

Toward best-practice post-disaster mental health promotion for children: Sri Lanka

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SUMMARY

There is a pressing need for low-cost intervention models to promote mental health among children in the wake of natural disasters. This article describes an evaluation of one such model: the Happy/Sad Letter Box (HSLB) Project, a mental health promotion intervention designed to minimize trauma in children, resulting from the Indian Ocean tsunami of 26 December 2004. The HSLB Project was implemented in 68 schools in Sri Lanka's Hambantota District from April 2005 forward. Methods included questionnaires (n = 203), interviews, and group consultation with schoolchildren, teachers, teacher counsellors, principals, educational zone directors and parents. The HSLB intervention was seen as relevant and non-stigmatized, cost-effective if implemented after initial recovery steps, anecdotally effective in identifying and helping resolve trauma, accommodating the full range of children's daily stressors

and sustainable. Gender, children's age, school size and the level of the tsunami impact for response were found to correlate with response differences. Along four dimensions previously identified in the literature (ability to triage, matching of intervention timing and focus, ability to accommodate a range of stressors and context compatibility), the HSLB Project is a promising intervention model (1) for children; (2) at group-level; (3) relating to natural disasters. The Nairobi Call to Action [WHO (2009) Nairobi Call to Action for Closing the Implementation Gap in Health Promotion. Geneva: World Health Organization] emphasized the importance of mainstreaming health promotion into priority programme areas, specifically including mental health. The HSLB Project represents the integration of health promotion practice into disaster preparedness mental health infrastructure.

Key words: mental health promotion; trauma; disaster; children

INTRODUCTION

This article describes an evaluation of Plan Sri Lanka's Happy/Sad Letter Box (HSLB) Project, an intervention to minimize trauma in children resulting from the Indian Ocean tsunami of 26 December 2004. In addition to documenting the evaluation, we reflect on the implications of the findings for best practice.

Natural disasters and trauma in children

The mental health of children is uniquely impacted by natural disasters (Lieberman and Knorr, 2007). Yet children are often underserved by trauma interventions after natural disasters (Plan International, 2005). As a result of the 2004 tsunami, children in Sri Lanka suffered high levels of PTSD (Dewaraja and Kawamura, 2006; Neuner *et al.*, 2006). Among others, Yule

(Yule, 2006) has identified the need to provide evidence-based interventions to identify, treat and prevent trauma among children impacted by natural disasters. Yet as Yule and others more recently (La Greca and Silverman, 2009) have acknowledged, the evidence base is very sparse regarding trauma interventions (i) for children; (ii) at group-level and (iii) relating to natural disasters. This scarcity is even more profound for models that are exceptionally low cost.

Nonetheless, beyond strong evidence of clinical effectiveness, at least four important attributes of best-practice interventions have been identified. First, Berger and Gelkopf's (Berger and Gelkopf, 2009) findings affirm that such interventions can and should triage efficiently between survivors with temporary and chronic PTSD symptoms. Second, interventions should focus first on normalization (especially school life) and as soon as possible thereafter on acute trauma, but not neglect medium- and long-term needs (Yule, 2006; La Greca and Silverman, 2009). Third, interventions should account for—and even be targeted at—the full range of daily stressors, not merely the disaster itself (Neuner et al., 2006; Fernando et al., 2010). Fourth, interventions should be well-coordinated with existing structures and policies to prevent chaos and optimize resource use (Yule, 2006). This implies conforming to the widely accepted criteria that interventions be both culturally appropriate and sustainable (if needed over time).

Happy/sad letter box (HSLB) project

The HSLB Project placed locked cardboard letter boxes (i.e. mailboxes) in 68 schools 5–7 months after the tsunami disaster. The intervention was created and implemented rapidly in a region still in profound chaos; further, it was implemented by schools in a highly rural region possessing few or no telecommunications capabilities. Therefore, though Plan took steps to standardize the intervention, priority was given to implementation with an acceptance of the fact that circumstances would create some diversity in the way the intervention was implemented.

