

# Capacity building for child and adolescent mental health in disaster areas: Learning from the experiences of mental health care workers in Indonesia

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## Abstract

*This paper describes lessons learned from mental health workers who participated in Capacity Building for Child and Adolescent Mental Health in Disaster Areas (CAMHD) training of trainers in Jakarta. This training module was developed by the Child and Adolescent Psychiatry Division of the Department of Psychiatry of Cipto Mangunkusumo Hospital and partners, in collaboration with the Institute of Mental Health Singapore and supported by Temasek Foundation, Singapore. Mixed methods research was conducted to evaluate the training and to learn from the participants' experiences. Data were collected from the training participants in the form of pre and post tests, questionnaires demographic data, training evaluation forms, and focus group discussions. All research participants (n = 16) demonstrated increased knowledge, with a statistically significant mean difference of pretest and posttest scores (p < 0.001). Important lessons imparted included early detection – especially using the Strengths and Difficulties Questionnaire, case formulation, and comprehensive management, including Psychological First Aid (and crisis intervention. In terms of training process, training participants appeared to particularly appreciate active*

*learning processes such as case studies, role plays, and discussions, which allowed them to share their experiences. The current research also identified further training and development needs for child and adolescent mental health in disaster areas.*

**Keywords:** *training, disaster, children and adolescents, mental health workers*

Indonesia is prone to disasters such as volcanic eruptions, earthquakes, storms, tsunamis, floods, landslides, and wildfires (Centre for Research on the Epidemiology of Disasters, 2015). Indonesia also has a large population of children and adolescents, with a population of 92.2 million people under the age of 20 years (Statistics Indonesia, 2016). Children and adolescents make up an important at-risk group that requires specific attention in the advent of disasters (Pfefferbaum & North, 2016; Schreiber, Pfefferbaum, & Sayegh, 2012). Mental health and psychosocial support training is needed to equip mental health workers for providing appropriate care and to reduce potential harm, particularly for at-risk groups such as children and adolescents (Pfefferbaum et al., 2012). Professional training is a common, albeit underreported, approach to enhance community readiness in disaster mental health (Jordans, Luitel, Poudyal, Tol & Komproe, 2012). However, there is limited training for mental health workers to address the specific needs of children and adolescents in disasters, especially in Indonesia (Wiguna, Guerrero, Kaligis & Khamelia, 2010).

The current paper describes lessons learned from action research to evaluate a Capacity Building for Child and Adolescent Mental Health in Disaster Areas (CAMHD) training-of-trainers module in Jakarta (Wiguna, Kaligis, & Citraningtyas, 2013a, 2013b). The training module was developed by the Child and Adolescent Psychiatry Division of Cipto Mangunkusumo Hospital and partners, in collaboration with the Institute for Mental Health Singapore (IMH), funded by Temasek Foundation as a part of a wider Disaster Mental Health Programme for Communities in Asia (IMH, 2015; Tan & Wiguna, 2013). This training module aimed to enhance mental health workers' understanding of how to provide relevant assistance to children and adolescents in

disaster affected areas. It covered: (1) the potential effects of disaster on child and adolescent mental health, the importance of developing resilience, and how to identify potential resources in the community; (2) early detection of mental health problems in children and adolescents in disaster areas using the Strengths and Difficulties Questionnaire (SDQ) (Goodman, 1997) Indonesian adaptation (Wiguna & Hestyanti, 2012); (3) how to formulate mental health problems in children and adolescents in disaster areas by focusing on biopsychosocial aspects, and comprehensive management; including (4) Psychological First Aid (Brymer *et al.*, 2006; McCabe *et al.*, 2014), crisis intervention, and stress management. To enhance cultural-embeddedness, Jakarta-based participants were subsequently asked to adapt the module for different community groups in Aceh, Padang, Magelang, Yogyakarta and Lombok (IMH, 2015). The current study was conducted to evaluate the benefits of the original training of trainers module, to learn from the experiences of mental health workers as participants, and to identify further needs.

## Method

The current study was conducted during the five day training module in Jakarta between the 17<sup>th</sup> and 21<sup>st</sup> of April 2014. This training was facilitated by eight staff from the Child and Adolescent Psychiatry Division of Cipto Manunkusumo Hospital who had been involved in the development of the original module. It was delivered using a Reference Book of learning materials and a Facilitator's Guidebook for activities (Wiguna, Kaligis, Citraningtyas, 2013a 2013b). The training was designed to stimulate active engagement from participants using case studies, roleplays and discussions. While various administrative processes and resource limitations have caused a time lapse between the study and its publication, study content and findings are still relevant for the current Indonesian context and the training materials are still being distributed for use in a wide range of settings (Wiguna *et al.*, 2015).

