Supporting involved health care professionals (second victims) following an adverse health event: a literature review

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ABSTRACT

Background One out of seven patients is involved in an adverse event. The first priority after such an event is the patient and their family (first victim). However the involved health care professionals can also become victims in the sense that they are traumatized after the event (second victim). They can experience significant personal and professional distress. Second victims use different coping strategies in the aftermath of an adverse event, which can have a significant impact on clinicians, colleagues, and subsequent the patients. It is estimated that nearly half of health care providers experience the impact as a second victim at least once in their career. Because of this broad impact it is important to offer support.

Objective The focus of this review is to identify supportive interventional strategies for second victims.

Study design An extensive search was conducted in the electronic databases Medline, Embase and Cinahl. We searched from the start data of each database until September 2010.

Results A total of 21 research articles and 10 non-research articles were identified in this literature review. There are numerous supportive actions for second victims described in literature. Strategies included support organized at the individual, organizational, national or international level. A common intervention identified support for the health care provider to be rendered immediately. Strategies on organizational level can be separated into programs specifically aimed at second victims and more comprehensive programs that include support for all individuals involved in the adverse event including the patient, their family, the health care providers, and the organization.

Conclusion Second victim support is needed to care for health care workers and to improve quality of care. Support can be provided at the individual and organizational level. Programs need to include support provided immediately post adverse event as well as on middle long and long term basis.

KEY WORDS: adverse events, patient safety, second victim, support program

WHAT THIS PAPER ADDS:

What is already known about the topic?

- When an adverse event occurs, nurses and other health care providers can be traumatized by this event.
- In the aftermath of an adverse event, symptoms of second victims are mainly post-traumatic stress and burnout.
- These symptoms may lead to problems of work-life balance and increase the likelihood of additional incidents, therefore support is needed.

What the paper adds?

- Support to second victims after adverse events must be organized on the individual and organizational level.
- Support needs to be provided immediately after the adverse event but also on middle long and long term.
- An overview of second victim support systems is provided which may inspire health care organizations in their search for optimal support systems.

INTRODUCTION

Recent research concludes that adverse events occur in one out of seven patients. This high number suggests that respectful management of adverse events should be a high priority for hospital management (Classen, 2011; The Lancet, 2011; Levinson, 2010). Because when an adverse event occurs, there can be three types of victims: the first victim is the patient and the involved family, the second victim is the involved health care professional and the third victim is the involved organization. Wu introduced the term second victim in 2000 (Wu, 2000). A second victim has been defined as "a health care provider involved in an unanticipated adverse patient event, medical error and/or a patient related-injury who become victimized in the sense that the provider is traumatized by the event. Frequently, second victims feel personally responsible for the unexpected patient outcomes and feel as though they have failed their patient, and feel doubts about their clinical skills and knowledge base" (Scott *et al*., 2009; Scott *et al*., 2010). As many as half of all health care providers have experienced the second victim phenomenon during their professional careers (Edrees *et al*., 2011). Second victims can suffer on both professional and personal level (Schelbred and Nord, 2007). This may lead in turn to further adverse impact on other patients and members of the healthcare organization. The majority of the perioperative registered nurses in the study of Chard (2010) reported that they were angry with themselves after committing an error and showed some level of emotional distress. Because of the extreme distress and shattered confidence in the aftermath of an adverse event, some of them felt unfit to be a nurse any longer (Arndt, 1994). The suffering of second victims may lead in turn to further adverse impact on other patients and members of the health care organization.

