Acute Posttraumatic Stress: Nonacceptance of Early Intervention

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Psychological resistance may be of considerable importance in the posttraumatic stress disorder (PTSD) population, considering that researchers in the field of traumatic stress are frequently unsuccessful in achieving high response rates, that many subjects suffering from PTSD never seek help, and that dropouts from therapy are frequent. This article presents data on the main complaints reported in the acute aftermath of an industrial disaster by 246 employees who had been exposed to the disaster. The dominant concerns were symptomatic complaints related to posttraumatic stress reactions rather than external problems. Sleep disturbance, anxiety/fear responses, and physical symptoms were reported by individuals with complaints in the acute phase as most problematic, while irritability and depressive symptoms appeared very infrequently among the reported main complaints. A high specificity and sensitivity were achieved in predicting later PTSD (as defined by DSM-III criteria) by applying early response variables; thus, there were few false-positives and false-negatives. There was a considerable overlap between the PTSD predictors and the main symptom complaints. From a prevention point of view, this should be advantageous, since it would bring the right people to seek help. However, in a significant proportion of the acutely distressed, the reluctance to seek help was motivated by the very symptoms that predicted PTSD. Even a relatively high rate of subjects agreeing to be screened (82.8%) would have lost 42% of those who qualified for a diagnosis of PTSD, and more than half of the subjects with severe outcomes would not have been included. For primary and secondary prevention, the findings suggest that early screening and outreach should be very active.

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Epidemiologic studies find that only a modest proportion of persons who during a given year fulfill the diagnostic criteria for a clinically significant psychiatric disorder receive any kind of treatment. For example, in the study by Kessler et al.,[1] only 30% of subjects with a psychiatric disorder received treatment. In addition, more than a third of U.S. Vietnam War veterans suffering from posttraumatic stress disorder (PTSD) 15 years after the end of the war had never sought help.[2] Psychological resistance may be of considerable importance in the PTSD population, considering that researchers in the field of traumatic stress are frequently unsuccessful in achieving high response rates and that dropouts from therapy are frequent.

Clearly, contacting a professional and asking for help for a mental health problem are not simple and straightforward phenomena. Williams et al.[3] have characterized the theoretical foundation of research in the area of help-seeking as weak. The research interest in the help-seeking processes was strengthened in the 1980s when evaluations of mental health treatment began to focus on the users and the nonusers of treatment,[4] i.e., which variables and mechanisms explained people's decisions to seek help versus not seek help. Almost all models used to account for help-seeking are built on structural, functional, and subjective process components.[5] Structural models concentrate on the utilization aspect: who seeks help (sex, age, diagnosis), from whom/what agencies, who makes the referrals, etc. Important factors are economy, reimbursement system, and the many aspects of accessibility and availability of treatment including geographical availability, use of waiting lists, self-referrals, cognitive availability (community awareness, knowledge, publicity), and psychological availability (stigma, personal attitude toward psychiatric patients, etc.). Functional models focus on how demographic variables, different measures of sickness and symptoms, social support, etc. affect help-seeking. Functional factors generally explain more about help-seeking than structural factors when help is available.[6] Process models focus on what happens when a person experiences problems, how he or she recognizes and interprets symptoms, the influence of others, and which decisions are made and how.

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Goldberg and Huxley[7–9] have developed the most comprehensive model for psychiatric help-seeking. It is generally accepted as a common point of reference in most help-seeking studies and builds on 5 levels: the community, primary care, conspicuous disorders–primary care, secondary psychiatric care, and inpatient psychiatric care. The model also includes 4 corresponding filters, one of which is patient illness/consulting behavior.

Three general phases of help-seeking have been described by Gross and McMullen[4]: (1) perception of the problem, (2) decision to accept help, and (3) strategies to seek help and choose and contact a helper. In the study of help-seeking among Israeli veterans with PTSD, Solomon[10] describes a 5-stage process: (1) the perception of severe stress, (2) the identification of the distress as requiring professional assistance, (3) the weighing of the possible benefits and costs of that help, (4) the decision to seek help, and (5) the selection of the type of help.

Comparing PTSD veterans who sought help with those who did not, Solomon[11] found that the untreated veterans consistently reported lower levels of impairment and distress; in other words, higher severity of PTSD increased the likelihood of seeking treatment.

