

# Back to Where It Happened: Self-Reported Symptom Improvement of Tsunami Survivors who Returned to the Disaster Area

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**Abstract**

**Background:** During October and November 2005, the National Norwegian Tsunami Support Association organized a journey to the disaster area for survivors. The aim of this study was to investigate whether the Tsunami affected the participants' psychological problems.

**Methods:** Twenty-nine adults and 19 children made the journey. Steps were taken to enable each individual to acquire an overall understanding of the catastrophic event. Various forms of antiphobic training were provided. At the end of the stay, 28 adults replied to a questionnaire. The questions concerned: (1) motives for traveling; (2) benefits experienced; (3) psychological problems before departure; and (4) problems at the end of the stay. Parents with children were asked to assess their children's psychological problems at the same points in time.

**Results:** Considerable improvements in anxiety symptoms were reported and observed in both the adults and children. No certain cases of retraumatization occurred.

**Discussion:** The improvements can be understood in the light of psychodynamic, cognitive, and behavioral theory approaches. The duration of the improvement in symptoms remains to be documented. There appears to be grounds for encouraging traumatized patients to return to a disaster area as part of the treatment process if they so wish.

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**Introduction**

The Tsunami of 26 December 2004 most severely affected poor countries, and the vast majority of the approximately 250,000 dead were natives of these developing countries. However, at the time of the catastrophe, there also were tens of thousands of citizens from developed countries in the area, many of them families with children. A significant number of people visiting the disaster area as tourists found their lives in danger.

From the Norwegian point of view, 84 nationals lost their lives, including 24 children. Survivors and bereaved relatives quickly established the National Norwegian Tsunami Support Association. During October and November 2005, the Association arranged a 14-day journey to Thailand for some of the severely exposed individuals.

For those exposed, the stress and strain associated with the Tsunami experience contained all the major risk factors for the development of post-traumatic stress reactions. These reactions included: (1) the intensity and duration of the risk of death; (2) physical injuries; (3) first-hand observations of the injuries and deaths of others; (4) separation from loved ones; and (5) the conflict of choosing between one's own safety and helping others.<sup>1</sup>

The post-traumatic stress reactions of exposed individuals generally will reflect the above-mentioned aspects of the disaster experience. The stress reactions following experiences of overwhelming danger will be dominated by *fear* in various forms. Traumatization perceptions often are marked by frag-

mented, unintegrated past-experiences as against a comprehensive experience that can be communicated to others.

The inability to integrate or process trauma-related perceptions was first described by Pierre Janet in 1887.<sup>2</sup> The dissociative mechanism was thought to be involved. The actual physical hardships for the Tsunami survivors also may have contributed to their fragmented perceptions of the event.

Exposure therapy has long been a recognized method of treatment for anxiety disorders.<sup>3,4</sup> A survey of recent research into the treatment of victims of disasters and terrorism indicates that cognitive-behavioral therapy has positive effects.<sup>5</sup> Individual consultations, on the other hand, and so-called psychological debriefing, have not proved to have any certain preventive or therapeutic effect.<sup>6,7</sup>

A group excursion to the place where the traumatization occurred for the purpose of obtaining a better understanding of the sequence of events and overcoming fear, may contain elements of both cognitive therapy and exposure training. There have been no previous reports of the effects of similar journeys on psychological problems in persons who have been involved in disasters.

The objective of the present study was to establish whether a journey back to a disaster area could have an effect on the psychological problems of persons who survived the Tsunami catastrophe.

## Methods

The target group for the study included the participants in a group excursion to Thailand for the survivors of the Tsunami catastrophe. The journey was arranged by the National Tsunami Support Association and occurred 10 months after the Tsunami struck southeast Asia. A total of 29 adults went on the journey, 15 women and 14 men 20–73 years of age, (mean value for the ages = 44.0 ±15.8 years (±standard deviation)). They included nine couples, seven of which brought with them children (eight girls and 11 boys; 2–17 years of age; mean age = 11.2 ±3.9 years).

