Interventions for post-traumatic stress disorder and psychological distress in emergency ambulance personnel: a review of the literature

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A literature review was carried out to establish the extent of the literature on interventions for psychological distress and post-traumatic stress disorder in emergency ambulance personnel. A total of 292 articles were identified. Of these, 10 were relevant to this review. The primary intervention used with this population was critical incident stress debriefing, although there was some debate in the literature about the effectiveness of this intervention and the quality of the research conducted. More high quality research is needed on critical incident stress debriefing before being confident of its effectiveness.

Emergency ambulance personnel are vulnerable to psychological distress in both the short-term and long term. While emergency work can be rewarding, personnel are also required to deal with some potentially traumatising situations. Some of those rated as being most stressful include: accidents involving children, cot death, mass incidents, major fires, road traffic accidents, burns patients, dead on arrival, violent incidents, and murder scenes. One review concluded that: “Compared to other health professionals and fire-fighters, EMTs [emergency medical technicians] stress and burnout levels are among the highest.”

After involvement in a disaster, personnel may be at risk of acute stress disorder, which can be a risk factor for developing post-traumatic stress disorder (PTSD). A study of victims of road traffic accidents, found that 80% of those who fulfilled the criteria for acute stress disorder went on to develop PTSD. Lifetime prevalence of PTSD (in a population based sample) is estimated to be 7.8%, although estimates for specific “at risk” populations may be higher. For example, in a study of fire fighters, prevalence was estimated at 18%. The nature of their occupation makes emergency ambulance personnel another group “at risk”. Estimates of prevalence of PTSD in this group have been around 20%. Rates of psychiatric symptoms varied from 20% to 60%. These psychiatric symptoms can be related to an incident or a traumatic event experienced by pre-hospital emergency technicians, but not necessarily be PTSD. Symptoms can present such as depression, anxiety, sleep deprivation, or undue worry, which can reach significant levels and would require treatment.

Critical incident stress debriefing (CISD) is “a structured intervention designed to promote the emotional processing of traumatic events through the ventilation and normalisation of reactions and preparation for possible future experiences.” It is a treatment that is designed to take place several hours after an incident and can last about two hours. It can be offered to emergency services personnel who may attend a CISD session voluntarily or on the recommendation of a superior. It has been promoted positively in the USA by Jeffrey Mitchell.

The aims of this review were to identify literature relating to interventions aimed at treatment or prevention of PTSD or psychological distress in this population.

METHOD

Search strategy for identification of studies

A search of various databases was performed. Given the exploratory nature of this review, the search strategy was made as broad as possible. A variety of search methods were used. Online databases were searched using keywords alone and in combination (table 1). Selected journals were hand searched (table 2). The internet was searched and references were followed up from papers identified.

Criteria for considering studies for this review

- Personnel: emergency ambulance workers as part or all of the considered population.
- Scope: stress (in general) and PTSD.
- Events: mass disasters, day to day contributors to stress, events of specific personal relevance.

Appraisal procedure

To maximise consistency in literature appraisal, a pre-designed critical appraisal template for surveys was identified on the American College of Physicians and American Society of Internal Medicine web site and adapted for use in this project.

RESULTS

A total of 292 articles were identified. Of these, 10 were concerned with the use of CISD with emergency ambulance personnel. Of these, one was an
Methodological issues

Issues in researching debriefing. One was a literature review and two tackled methodological expression of concern, three were evaluations of debriefing, and two tackled methodological issues in researching debriefing.

Methodological issues

Two articles were found that specifically tackled methodological issues. 1 Bisson and Deahl (1994) were concerned with evaluating the evidence for psychological debriefing. This is of interest as CISD has received a great deal of interest in emergency services literature, and as Bisson and Deahl note, the first description of the use of the method with ambulance personnel was in 1983. The review discusses the results of various types of study (although only one study on emergency workers is mentioned), evaluates the risks of debriefing and summarises the methodological shortcomings of the research. These were: non-prospective studies, small sample size, no control group, varying degrees of trauma, absence of random allocation, confounding variables ignored, low response rates, sampling bias, lack of uniformity in the debriefing process, timing variance, and questionnaire versus interview results. These are all issues that can be equally applied to the research discussed in this review. The authors concluded that at present it is not possible to fully determine the effectiveness of CISD, and that if it is to be made more widely available (at considerable cost) it would be prudent to conduct a proper evaluation. A recent Cochrane Review (2000) also recommended research into the psychological debriefing of emergency workers as a priority area for study.

Green (1982) discussed the methodological issues concerned with measuring levels of psychological impairment after disaster, including the dimensions of disaster, methodological, and comparability issues. It included a discussion of methodological concerns, including the need to clearly define the study population and cases. In common with Bisson and Deahl, Green was concerned about the interpretation of questionnaire versus interview results, as these can yield different estimates of psychopathology. In addition, the type of data collected varies widely and this raises problems with comparability and generalisation of results. The timing of follow-up is also of concern as it is “more likely to be based on practical considerations (for example, funding) than on scientific ones”.

Interventions

Four articles were found on CISD in emergency ambulance personnel:

1 Ostrow (1996)—advocated caution in the use of debriefing without further evidence. The author points out that CISD was promoted through non-refereed journals and conference speaking, but scant research was gathered to support the models, and little was published in “juried psychiatric or psychological journals about this model.” This statement is certainly supported by the results of the literature search conducted for this review. Only three pieces of work were found evaluating CISD in emergency ambulance personnel, and these are reported below (see table 3).

2 Robinson and Mitchell (1993)—conducted an evaluation of the impact of debriefings carried out by an Australian team. A total of 288 welfare and health personnel had been

1| Ostrow (1996)
2| Robinson and Mitchell (1993)
3| Green (1982)
4| Bisson and Deahl (1994)
Interventions for PTSD

The only item located in this category focused on emergency response groups.1

Reviews of the literature
The only item located in this category focused on emergency response groups.1

1 Orner (1995)16—reviewed critical incident intervention strategies for emergency service personnel (ambulance personnel, nurses, fire fighters, and police). It divided the literature into three key areas: clinical descriptive studies (which look at psychological and physical reactions), features of a major incident that precipitate high stress responses, and epidemiological studies (studies looking at incidence and prevalence). Useful comments about the quality of the existing evidence and consistency of CISD sessions, need to be implemented. It has been proposed that CISD is unlikely to be successful unless combined with other stress management and support services.7 In addition, the authors of this paper caution against compulsory debriefing that can lead to passive participation and resentment.

References

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References