



Psychosocial responses to disaster: An Asian perspective

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ABSTRACT

The psychological and psychiatric impact of great natural disasters are beginning to be understood leading to new methods of prevention, intervention and mitigation. There is limited data from the Asian continent, however, which has been the location of some of the greatest disasters of recent times. In this paper, we outline the psychosocial intervention efforts from nine Asian nations when confronted with large-scale natural catastrophic events. These include reports from situations where local services have some capacity to respond as well as those where services are destroyed or overwhelmed. From this it is possible to draw some general principles of psychosocial disaster intervention: (1) Assessment of disaster, extant service systems and incoming resources. (2) Assessment of help-seeking pathways and cultural models of illness. (3) Facilitation and support for family reunion, identification of the dead and cultural and religious practices to address death and grief. (4) Foster and bolster community group activities where possible. (5) Psychosocial training of community, aid and health workers using a *train the trainer* model to promote case identification, psychoeducation and intervention, with specific emphasis on vulnerable groups, especially children. (6) Promote general community psychoeducation. (7) Train medical and health staff in basic psychiatric and psychological assessment and intervention for post-traumatic stress, mood and anxiety disorders. (8) Minimise risk factors for psychiatric morbidity such as displacement and loss of gainful activity. (9) Reshape mental health systems recognising the long-term psychiatric sequelae of disaster. The collective learnt experience from Asian natural disasters may be constructively used to plan strategies to respond appropriately to the psychosocial consequences of disaster both within Asia and in the rest of the world.

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1. Introduction

The enormity of the Asian continent, its physical and climactic geography and its population density make it particularly vulnerable to the human consequences of natural disaster. These include earthquakes, cyclones, typhoons, tsunami, flood, drought and volcanic eruptions. In the aftermath of disaster the immediate concerns are: the saving of human life and their removal if possible from ongoing danger; the treating of the physically injured; the provision of food, potable water, clothing and shelter. Secondly, attention is focused on: the prevention of communicable disease using sanitation; family reunion and identification of the dead; and culturally relevant means of disposing of dead bodies. Experience from many contexts, both natural and man-made have more recently highlighted the psychological sequelae of disaster and have prompted the development of an evolving set of principles and practice to guide psychosocial responses to disaster. The possibility of developing widely applicable principles indicates a commonality of individual human and social reactions to disaster from which a predictable set of sequelae may emerge. These sequelae are however subject to such cultural and socio-economic shaping that effective intervention is only possible with a detailed understanding of the psychiatric and psychological models of illness and the extant mental health service system within an affected region. This detailed knowledge is most fully held by the local health and more specifically mental health services of the region. Therefore, it becomes mandatory that wherever possible senior mental health personnel locally and nationally should lead psychosocial intervention plans supported by external governmental and non-governmental agencies. Moreover, in the recovery from disaster it sometimes becomes possible to reshape positively the delivery of mental health services to the disaster affected region and such opportunities as they arise must be taken but remain the prerogative of the local mental health services.

We outline briefly and chronologically from a number of recent Asian disasters the experience of local mental health service responses highlighting both the common consequences of disaster and disaster response as well as culturally and nationally unique characteristics.

2. The Hanshin Awaji (Kobe) earthquake, Japan 1995 (Naotaka Shinfuku)

The Hanshin Awaji earthquake struck on 15 January 1995 in Kobe and the adjacent Hanshin Awaji area killing more than 5500 people and leaving more than 300,000 homeless. In the immediate aftermath more than 1.5 million volunteers from all over Japan and abroad came to Kobe to provide support including psychological care (Shinfuku, 1999). Kobe city made a comprehensive plan called the “Phoenix Plan” to rebuild the city and government provided temporary housing for more than 60,000 people.

Soon after the disaster, anxiety and fear were the dominant emotions. However, as victims faced the loss of family, close friends, their house and all belongings, depression supervened as individuals struggled to retain hope and meaning in life. This was especially so for the elderly; 1 year after the earthquake, it became evident that many victims had developed feelings of hopelessness and lost the desire to rebuild their lives. Some developed alcohol related problems and avoided social contact. This underscores the need for long-term psychosocial support for disaster victims and the differing needs for special populations such as the aged. In this regard small amounts of compensation to rebuild homes and to start small-scale businesses were indispensable for victims to assist in rediscovering a purpose and sense of future in life (Wang et al., 2000). Furthermore, the

earthquake raised to general knowledge in Japan the concept of post-traumatic stress disorder (PTSD) and the mental health consequences of disaster.