Previously published data[12] from the study presented below showed that in the early aftermath of a severe stress exposure (an industrial explosion), a very high proportion (42%) of the subjects who were diagnosed with PTSD at 7-month follow-up, when a 100% response rate was achieved, had resisted or refused screening/early intervention.

The reluctance of some disaster victims to participate in outreach programs has been described by several investigators, including Bennet[13] and Lindy et al.[14] Judging from the above-mentioned findings, one may speculate that the degree of severity plays a positive role in motivating people to seek treatment, but may have the opposite effect in utilization of preventive programs.

Among the subjects exposed to the industrial explosion described below, early response variables within the posttraumatic stress syndrome were the most effective predictors of later illness: an index of posttraumatic stress symptoms scored 1 week after the disaster (in which anxiety level was measured by the state anxiety scale of the State-Trait Anxiety Inventory, degree of sleep disturbance, startle reaction, fear/phobia of area damaged by the explosion, and degree of social withdrawal) achieved a sensitivity of 0.96 and a specificity of 0.89 in predicting PTSD cases 7 months later.[15] This means that 96% of those who developed PTSD were correctly identified as high-risk individuals by the screening and that 89% of the non-PTSD subjects 7 months after the disaster had been correctly identified as low risk at the screening 1 week after the disaster.

These findings raise the following questions: Do posttraumatic stress reactions and symptoms differ in the way they affect the help-seeking behavior and make the person accept or refuse outreach? Which of the posttraumatic stress symptoms are experienced as the most problematic and reported as the main complaints by the patient? How do these reactions/symptoms relate to early predictors of PTSD development?

When the preventive principles of early detection and adequate intervention are based on a screening for high risk individuals, it is important that the screening selects few false-positives and false-negatives. A high number of false-positives may be detrimental, because the interventions may be not only unnecessary but harmful and the individual may have worried over a risk that does not really exist and felt the stigma that accompanies mental illness. A high number of false-negatives will leave high-risk individuals without any intervention. Generally the time factor is considered important in the development of PTSD, partly because of the complicating comorbid conditions that seem to develop over time.

This article reports data on the main complaints among the postdisaster responses documented in the acute aftermath at the time of the screening program by employees who had been exposed to an industrial explosion. The relationship between the acute posttraumatic reactions, the early predictors, and psychological resistance is discussed.

THE DISASTER

One night in 1976, the production plant of Norway's largest paint factory was devastated by a giant explosion. The building collapsed. A series of subsequent explosions followed, and the fire totally destroyed the production plant and the warehouse. Thirty thousand square meters of buildings were engulfed by flames stretching up to a height of 400 meters. The threat of spreading fire and further explosions necessitated the evacuation of about 1000 people in the neighborhood. The fire was extinguished after 36 hours. By then it was established that 6 workers were missing. Some of the dead bodies were found within a few days, others within a few weeks, and all were later identified. The flames consumed 400 industrial jobs. On the second day after the disaster, however, all employees were guaranteed that they could continue their employment and that they would suffer no economic losses. Within 2 weeks, new jobs had been improvised by the company. Two of the 125 survivors had suffered severe and incapacitating physical injuries, and 21 had minor injuries. The disaster was unprecedented and unanticipated, descending suddenly and without forewarning on the majority of the workers as a shock trauma. The impact was violent and uncontrollable, but to most of the employees, the exposure to intense risk was brief, a matter of only a few minutes. A large number of narrow escapes, few deaths, few severe injuries, and optimal postdisaster conditions were thus central features of this industrial disaster,

which was perceived by the employees as accidental and not a result of human failure.

As to the psychological effect of the disaster's impact, the following account was typical:

> It was a quiet and peaceful evening, everything was normal, nothing unusual in any way. I was working alone. Then suddenly, without any warning, a thunderous roar filled the air. The building began to tremble, the walls began to collapse, all around me there were falling masonry and girders, smoke, dust, and glass splinters in the air. I felt certain this was the end, that I would be crushed and buried alive. I was surrounded by blazing flames on all sides. I felt small and helpless. There was nothing I could do. It all seemed unreal. I managed to escape the inferno. I don't know how. I didn't dare look back. It was only afterwards that I realized that it had actually happened.[16]

METHOD

The disaster produced a typical shock trauma that elicited posttraumatic stress reactions in the vast majority of the 66 employees with the most severe exposure (group A), very frequent but less intensive reactions in 59 employees with a medium stress exposure (group B), and fewer and weaker reactions in 121 employees who were not directly exposed to the danger, but experienced the stress of witnessing the disaster, rescue involvement, and fantasy trauma (the knowledge that if the explosion had occurred at another time of day, they would have been victims) (group C). These 3 groups of subjects serve as our stress exposure categories.

