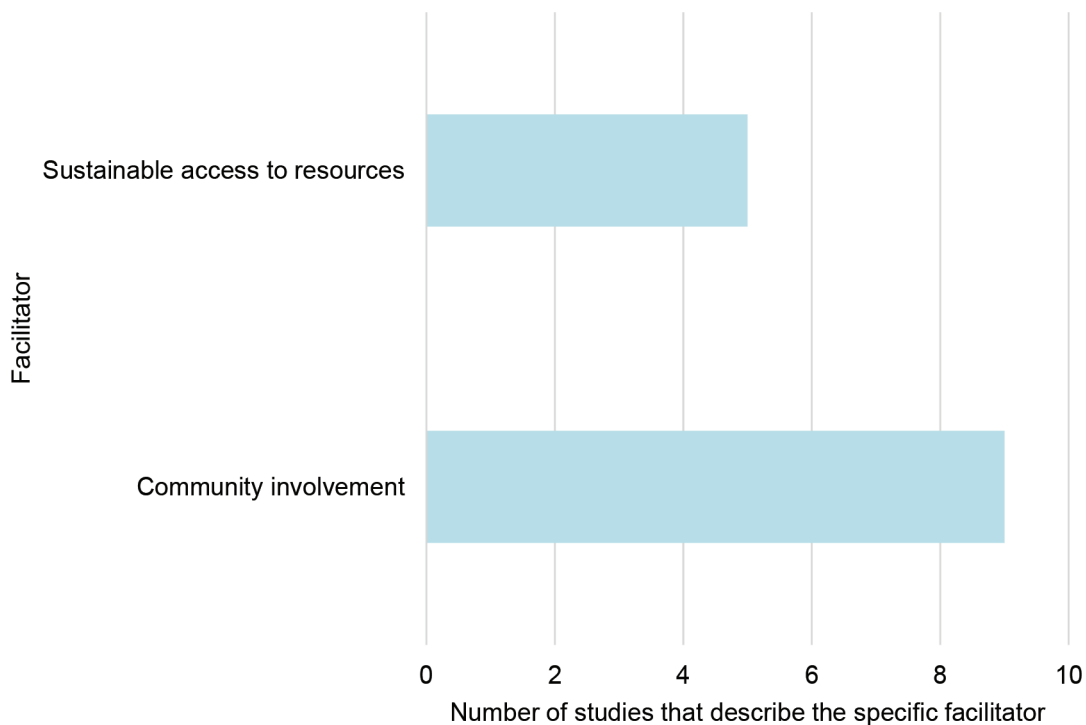
Community Involvement - The crux of CBR programmes is reliance on community empowerment and involvement. This enables sustainability of the programmes, especially in crisis settings. Paradoxically, it may also be most challenging to achieve this in such settings. Evidence suggests that community values, culture, religious beliefs, and rituals were essential contributions through community involvement across crisis settings. Agani, Landau and Agani (2010) highlighted the importance of drawing on community resources, values, themes of previous generations and culture to bring the community together and promote resilience. They also reported that connecting with family and cultural values can help reduce post-traumatic stress, risk-taking behaviour, addiction, depression, and violence, to help protect against trauma. Ertl et al. (2011) assessed the efficacy of a community-based intervention targeting post-traumatic stress disorder (PTSD) symptoms in former child soldiers in Uganda. The therapy effectively reduced post-traumatic stress disorder symptoms when it was carried out by locally-trained community therapists (Ertl et al, 2011).

Following an earthquake and tsunami in the Andaman and Nicobar Islands, factors such as family support, attention to culture and incorporation of religious activities were identified as strategies that contributed to resilience among those affected by the crisis and helped them cope with their grief (Math et al, 2008). These aspects were also identified in relation to who was involved in providing care. In India, trained local community workers, who have more awareness of community needs, language, and culture, provided psychosocial care to survivors and ensured continuity of services after the 2004 tsunami (Becker, 2007).