For mental health professionals living in Kobe, the most important concern was how to promote positive mental health among victims of the disaster. Three years after the disaster, volunteers and aid workers had withdrawn and it was both necessary and important for victims to regain independence. Part of this was determined by many people needing to stay in the temporary housing for more than 5 years. In these temporary communities autonomous committees were established to foster self-help among residents. These mechanisms aimed to create social networks to prevent solitary deaths and long-term health problems.

To facilitate the learning from the Hanshin Awaji earthquake the Kobe University School of Medicine, in 1999, decided to organize an International Training Course on Comprehensive Health and Medical care for victims of Disaster 5 years after the Earthquake. Likewise, Hyogo Prefecture and Kobe City invited several U.N. agencies to set up Research and Training centres for disaster prevention in the Kobe area. It will be important for the victims to become supporters to victims of future disasters. Through this process, Kobe city and its residents have found a way to assist in the recovery from their traumas (Shinfuku, 2002).

3. The Quezon mudslides, The Philippines 2004 (Lourdes Ladrado-Ignacio)

Typhoons ravaged the western parts of The Philippines from 14 November–4 December 2004 causing floods and triggering landslides of timber and mud from deforested mountains. Most severely affected was the town of Infanta in the province of Quezon with at least 1000 deaths overnight. Overall 712,981 families comprising 3,629,193 persons were affected with many children orphaned, 38,358 houses totally destroyed and 133,161 houses were partially damaged. The immediate and secondary issues of food, water, shelter, clothing and communicable diseases were paramount and fulfilled by governmental and non-governmental agencies; however, no overall disaster management plan was developed. Psychosocial programs that were initiated were terminated five to 6 months after the disaster. With the needs from this disaster barely addressed, the Indian Ocean tsunami of 2004 struck resulting in diversion of resources from this disaster to the tsunami disaster region. It then became the task of local institutions with local resources to address the flood and mudslide affected regions.

The World Association for Psychosocial Rehabilitation-Philippines formulated the “Pagbangon” (Filippino “to resurrect”) psychosocial project working with local and health authorities and government and non-government agencies to integrate the project into the overall plan for rebuilding of the town. The project aimed to: (1) develop and sustain the awareness among local government officials and other disaster workers on the need to address the psychosocial consequences of the disaster; (2) explain and clarify the framework of psychosocial intervention in disaster; (3) identify areas of priority for psychosocial intervention; (4) conduct a psychosocial assessment of the affected individuals and communities; (5) train and develop the necessary manpower to undertake the psychosocial intervention program; (6) monitor and evaluate the effectiveness of the psychosocial intervention activities undertaken by the trained workers; (7) ensure that all these activities were documented and adjusted so that they were relevant and appropriate to local conditions; (8) recommend appropriate psychosocial interventions at different phases of disaster management.

The project had three interrelated components:

1. Research to: (a) assess the psychosocial state of the proposed caregivers who were to be trained. Many trainee caregivers had at least moderate levels of psychosocial distress, identifying them as hidden victims of the disaster and requiring psychological support prior to their deployment. (b) To identify the usual pathways of care taken by people in the affected community when faced by psychosocial or mental health problems. Here, locals used traditional healers almost exclusively and thus a mental health clinic *de novo* needed to be established to address these needs.
2. Capacity building and training of local health and social welfare staff to conduct the psychosocial program in 15 severely damaged areas including awareness raising of the psychosocial consequences of disaster in local community leaders. Local child health and family workers were selected and given 5 days of training consisting of tutorials and demonstrations on the conduct of a psychosocial interview for children and adults, psychosocial processing, and community organization and mobilisation. Their success in case identification and referral to health providers required the training of primary health workers, the municipal health physicians and nurses and the development of a local mental health clinic.
3. Documentation of all activities in the project as the basis for an advocacy program to sustain the awareness of town officials, other community leaders and the general public on the importance of integrating a psychosocial program in any over-all disaster management program has resulted in the production of a video in both Filipino and English.