Ideally, when an error or adverse event comes to light, the case is reviewed, leading to changes in system processes and practices. Second victims may be able to contribute to the design of constructive changes in practice which not only address vulnerabilities within the health care system but also help the health care providers to heal. They need help in coping as adaptively as possible. Second victims should be encouraged to accept responsibility for an unexpected outcome to assist in bringing about constructive changes in practice. However, it should also be recognized that this approach is associated with heightened emotional distress (Chard, 2010; Smith and Forster, 2000; Wu *et al*., 1991). Emotional support should be provided, including the sharing of lessons from previous adverse events, because no support makes the situation even worse (Arndt, 1994). Understanding

other second victims have experienced can help the suffering nurse to cope with the feelings of guilt, shame, fear and loss of confidence (Schelbred and Nord, 2007). Many health care providers, including nurses, struggle to find support after a medical error, do not know where to find assistance or guidance or did not received the adequate support for coping with the stress that is associated with an adverse event (Gallagher *et al.,* 2003, Scott *et al*., 2008; Waterman *et al*., 2007). Health care institutions often fail to take responsibility for the provision of support and provision of the necessary elements of a support system (Conway *et al*., 2010; Gallagher *et al*., 2003; Schwappach and Boluarte, 2009). In some cases, second victims are only able to find solace outside of their institutions, during national or international conferences (Engel *et al*., 2006; Gallagher *et al*., 2003; van Pelt, 2008).

The aim of this manuscript is to provide an overview of existing literature that describes the care and support for second victims, both individually and at the institutional level. The research questions for this literature review are: 1) What kind of support can be provided on the individual level? 2) Which support can be rendered at the organizational level?

METHODS

Data sources

Medline, Embase and Cinahl were searched from the starting date of each database until September 2010. Only articles in the English language were used in this review. This report adheres to the PRISMA method for reporting on systematic reviews (Moher et al., 2009).

Selection of articles

This literature review employed a three-step search strategy. Initially a search in Medline, Embase and Cinahl was conducted by exploring the following search terms: "second victim", "medical error" OR “adverse event” AND "psychology" OR "emotions" OR "feelings" OR "burnout" OR "depression" OR "empathy" OR "attitude of health personnel", "medical error"[MeSH] AND "Burnout, Professional"[MeSH] OR "Depressive Disorder"[MeSH] OR "Empathy"[MeSH]. This first step of data sources was performed between August and September 2010.

The second step was a manual search of reference lists from all relevant articles identified in step one. This was performed in September and October 2010 by two of the authors (DS and EVG).

Following inclusion criteria were used:

- Papers which mentioned actions taken by colleagues, supervisors or managers which can help the second victim in reducing their emotional stress or have an impact on their coping strategy;
- Studies that reports actions which health care providers find helpful in the aftermath of an adverse event;
- Studies which reported a correlation between the coping strategy seeking social support and impact of the adverse event on the health care provider;
- Papers which described support systems for second victims or health care providers involved in an adverse event and which are organised at institutional, national or international level.

We excluded studies which were not published in English, conference reports, newspaper stories and personal stories of health care professionals in a scientific journal.

The third and final step in the search strategy was an external review of the identified articles by three experts in the area of the second victim phenomenon: SS (published the definition of second victim and described a six-stage recovery trajectory) (Scott *et al*., 2009), JC (first author of the Institute for Healthcare Improvement (IHI) white paper) (Conway *et al*., 2010) and AW (initially introduced the term second victim) (Wu, 2000).

Quality appraisal

For all the research articles a quality appraisal based on the framework of standardized framework outlined by the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) was performed (Shepherd *et al*., 2006). Out of these 21 articles there is one effect-evaluation study (Waterman *et al.,* 2007). For this study seven quality criteria were evaluated: (i) clear description of the aims of the intervention; (ii) a description of the study design and content of the intervention sufficiently detailed to allow replication; (iii) employment of a control/comparison group equivalent to the

