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## ORIGINAL RESEARCH ARTICLES

### Exposure to daily trauma: The experiences and coping mechanism of Emergency Medical Personnel. A cross-sectional study



#### *Exposition quotidienne aux traumatismes: Les expériences et stratégies d'adaptation du personnel des urgences médicales. Étude transversale*

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**Introduction:** To investigate the experience and coping mechanisms used by Emergency Medical Services (EMS) personnel following exposure to daily or routine traumatic events.

**Methods:** A total of 189 respondents from three EMS in the Cape Town Metropole completed a questionnaire, containing close-ended quantitative questions. This was followed up by a semi-structured interview in order to get greater insight from in-depth qualitative data.

**Results:** The significant results of this study indicate that EMS personnel find dealing with seriously injured children most traumatic. They experience avoidance symptoms after exposure to a traumatic incident and apply emotion-focused coping to help them deal with their emotions. Very little or no training has been received to prepare them for the emotional effects of traumatic incidents or how to deal with the bereaved family, and there was consensus amongst the participants that their company debriefings and support structures are inadequate.

**Conclusion:** EMS personnel are exposed to critical incidents on a daily basis. Commonly used emotion-focused coping mechanisms are not effective in long-term coping. A key recommendation emanating from this finding is that integrated intervention programmes are needed to assist EMS personnel working in this sustained high-stress environment. The findings can assist health care educators in the design of co-curricular activities intended to help in the development of resilience and the psychological wellbeing of EMS personnel. Policy makers and EMS managers may find the results useful as they evaluate the effectiveness of their current debriefing and support structures.

**Introduction:** Les accidents et décès liés à des traumatismes représentent une partie importante du quotidien du personnel des services des urgences médicales. Selon les études menées, le personnel de ces services fait l'expérience de nombreuses réactions après avoir été exposé à un événement traumatique. Cette étude avait pour objectif d'enquêter sur l'expérience et les stratégies d'adaptation utilisées par le personnel des services des urgences médicales suite à une exposition à des événements traumatisants quotidiens ou habituels.

**Méthodes:** Au total, 189 personnes issues de trois services d'urgences médicales de la ville du Cap ont répondu à un questionnaire composé de questions quantitatives fermées. Un entretien semi-structuré a ensuite été réalisé afin de tirer davantage d'informations de ces données qualitatives détaillées.

**Résultats:** Les résultats significatifs de cette étude indiquent que le personnel des services des urgences considère que la prise en charge d'enfants victimes de blessures graves est l'événement le plus traumatisant. Ils se retrouvent confrontés à des symptômes d'évitement après avoir été exposés à un accident traumatique et ont recours à des stratégies d'adaptation axées sur les émotions les aidant à gérer leurs émotions. Une formation très limitée, voire aucune formation n'a été reçue pour les préparer aux effets émotionnels associés aux accidents traumatiques ou à la façon de faire face à des familles endeuillées; les participants à l'étude s'accordaient sur le fait que les structures de débriefing et de soutien proposées par leur entreprise étaient inadéquates.

**Discussion:** Le personnel des services des urgences médicales est quotidiennement exposé à des incidents critiques. Les stratégies d'adaptation axées sur l'émotion ne sont pas efficaces pour l'adaptation sur le long terme. L'une des principales recommandations découlant de cette conclusion est que des programmes d'intervention intégrée sont nécessaires pour aider le personnel des urgences médicales à travailler dans un tel environnement hautement stressant. Les conclusions peuvent aider ceux qui délivrent des formations au personnel des services des urgences médicales à élaborer des activités destinées à favoriser le développement de la résilience ainsi que du bien-être psychologique de ce personnel. Les décideurs et directeurs de ces services peuvent trouver les résultats utiles lors de leur évaluation de l'efficacité de leurs structures de débriefing et de soutien actuelles.

#### African relevance

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- Injury mortality rates in South Africa are approximately six times higher than the global average.
- Due to the burden of disease and socio-economic realities, EMS personnel are exposed to traumatic incidents and death.

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- Prior research on similar samples specifically focussing on coping mechanisms has primarily been conducted in Western developed countries.