The cohort of 246 subjects was found to constitute a sample of the general population that was better than average in terms of health before the disaster, and the 3 groups were comparable in this respect. Until the disaster there had been no significant differences between the 3 groups in their response when called in for regular checkup by the company's health unit, as measured by the employees' rates of attendance at the health checkup carried out yearly by the company medical officer. In fact, 97.9% of the subjects had been examined by the company's medical officer within the last 2-year period. Thus, differences after the disaster could mainly be ascribed to the different intensities of exposure to the primary disaster stressors (i.e., those inherent in the disaster impact) that the 3 groups had experienced.

A project combining screening for early intervention and research was started on the first day after the disaster. The author chose the following approaches: (1) establishing a "we-project," a partnership with the groups directly affected by the disaster, (2) taking on a role as a company doctor, (3) combining research and outreach programs, (4) applying a stress-crisis frame of reference, and (5) keeping a low media profile.

In a systematic cross-sectional study, the 125 combined A- and B-group employees and the 121 C-group employees were physically examined and interviewed (primary examination) as early as possible after the disaster. To gather study subjects, the company nurse contacted each of the 246 subjects, usually by telephone, and asked him or her to participate in a screening health examination/research study.

Psychological resistance to the primary examination was measured by counting the number of contacts needed in the calling-in procedure to secure cooperation of each person in the project. Subjects were given ample opportunity to choose the time and place for the examination. Resistance was scored on a 4-point scale: none (cooperation achieved at first contact), moderate (2 or 3 contacts needed), strong (many contacts needed), and complete (refusal to participate in primary examination). If the presence or absence of resistance could not be rated, a score of "unknown" was recorded. Using this methodology, resistance was rated in 61 A-group subjects, 55 B-group subjects (i.e., 116 A- and B-group subjects), and 120 C-group subjects. So that fear of the disaster area would not prevent anyone from seeking help, an office far away from it was opened for those with strong avoidance symptoms.

All interviews were carried out by the author. The final rates of attendance at the primary examination (screening) were 90.9% in group A, 98.3% in group B, and 100% in group C. An in-person first follow-up was carried out after 7 months. All subjects were alive at the first follow-up, and this time all agreed to be examined. Thirty possible posttraumatic stress symptoms taken from the Post-Traumatic Stress Score (PTSS-30)[17] were rated on a scale of 0 to 3, yielding a possible range of 0 to 90. For the correlational analysis, the PTSS-30 sum scores were divided into 3 categories: low (PTSS-30 sum score of 0–5), borderline (PTSS-30 sum score of 6–21), and high (PTSS-30 sum score of 22–90).

RESULTS

Table 1 presents the frequency distribution in the A, B, and C groups of 7 posttraumatic stress reactions in the early acute phase (the first week) and by the end of that week.

Acute posttraumatic stress reactions were extremely frequent in the high-stress group: anxiety, sleep disturbance, startle responses, and fear of the destroyed area were each seen in about 80% of the A subjects (see Table 1). In group A, 61% (N = 40) reported nightmares (that by definition repeated the disaster trauma and interrupted sleep), and in many (38%, N = 25), some degree of social withdrawal took place, whereas fewer (24%, N = 16) reported some new irritability. Group B also exhibited frequent reactions, although not to the same extent as group A. In group B, there were fewer persons with traumatic nightmares, social withdrawal behavior, and irritability.