The current study used mixed quantitative and qualitative methods (see Cresswell & Clark, 2007) to:

- evaluate changes in the participants' knowledge;
- to understand the participants' experiences of the training; and to
- collect input for further training developments.

Mixed method studies have been demonstrably useful for research into working in complex emergencies such

as disasters (Bolton, Tol & Bass, 2009). The current study received ethical clearance from the Faculty of Medicine of the University of Indonesia, Cipto Mangunkusumo Hospital. Data was collected from the training participants in the form of:

- questionnaires
- pre and post tests, using multiple choice questions covering the training materials, and
- focus group discussions.

Questionnaires were used to collect demographic data and participants' written evaluations of the training. Pre and post test scores were statistically analyzed to determine the significance in the difference of the means between paired, pre and post test, groups. The research participants divided themselves based on areas of origin with similar characteristics, into two groups of 7 and 8 persons each for 90-minute semi-structured focus group discussions to further explore their views of the training. The focus group discussions were recorded and transcribed. Identifiable information, aside from profession, was removed. The qualitative data resulting were analyzed thematically through a process of immersion, by coding recurrent keywords and identifying overarching themes (see Liamputtong Rice & Ezzy, 2004).

## Participants

Training participants were invited through the networks of the Department of Psychiatry of Cipto Mangunkusumo Hospital. All participants ( $n = 16$ ) who attended the entire training module agreed to participate in the research. There were seven psychiatrists, four non-specialist/resident doctors, three psychologists, and two social workers. Participants consisted of 3 men and 13 women aged 25 to 53 years, with a mean age of 38.94 years ( $SD = 8.20$ ). Eleven participants were married, all of whom had between one and three children aged 1.5 to 26.5 years, with a mean child age of 12.86 years ( $SD = 7.54$ ). Research subjects came from various ethnic groups. There were four Javanese, four Minang, two Sundanese, two Acehnese, one each from Tapanuli, Bangka and Sunda/Manado, and one Indonesian of Chinese descent.

Thirteen participants had previously provided direct assistance to disaster survivors, such as during the eruptions of the Merapi volcano in Yogyakarta in 2006 and 2011, the earthquake in Solok and Bengkulu in 2007, the earthquake in Padang and Aceh in 2009, the earthquake in Takengon Aceh in 2013, and the

floods in Jakarta in 2013 and 2014. Eleven participants were also first-hand survivors of disasters, including the armed conflict in Aceh in 2000, flooding in Aceh in 2000, the earthquake and tsunami in Aceh and Riau in 2004, the earthquake in Solok and Bengkulu in 2007, and the earthquake in Padang and Aceh in 2009. Five participants had survived more than one disaster. Participants were affected by the disaster in different ways. Some experienced:

- the loss of family members
- the loss of or major damage to their homes
- witnessing armed conflict
- being stuck in or almost being crushed in damaged buildings
- lack of electricity and water for several months, and
- difficulties finding food.

Eight participants were disaster survivors who assisted fellow survivors of the same disaster. Two of them continued to provide assistance to survivors of other disasters. The fact that these mental health workers were themselves survivors was considered an advantage

because they provided a highly relevant and practical perspective on the relevance of the training materials.

## Results

Pre and post tests demonstrated increased knowledge among all participants. Pretest scores ranged from 7 to 15 out of a total score of 20 (35% to 75%), with a mean of 13 ( $SD = 2.06$ ) (65%,  $SD = 10.33\%$ ). More details are provided in Figure 1 and Table 1. The posttest scores ranged from 14 to 19 (70% to 95%), with a mean of 15.8 ( $SD = 1.6$ ) (79%,  $SD = 8.19\%$ ). Differences between pre-test and post-tests (mean = 2.75, 13.75%) were statistically significant ( $p < 0.001$ ).

