Critical Incident Stress Management (CISM) in complex systems: Cultural adaptation and safety impacts in healthcare

Alice Müller-Leonhardt [a,*], Shannon G. Mitchell [b], Joachim Vogt [a], Tim Schürmann [a]

[a] *Work and Engineering Psychology, Technische Universität Darmstadt, Germany*
[b] *Friends Research Institute, Baltimore, MA, USA*

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ABSTRACT

In complex systems, such as hospitals or air traffic control operations, critical incidents (CIs) are unavoidable. These incidents can not only become critical for victims but also for professionals working at the "sharp end" who may have to deal with critical incident stress (CIS) reactions that may be severe and impede emotional, physical, cognitive and social functioning. These CIS reactions may occur not only under exceptional conditions but also during every-day work and become an important safety issue. In contrast to air traffic management (ATM) operations in Europe, which have readily adopted critical incident stress management (CISM), most hospitals have not yet implemented comprehensive peer support programs. This survey was conducted in 2010 at the only European general hospital setting which implemented CISM program since 2004. The aim of the article is to describe possible contribution of CISM in hospital settings framed from the perspective of organizational safety and individual health for healthcare professionals. Findings affirm that daily work related incidents also can become critical for healthcare professionals. Program efficiency appears to be influenced by the professional culture, as well as organizational structure and policies. Overall, findings demonstrate that the adaptation of the CISM program in general hospitals takes time but, once established, it may serve as a mechanism for changing professional culture, thereby permitting the framing of even small incidents or near misses as an opportunity to provide valuable feedback to the system.

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1. Introduction

1.1. Incidents in complex systems

In complex systems, activities in one area become critically dependent on seemingly insignificant events in other, even distant areas (Cook and Rassmussen, 2005). Due to the multitude of relationships and interactions between its parts, complex systems entail various ways of working (Woods et al., 2010; Cilliers, 1998). Adaption and, in consequence, performance variability have become necessary requirements to cope with the dynamics of complexity. As such, standard procedures are unlikely to match all possible combinations and interactions. Hollnagel (2009) argues that to improve safety in such systems a change in perspective is required towards a theory that accepts that humans, due to their capacity to adapt demands, are an asset to the proper functioning of a system. Following Dekker (2006), adaption is a double-edged sword because under certain circumstances, following procedures may result in fatalities and injuries while at another time and in a different context, not following procedures may also lead to fatalities and injuries. These dynamic aspects of safety in complex systems may lead to unintentional crossing of the margin of acceptable performance and to the emergence of accidents or incidents. Those types of incidents, which are recognized and immediately adjusted, are often described as a "near miss "(Cook and Rassmussen, 2005) or "close call" and, while they happen more frequently than adverse events, they do not lend themselves to the same type of system feedback as would occur with a performance error (Wu, 2011; Goh et al., 2012).

1.2. Critical incidents in hospital systems

Critical incidents, as defined by Mitchell and Everly (1993) happen frequently in hospital systems (Yule, 1999; Hembree and Foa, 2000). While major incidents, such as pandemics or radiological emergency scenarios (Erret et al., 2012), violence to a colleague, suicide or self-harm by a patient or staff member, or sudden infant death syndrome (Theophilos et al., 2009) fall within the realm of critical incidents (CIs) occurring within hospital systems, so do these "near miss" type events (e.g., last minute detection of wrong

* Corresponding author at: Technische Universität Darmstadt, Institut für Psychologie, Alexanderstr. 10, D-64283 Darmstadt, Germany. Tel.: +49 6151 1670818.
E-mail addresses: mueller@psychologie.tu-darmstadt.de, alicemuller@gmx.de (A. Müller-Leonhardt).

medication) or medical error (e.g., wrong medication) and the relation to working conditions in this complex system are largely neglected in the literature. This neglect may be due to the traditional culture and values of Western societies and hospitals, which still focus on the guilt of individuals working at the "sharp end" (operational staff members) (Dekker, 2006, 2009), although errors in complex systems, such as hospitals are largely seen as unavoidable side effects of performance when viewed from a systemic theoretical framework (Rasmussen, 1990; Feltovich et al., 1997; Cilliers, 1998; Woods, 2006).

Within the frame of guilt, blame and shame that commonly embody hospital cultures (Gilbert and Andrews, 1998; Tangney & Dearing, 2002), coping with critical incident stress (CIS) becomes even more difficult. The sense of responsibility that health care professionals commonly feel can produce a fear of harming others and feelings of guilt when errors occur, which often play an important role as precursors for CIS reactions. Wu (2000) stated, "Those who are most reflective and sensitive may lose their nerve, or seek solace in alcohol or drugs (p.727)." According to the literature, there is evidence that involvement in a medical error can elicit a significant psychological response from health professionals involved (Misson, 2001).