## Introduction

Traumatic incidents and death constitute a significant part of the daily routine of the personnel of EMS.<sup>1,2</sup> Research suggests that EMS personnel experience many reactions after exposure to a traumatic event<sup>1,3-6</sup> yet admitting to being emotionally affected is regarded as difficult as it may lead to being perceived by their peers as not tough enough for the job.<sup>7</sup> The attitude of 'no one dies on my watch' is common amongst EMS personnel. Research suggests that EMS personnel often suppress their emotions and feelings so as to live up to this image of being strong and resilient. They, therefore, are reluctant to seek help during times of personal emotional crisis.<sup>5,8</sup> International studies in this area predominantly focus on EMS personnel's reactions to large scale disasters. A minority of studies have researched reactions to day-to-day traumatic events, which include road traffic accidents, incidents involving children, cot death, burns, suicides and mass casualties.<sup>3,8-13</sup>

While previous studies have examined the relationship between traumatic events and post-traumatic stress disorder (PTSD) symptoms, as well as the psychological effects of trauma, few studies have investigated the EMS worker's attitude towards death and dying on a normal day-to-day shift system and the subsequent coping mechanisms employed.<sup>5,6,10,14</sup> EMS plays a vital role in any society, especially in a country with a burden of disease such as South Africa. Injury mortality rates in South Africa are approximately six times higher than the global average.<sup>15</sup> One of a handful of studies conducted amongst EMS personnel in the Western Cape found higher prevalence of exposure to critical incidents compared to their counterparts in other low income countries. The study also found higher levels of general psychopathology especially anxiety and depression.<sup>16</sup>

Little is known about what impact exposure to traumatic events on a normal shift system has on EMS personnel and what coping mechanisms they use to overcome the psychological effects these incidents have on their lives. This paper reports on a study that investigated the experience of, and coping mechanisms used by, EMS personnel in the Cape Town Metropole, following exposure to daily or routine traumatic events. The research attempts to begin addressing this knowledge gap about the experience of day-to-day traumas inherent in the work of EMS personnel.

## Methods

The study uses a quantitative as well as a qualitative descriptive design. For this study, purposive sampling was used. Due to time and accessibility constraints, a sample of 350 operational personnel from three EMS in the Cape Town Metropole was invited to participate in an anonymous study. This sample did not include EMS administrators, fire fighters or volunteers. The final sample consisted of 189 participants. Of these 64% were male ( $n = 121$ ). A total of 65 were Basic Life Support (BLS) (34%), 87 Intermediate Life Support (ILS)

(46%) and 37 Advanced Life Support (ALS) (20%). The participants' age ranged between 21 and 61 years ( $M = 33.83$ ,  $SD = 7.74$ ) and the years of full-time employment in the EMS ranged from one month to 29 years. Nine operational EMS personnel volunteered to participate in the interviews by completing an informed consent form. Of these, four were ILS (44%) and the rest ALS, and the years of full-time employment in the EMS ranged from 10 years to 21 years. The respective managers of the three EMS that participated in the study also consented to participate in the interviews, enabling the researcher to obtain information on the support systems that are available to their staff.

EMS personnel from two private and one provincial service in the Cape Town Metropole were approached by the researcher during shift change at different EMS bases. A five-minute introduction to the study was given, in the aims of the research which was explained, and instructions provided on how to complete the consent form and questionnaire. The EMS personnel were asked to voluntarily participate in the study, and were assured of their anonymity. Participants were requested to complete and return the questionnaire as well as a signed informed consent letter.

Two measuring instruments were used in this study to gather information: a survey-type questionnaire to gather quantitative data and a semi-structured one-on-one in-depth interview to gather qualitative data.

The questionnaire was developed by the principle investigator using information interpreted from an in-depth literature review. The questionnaire included standardised scales, namely, the Revised Impact of Events Scale<sup>18</sup> and the COPE scale<sup>19</sup> as well as close-ended, fixed alternative questions, consisting of multichotomous and dichotomous questions. All the questions were associated with the issue of exposure to critical events on a day-to-day shift system, centring on the coping methods which EMS personnel use.

The raw data of the questionnaires were entered into a Microsoft Excel 2010 spread sheet and the statistical values were calculated to reflect the views of the sample. Comparison and correlation were done via chi-squared, the Spearman Rank Correlation Co-efficient, the Mann-Whitney/Wilcoxon Rank Sum-Test and the Kruskal-Wallis test.

The audio-taped interviews were transcribed and read repeatedly to gain an overall insight of the ideas expressed by the participants. The researcher copied the interview transcripts onto computer-based directories, each of which held a particular theme or analytical idea. The generation of codes, by splitting the data into its components during the examination process, was done in a 'line by line' fashion. This method, although time consuming, is generally considered the most productive and accurate, and highly recommended by qualitative researchers. Similarities were noted between the transcripts, with participants describing similar stressors, emotions and coping mechanisms, and themes emerged. These themes were identified because the responses occurred consistently. This allowed the researcher to make comparisons between the participants' answers. The data were then coded by themes and patterns so that differences and similarities between all the different items could be identified.

This study was granted ethics approval from the Research Ethics Committee, University of Cape Town.

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