All participants stated that they were either satisfied ( $n = 9$ ) or very satisfied ( $n = 7$ ) with the quality of the training module as a whole. The participants reported that the most memorable aspects learned were, in order of most to least important: Strengths and Difficulties Questionnaire (SDQ) for early detection; case formulation; Psychological First Aid (PFA); crisis intervention; greater understanding of crisis and stress; and needs identification and resource identification for assistance. Table 2 details the topics that participants

Table 1.  
*Pre and Post Test Scores According to Participant Characteristics*

Characteristics (n=16)	Mean pretest score	%	SD	Mean post test score	%	SD
Age (years)						
≤40	12.8	64	2.29	15.85	79	1.49
>40	13.2	66	2.69	16	80	1.85
Sex						
Male	11.0	55	3.60	16.4	82	1.53
Female	13.4	67	1.98	15.8	79	2.31
Profession						
Psychiatrists	14.2	71	0.49	17	85	1.29
Doctors (non-specialist/ resident)	12.8	64	1.7	15.2	76	1.89
Psychologists and social workers	11.4	57	3.65	14.8	74	0.83
Work experience (years)						
≤5	13.6	68	1.38	16.2	81	2.14
>5	13.0	65	2.84	16.0	80	1.70
Marriage and children						
Married with children	13.6	68	2.06	16.6	83	1.51
Unmarried	11.6	58	2.79	14.4	72	0.55
Directly experienced disaster						
Yes	12.9	64.5	2.42	15.75	75.38	1.67
No	13.1	65.0	2.59	16	80	1.69
Experience assisting disaster survivors						
Yes	12.6	63	2.69	15.6	78	1.69
No	13.6	68	1.64	16.4	82	1.52

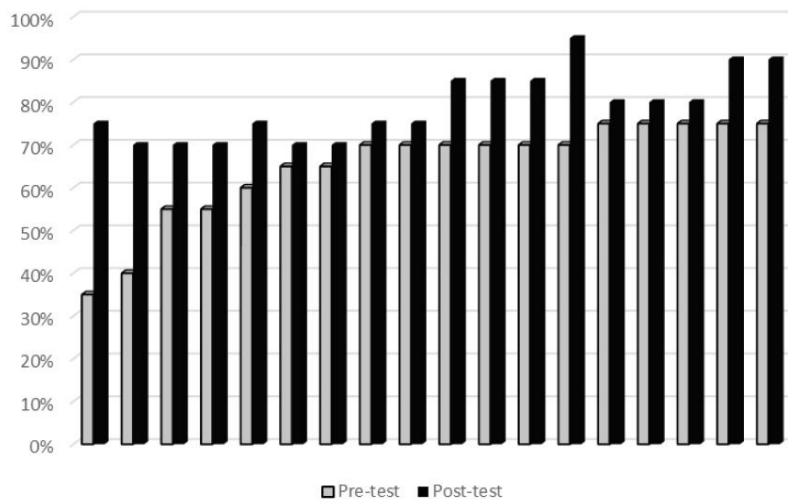


Figure 1. Pretest and posttest scores per participant

learned and perceived that could be applied to their respective work places. In terms of training process, the most common theme identified through thematic analysis was: The benefits of active learning such as through case studies and roleplays. Further details are shown in Table 3. As shown in Table 4, the most memorable aspect was meeting new people and sharing experiences. Overall, it seems that interaction and active engagement were crucial elements of the participants' positive experience.

Table 2.  
Most Important Things Learned from the Training that Could be Utilized in Respective Work Places

No.	Things learned	Number of participants that mentioned each theme*
1	Strengths and Difficulties Questionnaire for early detection	12
2	Case formulation	7
3	Psychological First Aid	4
4	Crisis intervention	3
5	Greater understanding of crisis and stress	2
6	Needs identification, particularly to "small" easily neglected yet crucial needs	2
7	Resource identification for assistance	2
8	Disaster readiness	1
9	Comprehensive management	1
10	Basic concepts in disaster mental health	1
11	Additional: How to train others	4

During the focus group discussions, participants expressed three overarching themes: (1) the benefits of the training with respects to the content and process; (2) detailed input to improve the training content and process; as well as (3) further needs for respective professions and further application of the module. These themes are outlined in more detail below.

**Benefits of the Training**

The main sub-themes identified for this theme were that participants gained: an understanding of a step-by-step approach; and the capacity to use a specific tool, SDQ. A

psychiatrist participating in the focus group discussions described developing a systematic step-wise approach as, "If there were a disaster, what steps we can take from the simplest to the most [complex] case formulation – now we know the steps."

Several participants highlighted the SDQ as a practical tool to be used in the community, to improve early detection of problems among children and adolescents affected by disaster.