Yet core aspects of the intervention were common among all schools. In each school, a group of teachers formed an HSLB Working Group. The Working Group in each school explained to the children both the purpose of the letter boxes and invited the children to use

them. Children were informed that they could choose whether to submit their letters by name or anonymously.

Over the ensuing 9 months, thousands of letters were submitted to the boxes. Some were anonymous, though most children chose to identify themselves. Letters were read by the school's Working Group, which would decide on an appropriate course of action in each case. Owing to the decentralized nature of the intervention implementation, and because the intervention design was highly experimental, there was no formal protocol that the Working Groups were required to follow in acting upon the problems presented in the letters. Generally, however, children reporting psychosocial issues (including tsunami-related trauma) were invited to visit a school counsellor. Counsellors spoke to children privately for one or more sessions. In some cases, parents and principals helped find and/or implement solutions to problems that children presented.

Evaluation and research questions

An evaluation of the HSLB Project was conducted by a team from Maastricht University working under the supervision of the Fund for Relief and Development (FRD). FRD was an NGO set-up for a fixed term to provide relief after the disaster. No member of the team was affiliated with or employed by Plan. The team was specifically instructed to provide an independent and open-ended analysis of the project. Nonetheless, contact with Plan Sri Lanka staff was necessary at each stage of the evaluation—to clarify the focus of the research and research questions, make efficient contact with schools, involve parents and local authorities and effectively disseminate findings in Sri Lanka.

Six research questions were formulated:

- (1) *Relevance*: How well did the HSLB Project address the most compelling problems of the children for whom Plan implemented the project?
- (2) *Efficiency*: How efficient was the HSLB Project from the perspective of the total costs and benefits?
- (3) *Effectiveness*: How effective was the HSLB Project at achieving its *intended* outcomes?
- (4) *Impact*: What was the overall impact of the HSLB Project including *unintended* outcomes?

- (5) *Sustainability*: To what extent could and should the HSLB Project be continued? Also, to what extent did the project create lasting improvements?
- (6) *Predictors*: Was student or staff gender, student age, level of tsunami impact in a school, or school size predictive of significant differences in response tendencies?

METHOD

To assure that methods would be culturally appropriate, an inception seminar was held near Tangalle, Sri Lanka, on 20 January 2006, with teachers, teacher-counsellors, principals and educational zone directors. Based on that discussion, the primary method chosen for the evaluation was a questionnaire. Separate written questionnaires were developed in Sinhala for school children, teachers, teacher-counsellors and principals. Of the 68 schools then participating in the Happy/Sad Letter Box Project, 24 schools were selected as the sample for the evaluation. The sample was not selected at random. A deliberate balance was sought in terms of (i) performance within the HSLB project; (ii) age ranges of children; (iii) geographical distribution and (iv) the length of participation in the project (schools started in both April and October). At each school, approximately five students and two teachers, as well as the school's teacher-counsellor and principal, responded. In total, 203 persons completed the questionnaire (120 children, 43 teachers, 17 teacher-counsellors and 23 principals). Answers to structured questions were analysed statistically using SPSS 8.0. Unstructured content analysis was performed on qualitative questionnaire data to identify unique insights, trends, repetition, gaps and other patterns.

Two other methods were used to support the evaluation. First, interviews were conducted with the project coordinator at Plan and the directors of the Tangalle and Walasmulla Educational Zones. Second, two rounds of group consultation took place with school staff and parents.

RESULTS

- (1) *Relevance*: The percentage of students that had submitted at least one letter to the box was estimated by teachers and teacher-counsellors at 33%. Among children, teachers

and teacher counsellors, 75.6, 75 and 87.5% had overheard a positive comment about the boxes, with 4.3, 9.3 and 5.9%, respectively, having overheard a negative comment. This indicates that the use of the boxes was popular (i.e. not stigmatized). Qualitative responses indicated that the boxes were viewed as having helped the children and as having generated substantial participation and interest. Multiple principals stated that the boxes were relevant to the schools' mission of supporting the development of mentally healthy citizens.