Sustainable Access to Resources - Access to resources in a sustained manner is a key facilitator for robust and durable CBR programmes in crisis settings. Where programmes are not dependent on external support, they may be more sustainable. Coleridge (2002) reported that in Afghanistan where supply chains were disrupted, one of the major facilitators contributing to the CBR programmes' success and sustainability was its relative independence from external resources, with re-supply only required every six months. In Bosnia and Herzegovina, Edmonds (2005) stated that CBR "is sustainable because it is a government supported programme," which provides the possibility of a consistent and reliable provision of resources.

On the other hand, when the state structure is weakened, the fact that NGOs run a CBR programme can contribute to maintaining services during crises. Eide (2010) explains that in the West Bank and Gaza, even though the population was restricted in their movements because of the conflict with Israel, CBR services were still offered because local and regional self-driven structures were established. Combined with modern communication technology, these structures could continue functioning despite the movement restrictions imposed due to the conflict.

Barriers to Implementation of CBR

Most articles (n = 20) discussed barriers to implementing CBR programmes in crisis settings. The barriers most frequently reported were: a lack of coordination between programmes or stakeholders, insufficient human resources, lack of documentation, damage to infrastructure, and stigma against participants in CBR programmes (see Figure 5).

Figure 5: Summary of Frequent Barriers Reported in Included Articles
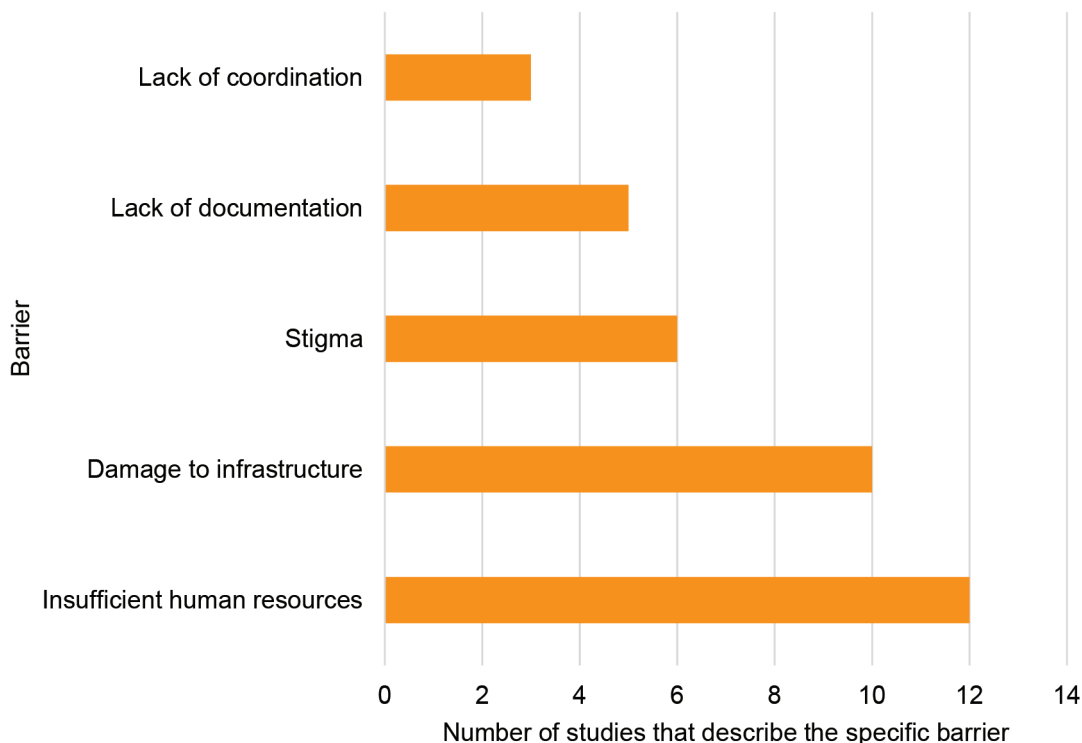
Lack of Coordination between Programmes or Stakeholders - Coordination and collaboration are fundamental challenges in many crisis settings, including coordination between international and national organisations and teams (Bailey, 2003; Sheikhbardsiri et al, 2017; Amatya et al, 2020). In a disaster setting, such gaps may result in difficulties in harmonising approaches to ensure needed support and establishing strategies before exiting, affecting long-term care (Amatya et al, 2020). Bailey (2003) reports that a lack of coordination between international programmes and local NGOs impeded the rehabilitation of persons affected by landmines in Bosnia and Herzegovina, and contributed to redundancy among assistance programmes.