The destination was the area around Phuket, Thailand. The stay lasted 14 days. The participants paid for the journey and the stay. They were accompanied by health and support personnel assigned by the Directorate of Health and Social Welfare. During the stay, there were opportunities to visit the exact place the persons were when the Tsunami struck. The participants were urged to challenge fears and phobias, and they received instruction in various coping techniques, such as gradual exposure, prolonged exposure, and flooding. Most of the training took place on the beach, beside or in the water. Role models were used systematically to challenge feared situations, a process called *modeling*.

Observations by psychiatry and clinical psychology specialists were made continuously through the stay, noted, and subsequently systematized.

On the last day of the stay, all participants >18 years of age were asked whether they would be willing to answer a questionnaire. The questionnaire contained questions concerning motives for taking part in the journey, what the participants had done during the stay, and to what extent

they had benefited from it. The participants also were asked: (1) how they assessed their own roles and actions during the disaster compared to their assessment prior to the visit; (2) whether the journey had given them experiences that they regarded as important in processing the stresses and strains arising from the disaster; and (3) whether the visit had made it easier for them to accept the outcome of the disaster for themselves and their families. Most of the questions offered pre-coded answer alternatives with differences in the degree of positive and negative directions where possible.

The participants also were asked to assess their psychological problems, if any, as they had been before the journey and as they were toward the end of the stay. In particular, they were asked about their general fear, fear of journeys south to warmer climates, fear of water, waves, and the sea, and fear of separation from children or other family members. They could mark their choice on a four-point scale from no fear to great fear, as well as the option “uncertain/don't know”.

Parents with children also were asked whether they would be willing to respond to a special questionnaire concerning similar assessments of psychological problems suffered by their own children. The parents chose to cooperate on their responses in couples. The questions were the same as for the adults except that fear of journeys south to warmer climates was replaced by sleep problems.

The estimate of changes in the degree of self-reported psychological problems in adults and children was carried out using the Wilcoxon non-parametric test for paired samples. Replies in the “uncertain/don't know” category were treated as “missing data”. Differences in symptom improvement related to age and gender were considered using additional analysis by groups of gender and age (high and low ages split at median value) in both adults and children. Changes in the observed clinical condition for each individual were systematized in one of three categories: (1) clinical improvement; (2) worsening; and (3) uncertain/no change were analyzed using a simple-sign test. All tests were two-sided and differences were accepted as statistically significant at  $p$ -values <0.05.

## Results

Of the 29 adults who went on the journey, 28 (96%) took part in the inquiry. The number of replies received to individual questions varied between 25 and 28. Parents also assessed psychological problems in 17 of the 19 children (90%) who went on the journey.

[**Editor's note:** The Editorial Staff added the percentage to the raw numbers for ease of reading. It is understood that the sample size was small, and that these percentages may not hold for studies using a larger sample size.]

Among the reasons participants gave for going on the journey, the wish to understand what had happened during the disaster was the motivating factor to which most participants attached great importance (Table 1). Also of great importance was the wish to overcome fear and the belief that the journey would be good for the individual and for the family. Many had been motivated by recommendations from a doctor or other health personnel.

	No importance n (%)	Little importance n (%)	Moderate importance n (%)	Great importance n (%)	Total
Recommendation by a physician or other health professional	6 (23)	2 (8)	7 (27)	11 (42)	26
Recommendation by relatives, friends, or colleagues	6 (23)	7 (27)	6 (23)	7 (27)	26
Wish to be with family	5 (20)	1 (4)	5 (20)	14(56)	25
Need for holiday	10 (40)	8 (32)	4 (16)	3 (12)	25
Wish to understand what happened	2 (7)	1 (4)	0 (0)	25 (89)	28
Wish to overcome fear	2 (8)	2 (8)	5 (19)	17 (65)	26
Belief that it would be good for me	0 (0)	2 (7)	4 (14)	22 (79)	28
Belief that it would be good for the family or other relatives	2 (7)	0 (0)	6 (22)	19 (70)	27

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**Table 1**—Responses to the question, “What motivated you to decide to go on the journey?” (n = 28)

All 28 of the participating adults confirmed that they had been able to visit the exact place where they and their closest relatives had been when the Tsunami struck. They all reported that this had given them a clearer understanding of the danger they had been in during the event, and most (24; 93%) stated that this had greatly increased their understanding. Most of the participants (25; 89%) had rediscovered physical structures (trees, buildings etc.) or other concrete circumstances that had had a bearing on the outcome of the disaster for them, and many (16; 57%) felt that this had, to a high degree, given them a more comprehensible picture of the sequence of events. Nearly all (27; 96%) had been reacquainted with local people who had been important to them during the disaster, and many (19; 68%) stated that those meetings had had a very favorable effect.