Of paramount importance has been the sustainability of the Pagbangon project till now, given the long-term mental health sequelae of disaster. The key to this sustainability has been the integration of the project into mainstream health service delivery systems with expert psychiatry input into ongoing training of primary and secondary health care workers and the use of telepsychiatry and local “ownership” of the program. This has resulted in a new enhanced program for mental health care in the region and has served as a model for neighbouring regions.

4. The Indian Ocean tsunami, India 2004 D. (Nagaraja and Suresh Bada Math)

The Indian Ocean tsunami of 26 December 2004 devastated the southern coastal population of India in the Bay of Bengal. The National Institute of Mental Health and Neurosciences (NIMHANS), in Bangalore, India, was designated by the Government of India as the nodal agency for the assessment and coordination of psychosocial relief to the affected population in India following the tsunami. Hence, multi-disciplinary teams were deputed to the affected areas immediately after the disaster. The main goals of these teams were to assess the community needs, available resources and psychiatric morbidity; to treat people in the camps needing immediate intervention. Attempts were also initiated to promote community awareness of mental health and to liaise with various governmental and non-governmental organizations (Math et al., 2006). Extant medical and para-medical staff were not knowledgeable about post-disaster mental health needs and trained mental health professional were almost absent. Hence, NIMHANS trained health workers in the principles of ‘psychosocial care in disaster’ and they in turn trained community workers. By this training of trainers approximately twenty six thousand grass root workers were trained to address the psychosocial issues of survivors.

Initial assessment revealed that 5–8% of the population was suffering from mental health disorders (Math et al., 2006) and 85–90% of them reported psychological reactions following the disaster. These psychological reactions included dizziness, unsteady gait, flash backs, insomnia, altered sleep wake cycle, panic attacks, decreased concentration and various unusual symptoms. Psychological reactions did not reach the threshold for diagnosable psychiatric conditions but at the same time could not be ignored considering the distress associated with them. As in Thailand, displacement was noted to be associated with a greater prevalence of psychiatric morbidity (Math et al., 2008a). In addressing the spectrum of problems, mental health clinics in relief camps were useful in identifying and treating moderate-to-severe cases only (Math et al., 2008a). However, in addition to these more specialised clinics, simple community-based interventions using local resources were implemented. These included art therapy; informal education; group discussions; drama; structuring of daily activities; engaging in activities such as yoga, relaxation, sports, and games; spiritual activities; providing factual information; educating parents and teachers. They were intended to provide important components of psychosocial rehabilitation such as normalizing, stabilizing, socializing, defusing of emotions and feelings, and restoration of a sense of identification with others and of safety and security (Math et al., 2008b). Through this, the community-based group interventions were to assist not only in the recovery of milder and sub-syndromal diagnoses but also in the prevention of adverse mental health consequences. Such easily implemented interventions, when feasible, should begin as early as possible, targeting all high-risk populations in the affected area; however to encourage participation and avoid stigmatisation, the ‘mental health/psychiatric’ label needs to be avoided with such programs.

Capitalising on the community training and education on psychosocial issues NIMHANS has taken up an initiative to implement a District Mental Health Programme and a life-skills training programme in schools in the disaster affected areas as part of the Indian 11th 5 year plan. This initiative will work to reduce stigma and improve human resource capacity in mental health. It also assists in preparedness and mitigation aspects of disaster mental health.

In response to the tsunami and other disasters India adopted the ‘Delhi Declaration on Disaster Reduction’ in 2007 (DDDR, 2007), which is based on the Hyogo Framework for Action (HFA, 2005) guidelines. These guidelines provide for various activities in providing relief post-disaster and also for preparation and prevention of adverse sequelae to disaster. This pre-emptive approach to disaster has resulted in the constituting of the *National Disaster Management Authority* which is mirrored by state level disaster management authorities. This has necessitated a paradigm shift from relief centred post-disaster management to a holistic, integrated and preventive approach based upon principles of disaster prevention, preparedness and mitigation.

5. Indian Ocean tsunami, Aceh, Indonesia 2004 (Albert Maramis and Stephanus Indradjaya)

On 26 December 2004 an earthquake and tsunami struck Aceh, a north-west province of Indonesia that had suffered from years of armed conflict between the Free Aceh Movement (Gerakan Aceh Merdeka or GAM) and the government of Indonesia. The scale of the tsunami disaster was unprecedented with 129,775 (BRR/UN, 2005) deaths, 36,786 missing people and nearly half a million displaced people having lost their loved ones, home and belongings. The entire social infrastructure including health services could not adequately respond to the demand for aid

due to the wholesale devastation of the region, loss of human resources and the prior depleted development due to years of armed conflict. To attempt to address the disaster the government of Indonesia adopted an open-door policy welcoming all agencies. This policy resulted in a great influx of non-government organisations and volunteers to Aceh that caused difficulties in coordination or control.