Insufficient Human Resources - Many articles mentioned the lack of trained personnel as the main challenge to the successful implementation of CBR (Bailey, 2003; Math et al, 2008; Sadeghi & Ahmadi, 2008; Howard et al, 2012; Schnabel, 2013; Jeong et al, 2016; Landry et al, 2016; Sheikhbardsiri et al, 2017; Mousavi et al, 2019; Amatya et al, 2020). After the 2004 tsunami in India, health professionals

at a relief camp lacked training and knowledge related to mental health (Math et al, 2008). As a result, they were ill-equipped to address the population's mental health or psychosocial needs (Math et al, 2008). Mousavi et al. (2019) also reported that a lack of training related to disasters (at the university level) among rehabilitation professionals impeded their participation in these settings. An essential factor highlighted in the articles concerning natural disasters in India, was the importance of rehabilitation professionals' training and its availability. The lack of training, especially on injuries and pathologies that can be aggravated during natural disasters, contributed to the healthcare system not being equipped to effectively deal with survivors of natural disasters (Bailey, 2003). In mass displacement settings, a lack of access to trained professionals was also a major barrier (Gruner et al, 2020). Since refugees flee their home country, they are in a new environment and may not know how to effectively navigate the healthcare system of the host country. Furthermore, lack of trust in refugee camp administration, experiences of discrimination, a sense of insecurity and stigma against persons with disabilities, were barriers presented in the articles.

Lack of Documentation - In crisis settings, the availability, accessibility, and quality of documentation can pose a challenge for continuity of care (Chase & Bush, 2002; Kucukalic et al, 2005; Reinhardt et al, 2011). Health records may be inconsistently kept or not transferred at discharge. In other cases, international organisations may not provide documentation to national agencies when ending their programmes (Reinhardt et al, 2011). Reinhardt et al. (2011) also described how poor record-keeping can decrease the quality of epidemiological data needed to understand the impact of a disaster on the population and, in particular, persons with disabilities.

Damage to Infrastructure and Economic Destruction - During armed conflict and disaster, a major obstacle is the destruction of infrastructure (Sadeghi & Ahmadi, 2008; Eide, 2010; Reinhardt et al, 2011; Gosney et al, 2013; Kimuli Balikuddembe, Zeng & Chen, 2020). Following the 2005 earthquake in Pakistan, there was a slow rebuilding of infrastructure, such as roads, electricity networks, and water and sanitation systems (Chishtie et al, 2019). As a result, most individuals with spinal cord injuries and their families involved in the CBR programme had to rebuild their houses in rugged, hilly settlements (Chishtie et al, 2019). In another case, after the 2015 earthquake in Nepal, damage to rural infrastructure limited local relief groups' ability to deliver aid for days and even weeks following the earthquake (Sheppard & Landry, 2016). In a further instance, community infrastructure can

be weakened by prolonged economic turmoil and violent conflict (Torjesen, 2001). When considering the reintegration of individuals into their communities after the earthquake, many buildings were inaccessible to those with mobility aids or wheelchairs (Sheppard & Landry, 2016).

Stigma - Stigma against persons with disabilities was also a common barrier across different settings. The key objective of the case study of Wee (2010) was to explore the factors that impact the ability of refugee participants with a disability to engage in CBR efforts. The main barriers identified were discrimination and stigma (Wee, 2010). In a refugee camp in Kenya, persons with disabilities experienced verbal and physical abuse, difficulty in obtaining healthcare services, and a lack of appreciation of the potential of those with disabilities to contribute to the refugee community (Wee, 2010).