Table 3.  
Most Effective Learning Methods

No.	Learning methods	Number of participants that mentioned each theme
1	Case study	10
2	Role play	7
3	Group exercise	7
4	Group discussions	3
5	Lectures	2

Table 4.  
Most Memorable Part of the Training

No.	Memorable part	Number of participants that mentioned each theme
1	Meeting new people and sharing experiences	5
2	Learning something new	3
3	Expert facilitators	3
4	Active training	3
5	Positive interaction with facilitators	2
6	Roleplay, especially playing the part of children and adolescents	2

As one psychiatrist participant described:

*Up to now we have asked children to draw pictures. The idea is that through the pictures we could identify problems, but those who are not psychiatrists or psychologists may not be able to see the meaning in the picture or what intervention may be necessary. The use of the SDQ is very helpful for us, as people from other professions can count.*

In terms of the training process, participants reported finding the discussions useful and enjoyable. They described their active engagement in the process and emphasized the importance of learning from each other. For example one social worker stated that:

*I enjoyed the discussion sessions very much... the other participants' experiences in the field, how they have applied things, gave us more [ideas] – so we could do these in the field, [and helped us identify] which [ideas] are not practical or the most appropriate. The discussion sessions were most informative... each person was asked to tell about their experiences and difficulties, and how they have overcome them. That helps.*

Participants also expressed being enriched by roleplays and observing how others may approach particular situations presented during roleplay. For example, one psychiatrist stated that, "We gained a lot from different backgrounds. 'Oh, that person would do it this way, this person would do it another way.' So we gained a lot of input."

### Room for Improvement

Participants suggested that the module could be simplified to be used for a wider audience beyond mental health professionals. Participants also mentioned parts of the module that needed to be clarified and better aligned with one another. For example, one participant mentioned being confused between the Primary-Secondary-Tertiary Mental Health Services Pyramid that they are accustomed to using, and the Intervention Pyramid for Mental Health and Psychosocial Support in Emergencies described in the Inter-Agency Standing Committee Guidelines (IASC, 2007). Participants also expected to be presented with more real world cases to demonstrate how interventions can be used. In terms of the training process, participants suggested more efficient use of the time, as some training days had less content and could be compacted.

### Further Needs

Participants generally described the training module as at a conceptual or theoretical level, that summarizes understanding and provides guidance on how to assist children and adolescents in disaster affected areas. Participants expressed that, in addition to this broad view, they also needed technical, detailed, specific, simple, and practical tools for field use. Participants expressed the need for hands-on tools that lay people could use to assist mental health responses to disaster, such as guides for taking field notes related to different phases of disasters. For example, one psychiatrist stated that:

*I feel that for application in the field, we need detailed and specific things for people to administer. So it is true that people need to gain understanding and concepts, I agree, but our friends in the field need something simple to easily use, do – the concept is already there, but when something happens, it is impossible for us to elaborate everything, so if we had a checklist or algorithm or something like that...*

In addition to practical guidance for field workers, participants discussed the idea of a possible toolbox of toys, books, music and materials to provide as a form of psychological first aid kit to directly assist children and adolescents in disaster affected areas.

Participants also expressed the need for separate training modules, for each profession and competency to be able to perform their respective roles. They also requested specific material for different disasters and different regions with specific cultural and contextual needs. For example, one doctor stated that:

*According to me, perhaps in the future perhaps we need to develop tiered modules - one for psychiatrists, one for psychologists, one for volunteers, perhaps under one bigger umbrella. For psychiatrists, some parts may need to be explored in depth, according to their competency needs. But for volunteers maybe another part could be highlighted for practical use in the field. For volunteers perhaps we need other volunteers who have been to disaster areas, field workers who have used them, to be invited...*

In other words, the current module could be developed into more specific forms according to the particular needs of different target groups. This was in addition to

participants' expressing the need for ongoing training, surrounding the module in question.

## Discussion

In terms of participant backgrounds, the current results demonstrate that disaster responders and survivors are not necessarily separate people. Mental health workers may be affected by disasters and at the same time or in a different context may provide assistance to other survivors, especially in a disaster-prone country such as Indonesia. As Hugelius, Adolfsson, Örténwall and Gifford (2017) described, health professionals may face a multi-faceted, powerful, and ambiguous experience of being a survivor as well as taking part in disaster response.

While self-care is an essential part of disaster training modules, it needs to address participants not only as helpers, but also as potential survivors with specific needs. Guidelines need to acknowledge that survivors are often the most important helpers for other survivors. Materials for disaster responders therefore need to start with the question of whether responders themselves are disaster survivors who may have specific needs in addition to the capacity and motivation to help others. It is particularly important to cater to these needs because survivor-helpers may also provide greater insight on the relevance of training based on their own unique experiences.