Immediately after the tsunami, World Health Organisation (WHO) and the Directorate of Community Mental Health, Ministry of Health organized a meeting to form a Task Force to address psychosocial needs that consisted of personnel from the Indonesian Psychiatric Association, the Indonesian Psychological Association, and the Indonesian Nursing Association. The Task Force sent an assessment team within a week to Banda Aceh to evaluate the situation using qualitative methods (interview, focused group discussion and observation) and secondary data and to make recommendations (Ministry of health RI and WHO, 2005).

Concurrently, the Task Force developed a Guideline for Psychosocial Intervention printed in the form of three booklets: (1) Mental health consequences of disaster; (2) How to interact with survivors; (3) How to do psychoeducation, group counselling, and basic counselling techniques. These guidelines were used in the training of community leaders by the Ministry of Health and other organizations. The booklets were distributed among NGOs and other agencies. Another guideline on psychosocial intervention in children was developed in February 2005 by a team from the Department of Psychiatry, University of Indonesia. Subsequently, WHO developed a set of recommendations (Saraceno and Minas, 2005) incorporating five components: (1) assessment and monitoring, (2) coordination, (3) evidence-based interventions, (4) strengthening capacity of communities and health system, and (5) building a comprehensive mental health system. This was then incorporated into the Directorate of Community Mental Health, Ministry of Health's action plan for Aceh.

Using the booklets on Psychosocial Intervention training of 600 community leaders was organized by the Ministry of Health during February–March 2005 and undertaken by psychiatrists, psychologists and nurses from outside Aceh. These community leaders were expected to work closely with public health centers (PHCs) in their area to implement psychosocial interventions. In fact, the capacity in the PHCs to manage mental health problems was very limited and the trained community leaders struggled to deal with their own losses, were moving around trying to locate their relatives, and were later relocated in temporary shelter or moved to other places. At this point it was decided to abort the community leader training program. Simultaneously a large number of non-government organisations were in the field conducting unsupervised, unregulated and uncoordinated psychosocial activities. Most of these interventions were trainings, counseling, group works and community development. Only a few were conducted within the health system or linked with PHC's activities.

In response to these challenges the Ministry of Health and WHO convened a Mental Health/Psychosocial Coordination Meeting involving the Ministry of Health, WHO, UN Agencies, non-government organisations, and professional associations to disseminate the WHO recommendations. This manifested in Banda Aceh as a weekly Psychosocial Coordination Group (PSCG) meeting chaired by WHO and UNICEF and resulted in the development of a document, the Non-Government Organisations Basic Principles of Best Practice for Psychosocial Programming in Aceh, Indonesia 2005. Among the subgroups under health coordination, the PSCG was the largest and included most of the international non-government organisations but a number of international and local non-government organisations did not wish to be involved. Furthermore, the high turn-over of personnel and non-government

organisations posed a major challenge to achieve effective coordination. As a consequence UNICEF and WHO developed guidelines for *Do's and Do not's in Psychosocial Intervention* to be used as operational guidelines for members of the PSCG. A working group on counselling was created also to develop a set of standards for training in counselling.

Given the inability to construct a community-based psychosocial intervention program utilising community, the Ministry of Health, together with the Provincial Health Office and WHO, shifted the main focus in the medium term from training community leaders to preparing and building the mental health system in Aceh. This underscores the need to address the psychosocial needs of local workers in the affected region and to not assume that in a major disaster sufficient human or physical resources exist to mobilise in an aid response. Moreover, with the need to recruit external aid providers special effort should be geared toward an effective coordination not only to ensure efficient resource mobilisation, but also to foster the use of "scientifically sound" methods of intervention.