- (2) *Efficiency*: 67.9% of teachers, 80% of teacher counsellors and 100% of principals believed that the HSLB Project was an efficient use of resources, and 63.3, 76.5 and 72.7%, respectively, stated that resources could not have been put to better use. Nonetheless, many staff argued the importance of meeting basic needs before implementing psycho-social interventions such as the HSLB Project. Also, with moderate frequency, staff mentioned school facility improvement, educational programme development and private counselling for at-risk children as alternatives to the HSLB methodology.
- (3) *Effectiveness*: 34.2% of teachers, 23.6% of teacher counsellors and 39.1% of principals believed the boxes had helped the children 'very much' regarding the effects of the tsunami. An additional 58.5, 58.8 and 47.8%, respectively, stated it had helped 'somewhat'. Only 7.3, 17.6 and 0%, respectively, asserted that the HSLB Project had not helped at all regarding the effects of the tsunami. Within the qualitative data, some stories indicated that the boxes had significant therapeutic value for specific children in relation to tsunami-related trauma. (A father related that he learned via the intervention that his talented son's grades had plummeted in 2005 due to tsunami-induced trauma.) Nonetheless, analysis showed that the perceived benefit of the boxes was significantly higher ($X^2 = 9.914$, $P = 0.010$) among children attending schools less affected by the tsunami than among children attending schools more affected by the tsunami. Also, complaints from staff about inadequate resources to address trauma that was reported through the boxes were reasonably frequent.
- (4) *Impact*: Positively perceived unanticipated effects of the project include: the sexual

abuse of multiple girls and at least one boy was reported and addressed, new educational initiatives were undertaken, help for family problems (e.g. alcohol abuse, domestic violence, neglect) was requested and obtained, and problems with the use of internet pornography by children were resolved. One unexpected outcome viewed by many respondents as negative was the raising of expectations that children could receive material assistance through the box.

- (5) *Sustainability*: 100% of students, 97.6% of teachers, 100% of teacher counsellors and 100% of principals believed that the HSLB Project could and should be continued. The HSLB methodology was quite economical—each box costs only a few US dollars—making continuation affordable. By January, 2006, boxes were being used noticeably less frequently than when first introduced. This may indicate a longer duration was not necessary, especially as some—though fewer—children continued to submit letters regarding the tsunami and its traumatic impact.
- (6) *Predictors*: Among students, teachers and principals, gender was not found to be significantly associated with any response tendency. However, female teacher–counsellors in the sample were significantly more likely to report that the Happy/Sad letter box had enhanced their ability to help children emotionally ($X^2 = 3.864$, $P = 0.049$) and that the boxes had helped children in their schools ($X^2 = 3.192$, $P = 0.074$) than were male teacher–counsellors. Age was a factor: younger children claimed with significantly greater frequency than older children ($X^2 = 3.658$, $P = 0.056$) to have submitted a letter. Children at smaller schools used the box significantly more frequently than their peers at larger schools ($X^2 = 10.400$, $P = 0.001$), and the teachers at larger schools were significantly more negative than their colleagues at smaller schools on at least one measure of relevance ($X^2 = 5.072$, $P = 0.024$) and efficiency ($X^2 = 4.043$, $P = 0.044$).

DISCUSSION

Implications for best practice

The HSLB Project comprises a scarce and therefore precious low-cost trauma intervention (i) for children; (ii) at group-level; (iii) relating

to natural disasters. Below, we discuss the results and implications of the evaluation along the lines of the four attributes of best practice presented in the ‘Introduction’. We then return to the question of evidence of clinical effectiveness.

First, the HSLB Project undoubtedly provided a limited triaging function at extremely low cost. Specific stories established a clear link between the intervention and the identification of some children at risk for long-term PTSD. However, a wide benchmark range of 13.9–38.8% tsunami-related PTSD prevalence in a comparable population (Neuner *et al.*, 2006) combined with no PTSD prevalence data within the evaluation population prevents estimation of the *completeness* of the triaging function. It is questionable whether children with severe PTSD would typically use a box. The higher perceived benefit to the HSLB Project in less tsunami-impacted schools may indicate that the HSLB method is not appropriate for PTSD. However, the impact of the HSLB Project in heavily impacted schools was possibly less noticeable due to the wide array of extraordinary efforts needed to recover in those schools.