All of those (13; 46%) who stated that experiences during the stay had helped to change their views of their own roles and actions during the disaster, believed that the changes had been favorable, and that they had become more satisfied with themselves. Many (23; 79%) believed that the journey had given them experiences that either had been or might prove to be important in their further ability to cope with the stresses and strains associated with the disaster. Many (20; 71%) stated that the stay had made it easier to accept the outcome of the disaster for themselves and their relatives.

The helpfulness of traveling with Norwegians who had been in the same situation generally was regarded as “great”. Nearly all (27; 87%) stated that they were “pleased” that they had made the journey. Nearly half (12; 43%) confirmed that they would have gone on their own if no arrangement had been made by the supporting association, while somewhat fewer were equally sure that, in that case, they would not have made any journey.

The intensity of self-reported psychological problems changed considerably from before the journey to the end of the stay (Table 2). At the end of the stay, participants consistently reported lower levels of general fear and of specific fear of journeys south to warmer climates, water, waves, and the sea, and of separation from children or other family members. The changes can be described as alleviation of symptoms for many rather than total improvement for a few. Only one participant reported changes for the worse. No significant differences in symptom improvement related to age or gender were found.

The systematization of clinical observations showed an overall improvement of anxiety and phobic conditions in the course of the stay ( $p = 0.000$ ). Whereas 24 (28%) of the adults were classified as clinically improved, no one was clinically worse, two showed no change, and three were categorized as uncertain.

The degree of psychological problems in children—as reported by their parents—also changed during the course of the stay (Table 3). Parents reported that their children were suffering from less general fear and less fear of water, less fear of separation from their parents, and diminished sleep problems. No significant differences in reported improvement related to the age or gender of the children were found.

The clinical observations documented an overall improvement of symptoms in children ( $p = 0.000$ ). Distribution in categories classified 16 children as clinically improved, no one as clinically worse, and the remaining three were unchanged.

### Discussion

The participants reported remarkably good effects on themselves and their children in regard to anxiety and specific fears. This was confirmed by clinical observations. Retraumatizations due to re-exposure were not reported or observed.

		None n (%)	Slight n (%)	Moderate n (%)	Severe n (%)	Total	p-value
General fear	Before	4 (15)	5 (19)	10 (37)	8 (30)	27	0.001
	After	10 (42)	7 (29)	6 (25)	1 (4)	24	
Fear of journeys south to warmer climates	Before	12 (44)	1 (4)	6 (25)	8 (30)	27	0.002
	After	17 (63)	7 (26)	3 (11)	0 (0)	27	
Fear of water, waves, and sea	Before	7 (26)	5 (18)	2 (7)	13 (48)	27	0.000
	After	8 (33)	10 (42)	6 (25)	1 (4)	25	
Separation anxiety	Before	4 (16)	1 (4)	4 (16)	16 (64)	25	0.019
	After	4 (16)	8 (32)	7 (28)	5 (20)	24	

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Table 2—Grading of symptoms in the adults before and after the stay (n = 28)

		None n (%)	Slight n (%)	Moderate n (%)	Severe n (%)	Total	p-value
General fear	Before	1 (6)	6 (35)	5 (29)	5 (29)	17	0.004
	After	5 (29)	10 (59)	2 (12)	0 (0)	17	
Fear of water, waves, and sea	Before	4 (24)	5 (29)	4 (24)	4 (24)	17	0.015
	After	10 (59)	4 (24)	3 (18)	0 (0)	17	
Fear of separation from parents	Before	6 (35)	2 (12)	1 (6)	8 (47)	17	0.018
	After	7 (41)	5 (29)	3 (18)	2 (12)	17	
Sleep problems	Before	9 (53)	3 (18)	3 (18)	2 (12)	17	0.034
	After	12 (75)	2 (12)	2 (12)	0 (0)	16	

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Table 3—Grading of symptoms in children before and after the stay (n = 17)

The improvement with regard to fear can be accounted for in several ways. The answers to the questionnaire show that participants had been convinced in advance that the journey would be good both for themselves and for their families (Table 1). Their own participation had been motivated strongly by the wish to increase their understanding of what had occurred during the catastrophe, and by the wish to overcome their fears. Evidently, many had been advised to take part in the journey by physicians or other health personnel. Thus, the participants may have been motivated by expectations that the journey would have positive effects on the psychological problems they had experienced since the Tsunami. Positive expectancy may have contributed to genuine improvements. It also is possible that the expectation of improvement systematically affected the reporting of results.