6. The Indian Ocean tsunami, Sri Lanka 2004 (Daya Somasundaram)

During a lengthy period of ceasefire from its civil war, Sri Lanka was struck by the Indian Ocean tsunami in December, 2004 affecting over a million of its people (~5% of the national population), displacing over 546,504 people, destroying their homes and belongings, and killing 35,000 from the coastal communities of the north, east and south (WHO, 2005a,b). Efforts were immediately taken to organize mental health and psychosocial relief, recovery and rehabilitation at the national level through The Centre for National Operations (CNO) Psychosocial desk, Ministry of Health, Sri Lankan College of Psychiatrists, WHO, Consortium for Humanitarian Agencies (CHA) and many other organizations. There was also a massive international humanitarian response with aid and personnel pouring into the country. A whole NGO culture developed around the tsunami rehabilitation work (Galapatti, 2005; Frerks and Klem, 2005). At the community level, committees spontaneously formed to co-ordinate the psychosocial effort for example, the Mangrove (2006) in the East and the Mental Health Task Force (MHTF) in the North (Danvers et al., 2006).

An epidemiological survey by one of the authors (DS) of school children in the North and East found that 47% of those who had been exposed directly to the tsunami (within 300 m) compared to 15% of non-exposed children had PTSD (all living in a war context) while 22% of those directly affected had depression compared to 12%. Subsequently a survey of school children aged 8–14 years in the north and south 3–4 weeks after the tsunami, found a 14–39% prevalence of PTSD symptoms (Neuner et al., 2006) with the variation possibly related to previous exposure to conflict. A survey of affected families according to geographical clustering found that almost 50% of the families had lost one or more members, over 65% of deaths were females and survivors had an average General Health Questionnaire score of over 14. In general, it was found that more women and children had been killed (Oxfam, 2005), there were multiple deaths in the same family (Samarasinghe, 2006), the tsunami had been sudden, unexpected and overwhelming and many had witnessed the death agony of close kin or friends leaving a deep sense of helplessness and guilt. The major psychosocial problems identified in the community were traumatic grief (with severe guilt), phobias (fear of the sea), PTSD, depression, suicide, alcohol abuse, anger and psychosis (pre-existing, exacerbation, relapse, new).

The psychosocial response was multidisciplinary, consisting of psychoeducation, crisis intervention, psychological first aid,

behavioural-cognitive strategies, traditional healing, rituals, relaxation techniques, pharmacotherapy, group and family work, expressive methods, rehabilitation, networking and community approaches. Raising psychological awareness and psychoeducation were communicated through pamphlets (do's and do not's, basic information), media (writings in popular media, interviews for television and radio), lectures (small target groups & popular), discussion and dramas (including traditional street theatre). Considerable training by the MHTF and other agencies of community workers such as camp and relief workers, teachers, primary health staff and government officers were undertaken. Locally adapted manuals in Tamil ('*Mental Health in the Tamil Community*', '*Child Mental Health*', '*Joyful Living*', '*We are Little Children*') were used and were translated into Sinhalese for use in the south by these trained workers. The WHO developed a strategy of training Community Support Officers (CSOs) to address the mental health needs of the affected families throughout the areas devastated by the tsunami in northern Sri Lanka. The CSOs were given basic training in mental health and psychosocial work and then visited affected families identifying families and individuals needing help. They attended to simple problems using a variety of psychosocial interventions and referred more difficult cases to the local mental health clinic. Community-based interventions were also carried out.

Given the psychiatric morbidity identified in children the Ministry of Education, University of Jaffna, Shantiahham, a local NGO working in the psychosocial field and the German supported GTZ-BECARE undertook a systematic training programme for teachers in basic mental health. Approximately 151 primary school teachers from the tsunami affected region received further extensive training in Narrative Exposure Therapy (NET) by a German team for the University of Konstanz (Vivo) and a manual for NET made available in Tamil. They were then involved in the training of around 1030 'Befriender' teachers from the same region in simple psychosocial issues. In a parallel collaborative programme involving the Ministry of Education, Danish and Sri Lanka Red Cross and Shantiahham, 150 teachers and 118 volunteers were trained during 2004–2005, to implement structured activity. The aim was to promote psychosocial well being through play, art, dancing, stories, yoga, creative and emotional expression and involvement of the parents. A total of 2800 children from 19 schools and 4000 parents were expected to take part in the activities. A similar class-based intervention (CBI) developed by Robert Macy and colleagues at the Centre for Trauma Psychology, Boston using structured play activity over 5 weeks for 15 sessions where 1455 students from 30 schools underwent this programme from 2004 to 2007.