With regards to knowledge enhancement through training, most studies on similar training evaluate improvements in knowledge and specific and other impacts on individuals, such as by pre and post tests of the learning content. The current study demonstrated an increased knowledge up to post test scores of 70% to 95%, with a mean score of 79%, which was statistically different to a mean pretest score of 65% ( $p < 0.001$ ). This increase was similar to findings following the Training of Trainers course in Grenada post Storm Ivan, teaching how to identify community members needing special assistance. Participants in this course had a mean pretest score of 66% and a mean posttest score of 79% (Kutcher *et al.*, 2005). A mental health disaster training program in China also reported an increase in post test scores (Ng *et al.*, 2009). In the current study, the knowledge increase appears related to the participants' reports of benefiting from two distinct types of knowledge: greater understanding of a step-by-step approach and the use of specific tools such as the SDQ.

Beyond specific knowledge enhancement, participants outlined that the key benefits of the training module were interaction between participants and the development of social networks. Participants valued learning from each other's real world experiences of dealing with disasters, particularly in supporting child and adolescent mental health. Interdisciplinary training approaches have also previously been described as a positive approach for disaster mental health (Ren, Wang, Zhang, 2017).

Training can also be an important networking opportunity, in general. As outlined, this course included disaster survivors who reported assisting survivors in other contexts. Networks developed through training may need to be explored in further research as a potential avenue for mutual support in the advent and aftermath of disasters. This seems particularly pertinent for the context in question, which allowed training of participants from different professions and different regions in Indonesia. It is therefore recommended that similar training interventions should focus on and evaluate sharing of experiences and development of networks as important training outcomes. It would be interesting and beneficial to design training and evaluations that focus on network formation and further collaboration among participants towards supporting each other in different disaster areas.

Aside from interprofessional training, the current study presents the need for profession-specific training. The National Preparedness and Response Science Board has recommended disaster mental health training and resources for all mental health professionals in order to equip them to assist their communities (Jacobs, Gray, Erickson, Gonzalez & Quevillon, 2016). While interaction between participants from different backgrounds seemed to be a highlight, as an opportunity to enhance exchange of knowledge and experience, participants also expressed the need for training for the specific competencies of each profession. For example, psychiatrists and psychologists expressed the need for more intensive training in providing specific therapeutic options to children and adolescents with specific mental health conditions related to disasters (Pfefferbaum *et al.*, 2014a, 2014b).

Participants also described the need for disaster-specific and culture/region-specific modules and references, as well as practical tools for field use, like toys. Providing context-specific hands-on tools is particularly challenging for a country with such diverse disasters and cultural backgrounds. The current training therefore

aimed to empower participants to be able to adapt the general approaches and tools to their specific needs, incorporating local resources identified. This aligns with an emphasis on cultural and context-specific factors that mitigate risk and facilitate resilience in children affected by traumatic events, outlined by Ungar (2013).

The current study was limited to the context of the training of trainers at the central level in Jakarta and did not assess further application of the module in diverse Indonesian regions. Studies on further adaptation of this module for specific communities would be an important focus for further work. It would also have been of interest to have conducted follow-up studies to assess long-term knowledge retention and the impacts of applying this training in immediately disaster affected contexts.

## Conclusion

This paper presented the background and experiences of mental health care workers who participated in a Capacity Building for Child and Adolescent Mental Health in Disaster Areas training-of-trainers module in Jakarta. A mix of quantitative and qualitative data suggests that the training was well accepted among participants and that there were certain benefits of the training, room for improvement, and further needs concerning work in disaster contexts.

The current study adds to knowledge about evaluating disaster training programs with specific differences to training evaluation conducted in other countries, such as Grenada (Kutcher, Chehil & Roberts, 2005), China (Ng, et al, 2009), Sri Lanka (Gelkopf, Ryan, Cotton & Berger, 2008) India (Becker, 2009) and Nepal (Jordans, Luitel, Poudyal, Tol & Komproe, 2012). The lessons learned from the evaluation on Capacity Building for Child and Adolescent Mental Health in Disaster Areas training-of-trainers module in Jakarta inform further efforts to enhance training in disaster mental health and psychosocial support. The current study highlights the potential dual role of disaster mental health workers as survivors, evidences how mental health and psychological training enhances knowledge enhancement, and emphasizes key benefits such as sharing participant experiences and the development of networks.

The evaluation also revealed further needs for training and tools, including adaptations for specific professions, disasters and disaster affected contexts. At least two different types of training may be required. However, the

current study did not include a representative sample for each profession, meaning it was not possible to assess training benefits for participants from respective professions. Profession-specific disaster mental health training modules may be more appropriately streamlined within the curriculum of the respective professions. Beyond the the ambit of the module in question, as outlined by Jacobs et al. (2016), it would be interesting to review more extensive education, for example at the postgraduate degree level.

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