Second, Plan prioritized basic needs before launching the HSLB Project (Plan, 2005). School staff agreed with this prioritization. The sustainability data show the HSLB Project was seen as suitable not only to acute trauma but also to non-clinical mid- and long-term mental health needs. However, the mid- and long-term *clinical* needs of children with chronic PTSD were clearly not addressed by the HSLB Project method, and respondents criticized the lack of resources for follow-up care for children with chronic PTSD symptoms.

Third, the HSLB Project stands out as a method to engage the full range of daily stressors in children’s lives. As such, it represents the holistic approach to health determinants that is at the core of the Ottawa Charter for Health Promotion (WHO, 1986) and health promotion practice. Especially relating to taboo-subjects (e.g. sexual and alcohol abuse, domestic violence, pornography, neglect), the boxes seemed effective at engaging students. While this is a strength overall, it also creates significant ethical dilemmas. Reports of sexual abuse demand infrastructure to protect both victim and accused which is often non-existent in the communities studied. At a minimum, interventions should prepare staff for reports of broad stressors previous to intervention. If possible, staff should

possess a guideline for connecting children to relevant support services.

Fourth, the HSLB Project was well-coordinated with existing structures and policies. As noted above, the focus and timing for the intervention were seen as appropriate. The intervention was almost exclusively carried out by local Sri Lankan citizens and utilized the existing school structure. Finally, the Project clearly enjoyed the support of principals and educational zone directors, with the former declaring that they themselves saw it as a long-term strategy. Hence, there seems to be little question that the intervention was both culturally appropriate and politically sustainable.

The HSLB Project lacked an evaluation of clinical outcomes and this constitutes a glaring omission. As a result, we neither comment on the ability of the HSLB method to reach all individuals with PTSD nor on its effectiveness for treatment of PTSD. Future attempts to implement the HSLB intervention would ideally include prospective clinical evaluation. The 8-item Children's Revised Impact of Event Scale (CRIES-8) would enable valid low cost, rapid clinical evaluation (Perrin *et al.*, 2005). Yet it is clear that such evaluation would also ideally involve the early-stage involvement of qualified researchers (Mollica *et al.*, 2004), which may still present a formidable obstacle to good clinical evaluation.

Our evaluation sheds light on a number of important ethical issues that need to be addressed in attempts to apply this or a similar intervention method. Most significantly, such interventions must have clear protocols for dealing with ethical dilemmas raised by children's submissions. This applies most specifically to dealing with (i) inappropriate requests for material support; (ii) sexual and physical abuse; (iii) accusations about teachers or community members. Given the nature of the intervention, it would arguably be impossible to avoid some such ethical dilemmas from arising, though this likelihood must be weighed against the ethics of not cautiously experimenting in the interest of developing effective intervention models that help minimize trauma and promote mental health.

Despite its limitations, the HSLB Project did succeed along multiple important dimensions of best practice regarding children's disaster-related mental health promotion best practice. Additionally, the intervention clearly embodies core health promotion values such as

participation, policy-embedding, a holistic approach to the community whose health is in question, and building on already existing resources. Finally, the HSLB Project was—and continues to be—implemented at extremely low cost. In combining mental health expertise, health promotion philosophy and low cost, the intervention constitutes a unique and valuable example for health promotion practitioners and researchers.

CONCLUSION

Along at least four previously identified dimensions, the HSLB Project is a promising intervention model for children, at group-level, relating to natural disasters. The Nairobi Call to Action (WHO, 2009) emphasized the importance of mainstreaming health promotion into priority programme areas, specifically including mental health. The HSLB Project represents the integration of health promotion practice into mental health disaster preparedness infrastructure, and is a method that could be employed in such preparations anywhere in the world. More research must be conducted to assess the clinical effectiveness of the HSLB methodology, and the model must be employed with attention to the ethical dilemmas that can arise from the information that the intervention brings to light.

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