Culturally mediated protective factors like rituals and ceremonies were promoted and arranged. Funerals and anniversaries were very powerful ways to help in grieving and finding comfort. For example, after the tsunami, affected schools were encouraged to have regular ceremonies to commemorate those who died, to have pictures, flowers and candles for the students who had died. Support was sought for communities to build memorial structures at sites of mass burials where public gatherings, meetings and religious ceremonies were arranged for communal expression of feeling, reviewing and coming to terms with the collective trauma (Somasundaram, 2007). This served also to socially define and interpret the community's experiences, as well as re-establishing social relationships and planning for the future. It has been found that sites where mass trauma has occurred become sacred and imbued with community meaning (Tumarkin, 2005).

Tragically for Sri Lanka, unlike in Aceh, an opportunity for addressing a humanitarian need in an equitable, neutral way to build

trust and faith in peaceful rehabilitation to bring warring parties together was lost. The tsunami first appeared to have actually postponed the return to ethnic hostilities by 1 year. However, there were regional and ethnic inequities in the post-tsunami reconstruction process (ADBI, 2007; Grewal, 2006) which may have aggravated the ethnic conflict. A further observation was that the affected populations rarely participated in the formulation of plans or programmes and when they did participate their contribution was ignored. But for the first time, there was wide acceptance of psychosocial problems, the so-called '*Tsunami wisdom*', and there were considerable effort to address psychosocial and mental health needs by the state, militants, NGO and INGO sectors. Using the conducive post-tsunami atmosphere and generous international aid, the WHO was able to push through considerable reform including a National Mental Health Policy and Plan (WHO, 2005a,b), decentralization of mental health services and building up of the peripheral mental health services and infrastructure. UNICEF worked with the Ministry of Education to develop counselling and psychosocial capacity within the school system. A national council and committees on Disaster Management, planning and preparedness at various levels were constituted.

7. The Indian Ocean tsunami, Thailand 2004 (Pichet Udomratn)

The Indian Ocean tsunami of 26 December 2004 hit six coastal provinces in southern Thailand causing the greatest catastrophe in Thai history. It devastated 25 districts, killing 5395 people with 3000 more reported as missing, injuring more than 10,000 and orphaning more than 10,000 children (Udomratn, 2006; Visanuyothin et al., 2006; Chakkraband et al., 2006). The response from the Ministry of Health and the national psychiatric body to implementing psychosocial interventions was swift and comprehensive. This was possible because of the pre-existing physical and social infrastructure of the country, the relatively well-developed personnel resources and expertise and that the damage did not overwhelm the ability of the nation to respond. In this context outcome data examining the prevalence of psychiatric morbidity may be instructive in determining the effectiveness of psychosocial interventions.

Reviewing four studies (Piyasil et al., 2007, 2008; Thienkruea et al., 2006; van Griensven et al., 2006) that measured the rate of psychiatric morbidity in Thai survivors of the tsunami the prevalence of related post-traumatic stress disorder and symptoms varied from 6.3% to 57.3% whereas tsunami related major depressive disorder (MDD) at 1 year was less frequent (1.1%). However, general depressive symptoms were more prevalent than PTSD symptoms at both 6 weeks and 9 months (30–16.7% vs. 12–7%). Displacement increased the likelihood of both PTSD and depressive symptoms at both 6 weeks and 9 months but at the later time point was more influential on PTSD symptoms. For children and adults PTSD decreased with time as did depressive symptoms in adults, however, MDD did not in children even when followed up to 2 years, an important finding when considering post-disaster psychosocial interventions. The prevalence of other anxiety symptoms varied widely making interpretation of their true morbidity difficult, however, displacement did not seem to strongly influence their prevalence and there was persistence of symptoms at 9 months and 2 years.

The widely differing methodologies used in these papers prevent close comparison; nevertheless, they all confirm that PTSD is a complication of disaster in Thailand. The declining prevalence rate of PTSD over time in Thailand should be further investigated. Although one explanation is the attitudes and beliefs of "kamma" and the resilience shown by Thai Buddhist people in the aftermath of the tsunami (van Griensven et al.,

2006), many survivors were Muslims indicating other resilience factors.

