Research Report

PSYCHOLOGICAL EFFECTS IN IMMEDIATE AFTERMATH OF THE TSUNAMI – A KERALA EXPERIENCE

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ABSTRACT

The tsunami waves wreaked havoc in coastal areas of the South Indian states of Kerala and Tamil Nadu in December 2004. Our team was involved in the care of those displaced to nearby hospitals and relief camps in the immediate few days following the disaster in Alappuzha district. This paper describes details of cases referred to psychiatrists by other doctors in those days. Out of the 43 cases referred for evaluation, 37 (86%) had a psychiatric diagnosis. 27 (60%) met the criteria for Acute Stress Disorder (ASD). Some suffered from exacerbation of pre-existing disorders.

Keywords: Tsunami, acute stress disorder, depression

BACKGROUND

The tsunami waves which swept across several Asian coasts in December 2004 wreaked havoc in the coasts of the south Indian states like Kerala and Tamilnadu.[1] In Kerala, the districts of Kollam and Alappuzha were the most affected. Staff from the Department of Psychiatry at Government TD Medical College, Alappuzha, was actively involved in the care of those displaced to nearby hospitals and relief camps in the immediate few days following the disaster.

A disaster, according to World Health Organization, is a severe disruption - psychological and psychosocial - which the affected community is unable to cope with.[2] Survivors of a disaster may have evidence of physical trauma, but would have invariably sustained one or other form of emotional trauma. Disasters are classified into natural and man-made, and the rates of emotional distress are found to be higher following natural disasters.[3]

Extent of the psychological consequences of a disaster depends on five dimensions — Scope of the impact (geographical, number of people affected), its speed (sudden, gradual, or chronic), its duration, social preparedness of the community, and whether the community is geographically central or peripheral.[4,5] Factors like the victims' age, education, marital status, physical health, personality, coping skills, losses, and social support also play a role in deciding the impact.[6] Immediately following a disaster, there may be numbing, decreased speech and movements, decreased

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attention span, disorientation, arousal symptoms, depression, panic attacks, excessive grief, suicidal ideation and survival guilt.[6]

Though this was not a planned research, we are reporting this data as it is important to understand how people respond to sudden, life changing catastrophes.

OBJECTIVES

To describe the sociodemographic profile of victims referred for psychiatric help, and the psychological effects in them, in the two weeks following the tsunami disaster.

METHODS

We are reporting our first hand experiences as mental health professionals who had to witness a sudden natural disaster unfolding its fury on a hapless, unprepared community. All authors took part in planning and analysis of the study and writing up of the paper. The first three authors were directly involved in data collection. All authors were working in Psychiatry department of Government TD Medical College, Alappuzha at that time.

Table 1: *Basic demographic data of the sample (n=43)*

Mean age		
Male	45.2	
Female	41.4	
Child	8.5	
Gender	**Numbers**	**Percentage**
Male	15	35
Female	26	60
Children	2	5
Education		
Primary	36	84
Secondary and above	7	16
Marital status		
Married	32	74
Unmarried	5	12
Widow/widower	6	14

Table 2: *How affected by Tsunami. (n=43)*

How affected*	**Numbers**	**Percentage**
Direct		
Washed off	23	53
Injury to self	18	42
Lost house	21	49
Lost belongings /valuables	20	47
Lost means of livelihood	13	30
Indirect		
Death of a family member	13	31
Injury to a family member	17	40
Death of a relative or close friend	15	35
Injury to a relative or close friend	2	47
Having to handle a dead body	2	5
Missing family members	1	2
Viewed TV visuals of disaster	1	2

**Many were affected in multiple ways.*

Our team made thrice a week visits to hospitals and relief camps during the first two weeks following the disaster. All cases referred to us were evaluated by clinical interviewing and mental status examination. Information gathered from patients and relatives were entered in a data sheet which covered basic demographic and clinical details. Diagnoses were made according to DSM – IV criteria.[7] Hospital Anxiety and Depression Scale (HADS) was administered to the subjects as they were attending a medical service following a disaster.[8,9] Informed consent was obtained from all subjects before data collection.

RESULTS

The results are presented in tables 1 to 4. Out of the 43 cases referred for evaluation, 37 (86%) had psychiatric diagnosis, either preexisting or new onset. Majority of the new onset cases were Acute Stress Disorder (ASD) (n=26; 60%). Six patients had depression — two of them had developed the illness after the disaster, while the others had been on treatment for preexisting depression as reported by them and supported by past medical records. Two were cases of bipolar disorder in remission.

One patient was diagnosed with dysthymia, and another one had bipolar currently mixed state. The sample received high scores on both the depression (15.1±4) and anxiety (15.3±3.68) subscales of HADS.

Table 3: *Psychiatric diagnoses (n=43)*

Diagnosis	Numbers	Percentage
Acute Stress Disorder	28	60
Mood disorders	10	23
Schizophrenia	1	2
No diagnosis	6	14

Table 4: *HADS subscale scores*

Subscale	Mean	SD
Depression	15.1	4.0
Anxiety	15.3	3.68
Total	15.2	3.9

CONCLUSIONS

The exact prevalence of ASD (following a disaster) as currently defined is not known. A review reported Acute PTSD to have a prevalence of 7 – 90%.[10] Lima et al. had found a 'case'ness of 45% following an earthquake, which is a natural disaster of sudden onset like the tsunami.[11] High levels of depression and anxiety had been found by van Kemp.[12] Many studies had used retrospective assessments, and this approach has been criticized by Harvey and Bryant who found up to 75% errors in recalling at least one of the four ASD criteria.[13]

Ours is a first hand, on the spot evaluation of victims of a natural disaster done within two weeks by a team of psychiatrists. This may explain the high prevalence of pre-existing psychiatric morbidity in the sample, as the cases were referred by doctors who knew about the availability of psychiatrists at the site. The high prevalence of ASD is a cause of concern. Besides, the high scores on the HADS (15±4 on both subscales, >11 being taken as "case"), a self-rated scale, underscores the high levels of distress in the referred subjects. Both these points underline the need for ongoing mental health interventions after any major disaster.

LIMITATIONS

This was not a planned research work. As we were seeing cases referred for psychiatric evaluation by other doctors in the team, there is a chance for bias. This could explain the high level of morbidity in our sample.

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