1.3. Critical incident stress management programs

Critical incident stress management (CISM) is a comprehensive peer support program which was originally developed to stabilize psychological functioning of paramedics, fire fighters, police officers and soldiers following exposure to CIs (Mitchell, 1983). CISM has been used in Europe, especially in European civil air navigation organizations (e.g., ATM) since 1997 and is applied in the aftermath of major incidents (e.g., accidents, terroristic attacks, or disasters), but also after smaller, more common incidents (e.g., "near misses") that provide the potential of leading to a major accident. CISM program interventions are usually performed by specially-trained peers who are supervised by mental health professionals (MHPs) with expertise in CISM. A CISM peer is a member of the workforce who has been specially selected/elected and trained to provide a first line of assistance and basic crisis intervention to colleagues. This design is based on the advantage that peers are trusted because they know the working situation.

Unidentified or untreated critical incident stress reactions may limit cognitive functioning and therefore reduce safety. CISM helps to handle CIs by supporting employees in the recovery from critical incident stress reactions and ultimately enhancing the resiliency of the organization (Leonhardt, 2006). Although the United Nations recognizes CISM as the world-wide standard for peer-based critical incident support programs (Mitchell, 2008), there has been limited CISM adoption within European hospitals.

Mitchell and Everly (1993) posit that an incident has the potential of being traumatizing in the long term if one or several of the following criteria are fulfilled: feelings of helplessness/powerlessness; feelings of personal guilt; a high degree of identification; threat to life and health; and the involvement of children. The objectives of implementing CISM interventions are to reduce CIS reactions as quickly as possible, to "normalize the unusual reaction", to reactivate cognitive functioning and processes affected by the incident, and to regain the ability to work as soon as possible.

In contrast to quoted research results critics cite evidence that psychological debriefing (PD), a generic term sometimes used to refer to the debriefing component of a CISM program, is ineffective(Rose et al., 1999; NICE, 2005a,b; Bledsoe, 2003; Small et al., 2006) or even harmful (Bisson et al., 1997). Consequently, many organizations stopped providing debriefings to employees who face trauma in their routine work. Although there are a large

number of studies evaluating and discussing CISM interventions, there are critical issues affecting the credibility of the claims that they make, in terms of the target group, the interventions, the outcomes that are measured, and the methodology of the research that is conducted (Hawker et al., 2010). Most of the literature evaluates CISM interventions on the basis of their ability to reduce PTSD symptoms (Rose et al., 2001) and are concentrated on critical incident stress debriefing (CISD). However, most people who experience a traumatic event report some of the symptoms associated with PTSD. These symptoms usually do not last long enough to be diagnosable as PTSD (Blanchard et al., 1996; Rothbaum et al., 1992). The reaction experienced following a trauma is known as acute stress disorder (ASD) (WHO, (1992)) and providing just PD in response to an established case of PTSD would be inappropriate (Davies, 2010).

Moreover, these studies on PD focused on one specific component of the intervention but not on the CISM comprehensive program, which has been found to produce positive effects dealing with CIS (Leeman-Conley, 1990; Tehrani, 1998; Deahl et al., 2000; Juen et al., 2011).

Meanwhile the Australian Centre for Posttraumatic Mental Health (2011) pointed out that it is important and possible to develop guidelines on peer support programs which are acceptable to both experts and practitioners in this field.

There is evidence that where CISM program is properly implemented, e.g. in air traffic control (EUROCONTROL, 2004) affected employees cope more efficiently, recovery is more sustainable, and they more quickly resume their tasks (Vogt et al., 2007a; Wee et al., 1999). In addition, it may decrease the probability of subsequent disorders and save the organization further costs (Vogt and Pennig, 2006).

1.4. Aim of the study

Based on results of a CISM study (Vogt et al., 2007a) at the German Air Navigation Services Provider, the Technische Universitaet Darmstadt conducted a survey at a European general hospital setting in 2010 to examine the standardized yet culturally adjusted CISM approach from an organizational perspective. The survey was exploratory in nature and sought to examine how CISM works within hospitals settings, specifically. The aim of this article is to describe the possible contribution of CISM in hospital settings framed from the perspective of organizational safety and individual health for professionals working within a general hospital system.

2. Method

The study was conducted in accordance with the ethical principles of the American Psychological Association (APA). Participation was voluntary and all participants were informed about aims of the study. In case of negative emotional responses in response to answering questions regarding previous CIs, psychological assistance was available from the CISM program manager.

2.1. Design

Data consisted of two questionnaires, one for staff members (colleagues) and one for CISM peers, as well as a structured interview guide for the CISM manager.

2.1.1. Questionnaires

The questionnaires were developed based on the German ATM version used by Vogt (Vogt et al., 2007a,b) and were administered at a single time point. The questionnaires were originally developed in a study for Eurocontrol, the European agency for the