8. The Muzzarfarabad earthquake, Pakistan 2005 (Haroon Rashid Chaudhry, Khalid A. Mufti, Ali Ahsan, Farooq Naem)

An earthquake registering 7.6 on the Richter scale struck northern Pakistan on 8 October 2005. It killed 85,713 and injured 126,266 people, almost all in the North Western Frontier Province and Kashmir regions of Pakistan. This was the largest disaster faced by Pakistan and the devastation included most of the major infrastructure of the region as well as the relative inaccessibility of much of the area led to a difficult and protracted post-disaster phase. Psychosocial interventions were mobilised relatively rapidly through the Pakistan Psychiatric Association and other national and international organisations involving psychoeducation and training programs in basic interventions. However, the absence of national longitudinal data prompted a study of psychological and psychiatric morbidity in the affected population.

A random sample of 2000 people, 1000 adults and 1000 children from Muzzarfarabad participated and were assessed by mental health professionals using a variety of self and interviewer administered rating scales three and 18 months after the earthquake. High rates of PTSD, anxiety and depressive disorders and symptoms were present across the sample after 3 months. At 18 months after the earthquake, there were decreases in the prevalence of anxiety and depressive disorders but anxiety and PTSD related disorders still remained high in 35% of adults and 22% of children. This was not influenced by different coping strategies. This reinforces the need for psychosocial intervention across a much longer time frame than is typically associated with many post-disaster programs.

9. Cyclone Sidr, Bangladesh 2007 (K Rahman Mustafizu, M.E. Karim, S. Chowdhury, M.A. Hamid, A.M. Firoz)

The cyclone Sidr of November 2007 wrought a terrible physical devastation to Bangladesh damaging much of the Sunderbans, the largest mangrove forest in the world and a critical buffer for the country against the Indian Ocean tsunami of 2004. It affected 15 regions in the southern part of the country killing approximately 3500 people and orphaning about 1500 children. As part of the emergency medical response the Bangladesh Association of Psychiatrists (BAP) provided acute services and free medicines through the medical camps that were established. Subsequently, given the absence of national data, the BAP conducted a cross-sectional survey of psychological and psychiatric morbidity 2 months following the cyclone. The aims of this study were to: assess the psychosocial morbidity among the survivors; identify psychiatric disorder; and assess the risk factors associated with psychosocial morbidity.

The survey sites were within general medical camps where people came to seek medical assistance. Of 1500 adults who presented to these camps, 750 were assessed and 123 were diagnosed with a psychiatric disorder using the Structured Clinical Interview for DSM-IV Non-patient (SCID-NP) version, the majority (60%) being male. Common psychiatric disorders were post-traumatic stress disorder 25.2%, major depressive disorder 17.9%, somatoform disorder 16.3% and mixed anxiety depressive disorder 14.6%. Of these cases, 17.1% reported death of one or more family member, 82.9% lost their home, 64.2% lost cattle and food grains and 44.7% reported damage of their school, madrasah or mosque. Such findings are consistent with other studies examining post-disaster psychiatric morbidity and reinforce the presence of other less well-studied disorders than acute and post-traumatic stress

disorders including the possibility of comorbidity (Gleser et al., 1981; Goldberg et al., 1990). Furthermore, somatization can be common after a disaster and must be managed both in the community and in the individual patients (McFarlane, 1986). Primary care providers must recognize that somatization is a frequent presentation of anxiety and depression in patients seeking care in medical clinics. Noteworthy is exposure to death and the dead which is an identified risk factor for the development of psychiatric illness (Pynoos and Nader, 1993).

As a result of the demonstration of this psychiatric morbidity the National Institute of Mental Health, Dhaka with the collaboration of Ministry of Health & Family Welfare and the World Health Organisation provided psychosocial management training to 60 field level government doctors, 162 government field level workers (health assistants) and 72 NGO workers. These workers will provide case identification and basic level intervention for people affected by cyclone Sidr.

10. Sichuan earthquake, China 2008 (Zhou Dongfeng and Zou Yizhuang)

On 12 May 2008 an earthquake of magnitude 8.0 on the Richter scale struck Sichuan province in southwest China centred on the Wenchuan county, a hilly area 100 km from the provincial capital Chengdu. Nearly 70,000 people were killed, 373,000 injured and 18,000 listed as missing precipitating the largest crisis intervention action in the history of China. From a psychosocial perspective, by 20 May the Ministry of Health had dispatched 171 psychiatric professionals, including psychiatrists, nurses and psychotherapists, to the major centres where the injured had been transferred. They worked to provide psychiatric consultation and training in the general hospitals, support and counselling in schools to teachers and students and to provide training to volunteers to work with the earthquake victims in the camps.