Stigma and prejudice faced by persons with disabilities impact access to support during crises, especially in conflict and post-conflict settings (Jeong et al, 2016). In Kosovo, where many have suffered from armed conflict, there was reportedly stigma associated with disability; although persons with disabilities were well cared for, they were often kept out of sight and unable to integrate into society (Bailey, 2003). Schnabel (2013) described that the stigmatisation of persons with disabilities in Afghanistan is one of the main obstacles that need to be overcome for community integration to be successful.

Recommendations

Some of the articles in this scoping review discussed recommendations for future implementation of CBR programmes (Bailey, 2003; Becker, 2006; Math et al, 2008; Wee, 2010; Amatya et al, 2020; Gruner et al, 2020).

In areas of armed conflict in South-eastern Europe (e.g., Kosovo, Bosnia and Herzegovina, and Albania), Bailey (2003) recommends the following, among many others, concerning landmine victim assistance: improving and upgrading facilities for rehabilitation and psychosocial support; creating opportunities for employment and income generation; capacity building and on-going training of healthcare practitioners; raising awareness on the rights and needs of persons with disabilities; and, supporting local NGOs and agencies to ensure the sustainability of programmes. Furthermore, following a workshop on victim assistance hosted by the International Trust Fund for Demining and Mine Victims Assistance in July 2002, one of the key recommendations was to promote communication among

all actors involved in mine victim assistance (Bailey, 2003). These actors include the relevant government ministries, NGOs, international agencies, donors, and landmine survivors. As Bailey (2003) mentions, cooperation will benefit mine survivors and all persons with disabilities in the region. There should be programmes for children and adolescents who survive landmine injuries, to help them recover.

There were several suggestions regarding CBR and mass displacement. For example, Wee (2010) recommends that there must be adequate organisational support for persons with disabilities within refugee camps. In the refugee camp, there was a clear social hierarchy that was observed: officials in the camps who worked for NGOs were at the top of the hierarchy; next were Somali religious leaders, elected community representatives, and successful Somali businesspersons; afterwards, it was refugees with compensable duties, such as health workers and teachers, followed by unemployed able-bodied refugees; and last came persons with disabilities who had mental conditions (Wee, 2010). Wee (2010) recommends that empowerment strategies be used to improve societal attitudes towards persons with disabilities and promote their participation in community decision-making.

Becker (2006) recommends a "train the trainer" model, which requires a 3-day experiential training programme in psychosocial care for NGO workers, teachers, and local healthcare providers to offer basic mental health to people affected by disasters. This training format was developed by the National Institute of Mental Health and Neurosciences teams in India, where those involved in the training were taught to recognise normal reactions to the tsunami disaster, such as initial shock, disbelief, panic, and hyper-vigilance to the possibility of a second tsunami wave (Becker, 2006). They were also taught to identify those with severe reactions, including despair, guilt, and recurrent flashbacks (Becker, 2006).

Task-shifting practices, which entail shifting tasks from more- to less-highly trained individuals, can be used in situations with a shortage of skilled rehabilitation personnel (Amatya et al, 2020; Gruner et al, 2020). This practice can help expand the healthcare workforce through skill training of non-medical healthcare professionals, to enable more efficient use of the available human resources (Amatya et al, 2020; Gruner et al, 2020).

Amatya et al. (2020) propose the "three-tier approach" as a model for the International Society of Physical Rehabilitation Medicine when dealing with future

natural disasters, to help coordinate and deliver comprehensive rehabilitation assistance with the WHO and other relevant organisations. The proposed Disaster Rehabilitation Response Plan (DRRP) is as follows: tier 1, immediate disaster response at a national/international level; tier 2, organisation and deployment of rehabilitation personnel; and tier 3, rehabilitation management of disaster survivors and community reintegration (Amatya et al, 2020). The DRRP also recommends a formal policy of rehabilitation-inclusive disaster management, coordination of rehabilitation EMTs and their requirements for deployment, advocacy and training, and research and evaluation (Amatya et al, 2020).