Possible sources of error also may be considered in light of the need to avoid cognitive dissonance. The participants invested both time and money into the journey. The decision to take part was motivated by expectations of alleviat-

ed psychological problems. Thus, it can be justified only by the actual experience of improvement. A group process calling for consensus within the group may further reinforce the expectations brought to the experience.

The health and support personnel who accompanied the participants on the journey observed gratitude on the part of the participants, directed both at themselves and at the support group. The high rate of response to the questionnaire may have been a result. It is likely that mutual sympathy and gratitude may have increased the risk of systematic error connected with a desire to please those conducting the inquiry.

The most marked support for the validity of the material comes from the systematic observations made by four psychiatric experts. Their observations confirm a high level of anxiety and phobic symptoms early in the stay. Both individuals and families with children suffered from separation anxiety and water and sea phobias. Noticeable improvements took place during the course of the stay. By the end of the stay, the conditions of many of the partici-

pants clearly had changed, as judged by observations of their behavior, interaction, and interplay, and as assessed clinically during one-on-one contacts. Children and adults who previously had great difficulties approaching the beach eventually were able to bathe, immerse themselves in the sea, and confront and cope with the waves. Family members who, in the beginning could not let each other out of their sight, later could be on their own without any problems.

Observations confirm that the improvements reported are real. They confirm a high incidence of psychological problems at the beginning of the stay and that improvements gradually took place during the course of the stay. Therefore, the improvements cannot be explained by different reactions to psychological problems when on holiday in a different environment from the one at home.

Many state that the visit to the disaster area had given them a better understanding of the sequence of events. This contributed to the drawing together of discontinuous and fragmented images into a more comprehensible overall picture, which can be a precondition for the mental processing of overwhelming impressions. This correlates with both psychodynamic<sup>8</sup> and cognitive stress theories<sup>9</sup> concerning how therapeutic processes take place. In the psychodynamic approach, the therapeutic understanding is dependent upon the patient reaching a coherent narrative of his story in order to cope with the disturbing effects of the past. In cognitive theory, the emphasis upon the reality aspects is a precondition for a therapeutic change of maladaptive cognitive schemas to be achieved.

The reported and observed improvement in coping with fear and phobic situations confirms the therapeutic value of exposure training.<sup>10-12</sup> In this part of behavioral therapy, extinguishing the pathological stimulus-response relationship is considered to be a positive therapeutic effect.

In spite of different explanations of therapeutic mechanisms, all schools of psychotherapy are likely to agree that some degree of exposure, either in thoughts or reality, is necessary in order to achieve a significant improvement of

post-traumatic stress symptoms. This study confirms that re-exposure to earlier traumatizing elements, now in a controlled and supportive environment, is an effective measure to restore previous sense of trust and safety.

Perhaps the studied subjects were so highly motivated to return to the site of the disaster because the urge reflects a natural healing process. After all, the post-traumatic stress reactions constitute a repetition syndrome characterized by re-experience of the trauma, which takes the victim back to the scene of the event. For example, the repetitive nightmare has been termed "belated mastery". The repetitions may facilitate an integrating process in those who do not develop the pathological syndrome. To actively seek out in the real world, the place at which you were passively overwhelmed may represent a parallel to the repetition compulsion of the post-traumatic stress reaction.

### Conclusion

The visit to the disaster area had remarkably beneficial effects on both traumatized children and traumatized adults. There may be a complex set of reasons for this, and explanations can be found using psychodynamic, cognitive, and behavioral theory approaches. The duration of the improvement in symptoms remains to be documented. There seem to be good reasons for encouraging traumatized patients who wish to visit disaster areas as part of a process of treatment.

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