Concurrently with this deployment of mental health professionals the Mental Health Department of the Ministry of Health organized experts to compile and revise technical documents on psychological crisis intervention. These guidelines were: Psychological Crisis Intervention (revised); Guiding Principles on Emergent Psychological Crisis Intervention. Further the National Centre for Mental Health, China-CDC following authorisation by the Ministry of Health, organized experts to compile Self and Mutual Psychological Help Guidelines with the following titles—Guideline 1: Public Psychological Crisis Intervention in Earthquakes; Guideline 2: Prevention and management of Psychological Stress Response of Children due to Earthquake; Guideline 3: Intervention in Bereavement due to Earthquake. These were all done within a week, were designed for use by volunteer psychosocial workers and the general population and were freely available from both websites of the Ministry of Health and the National Centre for Mental Health, China-CDC.

Despite the rapid and intensive psychosocial response, the earthquake highlighted the importance of a well trained and prepared disaster response team and the need for high-level coordination amongst the various psychosocial workers including volunteers. Finally, the need to properly resource the long-term psychosocial needs and interventions following the Wenchuan earthquake was emphasized at a meeting convened by the Chinese Society of Psychiatry and Chinese Mental Health Association.

11. Conclusions

In the immediate aftermath of disaster safety, treatment of injuries, food, potable water, shelter and clothes are of primary concern. However, mental health professionals must from the

outset activate psychosocial disaster intervention plans so as to alleviate and possibly prevent the insidious and prevalent psychiatric and psychological sequelae consequent to disaster. From the above descriptions of a number of national psychosocial responses to recent large-scale catastrophic disasters in Asia some principles may be derived.

Firstly, an assessment of the extent of devastation is central to planning the response. This needs to account for casualties, orphaned children and the number of survivors; the potential, capable health workforce and the remaining physical health infrastructure; as well as incoming resources mobilised nationally and internationally.

Secondly, concurrent with this assessment phase planning of potential responses based on pre-existing health and social support systems and culturally relevant community networks need to be considered. Also an understanding of help seeking pathways and resources by the affected population is essential.

Thirdly, religious and cultural practices to address death, grief and identification and disposal of the dead should be supported where possible, as should family reunion.

Fourthly, mechanisms aimed at encouraging and bolstering pre-existing community systems through group-based activities and supports where communities still exist are vital to promote resilience and a sense of self-agency for communities recovering from disaster.

Fifthly, training should be given to relief and aid workers, medical and health professionals, community workers, teachers, religious leaders, traditional healers and community leaders wherever possible on psychological sequelae of disasters, case identification and simple intervention skills. It may be feasible to conduct this on a train the trainer model to disseminate skills to as broad a number of people as possible and may be undertaken by health and welfare organisations under the supervision of mental health experts. It is best conducted in the language of the region by mental health professionals conversant with and sensitive to the cultural and religious practices of the affected community. The training should emphasize the normal grief and emotional responses to the losses associated with disaster and the features suggestive of the need for professional intervention. Specific training for workers involved with children is mandatory. Awareness of the losses and grief possibly experienced by health workers and their personal needs must be accounted for when undertaking such training.

Sixthly, the training can be usefully supported by general community psycho education utilising media, word of mouth campaigns, public figures and community rituals and activities.

Seventhly, more sophisticated training should be provided to designated health or mental health professionals in assessment and treatment of psychiatric disorders in particular, PTSD, depressive disorders and anxiety and depressive symptoms. These professionals will also require free access to appropriate psychotropic medication and would ideally be supported either locally or remotely by psychiatrists.

Eighthly, recognition of risk factors that may exacerbate psychological morbidity should be minimised, such as returning displaced people as quickly as possible to their home environment where possible; normalising life by returning children to school and adults to work or gainful activity; rebuilding housing and community infrastructure.

Ninthly, reshaping where possible mental health and health systems to improve case identification, referral and treatment in the medium to long term and recognising the persistence of PTSD, mood and anxiety disorders.

The Asian region is especially vulnerable to the destruction wrought by natural disasters. This misfortune also provides it with

a rich repository of learnt experience in coping with the consequences of such tragedy. This experience may be constructively used in the preparation and mitigation for disasters to alleviate their great psychosocial impact.

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