Math et al. (2008) explain that concerning CBR, medical and professional rehabilitation services, occupational therapy, physiotherapy, and psychological support should be provided to natural disaster victims as early as possible. Furthermore, it is important to use the existing resources in the community to help empower their engagement following a disaster (Math et al, 2008). Other examples of community-based interventions for mental health following a natural disaster include art therapy, storytelling, structuring of days, engaging in activities, and educating parents and teachers to help in the recovery of children and adolescents (Math et al, 2008). These interventions can be effective for psychosocial rehabilitation of individuals affected by natural disasters (Math et al, 2008).

DISCUSSION

Lack of CBR Research in Armed Conflict, Natural Disaster, and Mass Displacement Settings

This scoping review included 31 articles published from 2000 to 2021, focusing on CBR in settings of armed conflict, natural disaster and mass displacement in low- or middle-income countries. Many articles have focused on rehabilitation in some of the settings mentioned above, but not specifically on CBR. For example, Redmond and Li (2011) studied the immediate medical response after the Sichuan earthquake in 2008. The thesis of Kling (2014) reviewed humanitarian responses after the earthquakes in Pakistan, Haiti and Nepal, including the rehabilitation phases for orthopaedic injuries, but did not refer to CBR. Li et al. (2018) performed a systematic review of physical therapy clients, post-earthquake in China, Haiti, Pakistan and Nepal, alongside other countries, without including CBR. Despite these publications studying rehabilitation in similar settings as the current study, there remains a lack of research on long-term rehabilitation and CBR. Other

articles have focused on CBR, but not in the settings of armed conflict, natural disaster, or mass displacement. For instance, Lukersmith et al. (2013) completed a literature review for monitoring and evaluating CBR programmes. Although this review focused on low- or middle-income countries, targeting children and adults, it did not focus specifically on CBR in the aforementioned settings. Similarly, research by Turmusani, Vreede and Wirz (2002) focused on CBR in developing countries but not specifically in settings of armed conflict, natural disaster, or mass displacement. Based on the search conducted and the timeframe used, the current review is the first to focus on CBR in settings of armed conflict, natural disaster and mass displacement.

Interaction of Barriers in CBR Implementation

This review offers insight into how CBR programmes are carried out in crisis settings and the barriers affecting the implementation of CBR programmes. Awareness of the most common barriers to implementation can help support efforts to develop effective and sustainable CBR programmes. Stakeholders will be supported to anticipate and attempt to mitigate potential barriers.

Despite the efforts of CBR programmes and international initiatives to overcome specific coordination problems, implementation barriers raise questions about the factors that contribute to this situation. These gaps could be seen as the result of interactions between different barriers during the emergency response process. Referring to the WHO management cycle (Khasnabis et al, 2010), the situation analysis could be challenged by the lack of adequate documentation decreasing the ability to share information with the appropriate stakeholders. Furthermore, concerning the planning and implementation phases (Khasnabis et al, 2010), cooperation with local governments could be an issue due to the lack of prioritisation of rehabilitation services in armed conflict, natural disaster, and mass displacement settings. Fewer resources would then be available locally, and the coordination between the acute, post-acute, and long-term phases of rehabilitation would be difficult to manage (Gosney et al, 2011).

Management Cycle (Khasnabis et al, 2010)

Persons with disabilities' participation in the implementation of CBR programmes, and equality and non-discrimination are two of the main principles of the WHO disability-inclusive emergency risk management guidelines (WHO, 2013). However, this review found that discrimination and stigma for persons

with disabilities were common problems across many settings, reducing their participation and agency regarding their own rehabilitation (Wee, 2010; Howard et al, 2012).