In groups A and B, although there were small differences, the order of frequency of the posttraumatic stress reactions, i.e., startle response, sleep disturbance, anxiety, fear of destroyed area, traumatic nightmares, social with-

Table 1. Group Frequencies (Percentages) of 7 Posttraumatic Stress Reactions During Early Acute Phase and After 1 Week in Groups A (High Stress), B (Medium Stress), and C (Low Stress)[a]

	Group A (N = 66)		Group B (N = 59)		Group C (N = 121)	
Reaction	Early Acute Phase	After 1 Week	Early Acute Phase	After 1 Week	Early Acute Phase	After 1 Week
Anxiety	82	56	71	32	19	16
Sleep disturbance	83	46	76	26	36	23
Traumatic nightmares	61	45	41	25	14	7
Startle response	86	79	80	80	34	34
Fear of destroyed area	79	51	69	27	19	13
Irritability	24	27	2	2	4	4
Social withdrawal	38	32	9	7	2	2

[a]Reprinted from Weisæth,[16] with permission.

drawal, and irritability, was similar in both groups. The frequency of reactions in group C was much lower than in the other 2 groups. According to the diagnostic stressor criterion A (DSM-III and ICD-10) that the stressor should be quite likely to cause pervasive stress in almost anyone, the C subjects as a group did not qualify for a PTSD diagnosis, but rather an adaptational disorder, if they went on to develop mental illness.

The main direction of change during the first week was very clear. Nearly all stress reactions were reduced in frequency, except that irritability among the A subjects did not decrease, but increased nonsignificantly. The rates of change were markedly different; the startle responses tended to remain unchanged, as did the levels of social withdrawal. Sleep disturbance, fear of disaster area, and anxiety, in that order, underwent the strongest reduction as measured by group frequency.

The development of distress during the first week in the high-exposure group was as follows: disappeared completely = 7.6% (N = 5), improved considerably = 39.4% (N = 26), improved somewhat = 21.2% (N = 14), unchanged = 18.2% (N = 12), and worsened = 4.5% (N = 3). When asked what day was the most difficult, 15% of the A subjects (N = 10) had no difficult day, while the day after the disaster was reported most frequently in all groups (54%; N = 36 of the A sudjects), followed by the day of the disaster (23%; N = 15 of the A subjects). Although only 23% (N = 15) of the A subjects had a fully retained work capacity immediately following the exposure, 50% (N = 33) could do all kinds of work, including taxing tasks within the disaster area, by the end of the first week.

Table 2 shows that symptomatic complaints related to posttraumatic stress reactions rather than external problems were the dominant concerns. This finding may reflect the fact that much had been done to alleviate the secondary stressors, such as fear of unemployment and worries about economic factors.

In all groups, subjects with complaints in the early acute phase reported sleep disturbance and anxiety/fear responses as most problematic. Physical symptoms were also seen as the worst symptoms by some. It is noteworthy that irritability and depressive symptoms do not appear among the reported main complaints for the A group. There were no significant differences in the acute responses or main complaints among those who demonstrated resistance to screening and those who did not.

Table 2. Group Frequencies (Percentages) of Main Complaint (Symptom or Problem) Reported During Early Acute Phase Among Subjects With Complaints in A (High Stress), B (Medium Stress), and C (Low Stress) Groups

Main Complaint During First Week Postdisaster	Group A (N = 31)[a]	Group B (N = 11)[b]	Group C (N = 23)[c]
Sleep disturbance	19	27	17
Intensive anxiety	16	18	13
Intensive anxiety and guilt	7	0	4
Survivor guilt	3	0	9
Depression	0	0	4
Startle reaction	3	0	0
Fear of			
Disaster area	10	27	4
Darkness	3	9	
Being alone	3	18	
Criticism	3	0	9
Physical injury	7	0	0
Psychosomatic reaction	13	0	26
Change at work	0	0	4
Family situation	7	0	0
Commuting	3	0	0
Change of routine	3	0	4
Shift work	0	0	4

[a]Forty-seven percent of Group A.
[b]Nineteen percent of Group B.
[c]Nineteen percent of Group C.

Total scores on the PTSS-30 ranged from 0 to 77. Table 3 shows the correlation between the innate psychological resistance and severity of the posttraumatic stress symptoms as measured by the PTSS-30 at 7-month follow-up. Refusal to take part in the screening was seen only among those subjects who had low or very high scores at the follow-up. The latter 2 employees were found to be completely disabled when they finally agreed to be seen. Data gathered retrospectively from both subjects on their acute response and confirmed by collateral information showed that their posttraumatic stress symptoms had been of a very severe degree, in a similar range as the other subjects who had developed PTSD. The others who had refused the screening reported lack of problems and no need for help as their reasons for turning down the offer. In fact, a majority of them had also usually declined to take part in the health checkups carried out yearly by the company medical officer.