Need for Better Training and Community Involvement

The review also highlights the need to improve rehabilitation professionals' training in humanitarian contexts and increase awareness regarding the importance of their roles in these settings. One example that shows the lack of training is the World Confederation for Physical Therapy (WCPT) report in 2016. No global guidelines existed concerning physical therapist training for emergency responses (WCPT, 2016). It is essential to realise that specific disaster training will vary significantly depending on the setting, and trainers should consider the national, regional and individual levels (WCPT, 2016). According to Burkle et al. (2013), humanitarian healthcare professionals should share specific skill competencies related to their degrees, as well as core humanitarian competencies such as "operating safely and securely in high risk environments" and "leadership in humanitarian response", among others (Burkle et al, 2013). Incorporating those competencies as part of every healthcare professional's training would prepare them to intervene locally or globally in situations with urgent rehabilitation needs.

Moreover, it is important to consider that CBR services are mainly delivered by people without formal training (Seijas et al, 2018). The importance of training community workers should also be emphasised since community involvement increases the effectiveness of CBR programmes and promotes the continuum of humanitarian aid.

The articles included in this review also demonstrate the importance of designing CBR programmes in humanitarian settings with strong community involvement. A sense of insecurity and fear could lead to limited engagement with rehabilitation interventions and community participation (Gruner et al, 2020). A study from Burgess and Fonseca (2020), on mass-displaced Colombians in their own country, parallels the results of the present study. The population was living in ongoing distress, which limited their ability to access health services. One significant result was that solidarity within the population promoted empowerment in response to the stigma they were living with (Burgess & Fonseca, 2020). Community involvement may also be facilitated by including local community or spiritual leaders whom local and international NGOs should contact to better understand

cultural practices, needs and healing methods. Programmes that unite the community or families should be encouraged as they promote safe spaces for survivors to express themselves.

The current review shows that delivering CBR services in armed conflict, natural disaster, and mass displacement settings has particular challenges inherent to those settings, but that facilitators also exist to overcome them. Emergency responses can be chaotic, especially if a disaster management plan is not in place (WCPT, 2016). Thus, it will be even more challenging for the local authorities and other stakeholders to prioritise rehabilitation services, especially for individuals with a disability.

Limitations

One limitation of this scoping review is that only English-language sources were included due to the language skills of the researchers. It is unlikely that all the relevant literature is available in English, considering the global nature of this topic. A second limitation of the review was the exclusion of grey literature sources, such as NGO or government reports and policy statements, which likely would have led to a wider set of sources regarding CBR in crisis settings.

Suggestions for Future Research

This review suggests several important lines of inquiry for future research. Further research exploring the perceptions of persons with disabilities about CBR programmes in crisis settings would provide important insights into this topic. Similarly, there are few reports of how rehabilitation workers perceive their roles in CBR in armed conflict, natural disaster, or mass displacement settings. Also, more research is needed to understand the difficulties local and international NGOs face during the creation and implementation of CBR programmes, including collaborations between international and local NGOs and governments. This research will provide insight into considerations of sustainability and partnerships, including potential handovers of programmes after the emergency abates. It can also help build a more robust framework that NGOs can use to ensure continuity if they cease to work in the affected areas. Lastly, stigma associated with mental health and persons with disabilities is one of the main concerns for CBR in humanitarian contexts. Additional research is needed to address these issues and develop strategies or policies that NGOs and government agencies can use to help victims of discrimination.

CONCLUSION

CBR makes important contributions on a global scale, as it works to address the needs of persons with disabilities in a holistic and participatory manner. CBR programmes are especially needed in humanitarian crises because these settings can significantly impact persons with disabilities regarding their health, and social and economic well-being. This review provides insights into facilitators and barriers to implementing CBR programmes in crisis settings. The review can provide insights for CBR stakeholders such as community leaders, health and community workers, local governments, NGOs, disability groups, policymakers and political leaders involved in or developing CBR programmes for humanitarian contexts.

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