DISCUSSION

The measures of traumatic anxiety used in the screening predicted PTSD 7 months later accurately; thus, there were few false-positives and false-negatives. A major con-

Table 3. Psychological Resistance to Primary Examination and Post-Traumatic Stress Score (PTSS-30) 7 Months After the Disaster Among 116 Subjects in Groups A and B[a]

	PTSS-30 Sum Score at 7-Month Follow-Up			
Psychological Resistance to Primary Examination	Low (0–5) (N = 74)	Borderline (6–21) (N = 16)	High (22–90) (N = 26)	All Groups (N = 116)
No resistance	66	15	15	96
Moderate resistance	3	1	7	11
Strong resistance	0	0	2	2
Complete resistance (refused examination)	5	0	2	7

[a]Reprinted from Weisæth,[12] with permission.

cern in early screening was thereby eliminated. However, resistance to the screening was both more frequent and stronger among those who had a high risk for developing PTSD. Even a relatively high response rate of 82.8% would have lost 42% of those who qualified for a diagnosis of PTSD, and more than half of the severe outcomes would not have been included. The findings also show a considerable overlap between the early responses that predicted later PTSD and the symptom complaints that were reported as most disturbing and therefore motivated employees to accept early screening and intervention. From a prevention point of view, this overlap is advantageous, since it would prompt the right people to seek help. However, in a significant proportion of the acutely distressed, the reluctance to seek help was motivated by the very symptoms that predicted PTSD.

Measuring resistance by counting the number of contacts needed to achieve cooperation is probably a valid method. The main reliability problem involved was the difficulty of sometimes having to decide whether realistic reasons or psychological resistance caused the failure to agree to an appointment for the primary examination, thus necessitating more contacts. That there were no significant differences in the acute responses between those who resisted and those who accepted the screening may be due to the small number of subjects.

The findings have implications, not only for research on PTSD generally, but particularly for its primary and secondary prevention, involving early detection and adequate intervention in high-risk individuals. One could argue, on the basis of our findings, that very active outreach may be necessary to identify the high-risk individuals.

The time factor is generally considered to be important in preventing PTSD. That sleep disturbance and anxiety symptoms were rated highest among main complaints may be of some importance. These 2 symptoms of acute posttraumatic stress syndrome were found to correlate very strongly with an increase in irritability/anger that was seen during the 7-month postdisaster period and that turned out to characterize the PTSD cases.[16] The anger problem could perhaps have been reduced or even prevented by a more determined treatment, pharmacologic or otherwise, of those symptoms. Since sleep disturbance appeared to be one of the symptoms that was also easiest to complain about, perhaps because it is close to everyday stress problems, it may be wise to focus on the sleep function when informing traumatized individuals about reactions for which they are at risk to encourage them to seek help.

At the time of this study (1976–1977), anger symptoms were not included among the PTSD symptom criteria. This was a definite weakness of the DSM-III, since the anger produced severe complications, causing anxiety over loss of control, increasing guilt feelings, creating family and job conflicts, and threatening the patient/doctor relationship. The early intervention may therefore be of particular importance in preventing comorbid disorders.

There is justified concern about the perils involved in early interventions, such as retraumatizing people by forcing them to tell their story. Because of such concerns, care was taken to record any indication or report that the screening itself could have negative consequences. The data did not support any such explanation of the high illness risk in the group with high resistance. Since traumatized persons are sensitized to situations in which they experience lack or loss of control, care was taken to allow each individual his or her way of going through the screening process.

In areas of preventive medicine other than traumatic stress, it is known that many persons at risk are quite likely to decline the invitation to utilize health screening procedures, such as screening for cancer. Among the reasons for this nonresponse to screening are psychological defenses, such as denial of illness or its consequences, which also contribute to "patient delay" of diagnosis and treatment in persons who actually suffer from early stages of life-threatening illnesses. It is beyond the scope of this article to discuss in any detail the many other factors that might have contributed to the resistance.

In this study, the need to avoid help-seeking seemed to be motivated by various fears, such as fear of emotional liability, of loss of control, and that the screening would confirm what they did not want to know—that they had been psychologically injured.

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