intervention group in terms of socio-demographic and outcome variables; (iv) provision of data on numbers of participants recruited to each condition; (v) provision of post-intervention data for all individuals in each group; (vi) attrition reported for each group; and (vii) findings reported for each outcome measure indicated in the aims of the study. For each criterion that was met a score of one was given. For the other research articles we used the questionnaire for exploratory-evaluation studies. Out of these 20 studies eight studies contains a qualitative interview. The 12 studies which did not use a qualitative interview were scored on six quality criteria. These criteria are: (i) an explicit account of theoretical framework and/or inclusion of a literature review that outlines the rationale for the intervention; (ii) clearly stated aims and objectives; (iii) a clear description of context, which includes details about factors important for interpreting results; (iv) a clear description of sample; (v) a clear description of methodology, including systematic data collection methods; (vii) inclusion of sufficient original data to mediate between data and interpretation. For the eight studies including a qualitative interview seven quality criteria were scored. These quality criteria contain the six criteria mentioned above and the criterion (vi) evidence of attempts made to establish the reliability and validity of data analyses. For each criterion that was met, one point was given. Based on the quality appraisal we included all the 21 research articles and the scores are mentioned in table 1.

Table 1: literature table of the research articles

Author	Country	Year of study	Setting	Design/type of study	Participants	Quality appraisal*	Outcome
Aasland *et al.* (2005)	Norway	2000	Norway	Quantitative study Cross-sectional Postal questionnaires	1318 doctors with various specialities	6/6	Good collegial support depends on acceptance of criticism among colleagues
Arndt (1994)	Germany, England and Scotland	Not reported	Hospital	Qualitative study Cross sectional Unstructured interviews, focus groups, written reports and case proceedings	32 ward sisters and senior nurses	4/7	Time, need to talk and listening and trust in personal and professional abilities are the three component for being supportive and in accepting support
Bell *et al.* (2010)	Not reported	2007-2008	Not reported	Qualitative study Cross-sectional Questionnaires, open discussions	154 trainees (medical students/residents) specialism not specified and 75 medical educators	4/6	Around 40% of the participants found that they received adequate institutional support
Christensen et al. (1992)	USA (Oregon)	Not reported	Hospital	Qualitative study Cross-sectional Semi-structured interviews	11 physicians of which 4 were internists and 7 medical subspecialties	6/7	Discussion of adverse event with colleagues is seen as threatening and sometimes as unhelpful
Denham (2007)	Not reported	2007	Not reported	Qualitative study Cross-sectional Interviews	National experts in quality, safety, teamwork and medication management	4/6	Support for second victims should be organized in the same way as patients support
Engel et al. (2006)	USA	Not reported	Hospital	Qualitative study Cross-sectional Semi-structured interviews	26 residents physicians with various specialties	7/7	Family members and friends are less able to provide the kind of reassurance and support residents desired
Fischer *et al.* (2006)	USA (Worchester)	2003-2004	Hospital	Qualitative study Cross-sectional Semi-structured telephone interviews	59 trainees (medical students and residents), specialism not specified	5/7	Small group discussions seems to be important for support and learning
Gallagher *et al* (2003)	USA (Missouri)	2002	Not reported	Qualitative study Cross-sectional Focus group discussion	52 patients and 46 physicians with various specialities	6/6	Physicians are struggling to find support after medical error
Hobgood *et al.* (2005)	USA	2003	Not reported	Quantitative study Cross-sectional Questionnaires	43 emergency medicine residents	6/6	Negative emotional responses are associated with lack of institutional support. This is mentioned by 23% of participants
Kaldjian *et al.* (2008)	USA	2004-2005	Hospital	Quantitative study Cross-sectional Questionnaires	138 faculty physicians with various specialities and 200 resident physicians with various specialities	6/6	Discussion of medical mistakes with colleagues is seen as helpful
Meurier et al. (1997)	UK	Not reported	Not reported	Quantitative study Cross-sectional Questionnaires	60 NHS nurses	5/6	There is a need for discussion of the error with colleagues and support in the aftermath of an error

* explorative evaluation studies containing structured or unstructured interviews are scored on 7 criteria
† quality appraisal of effect evaluation studies which contains 7 criteria (see methods section quality appraisal p 6)

Table 1: continued

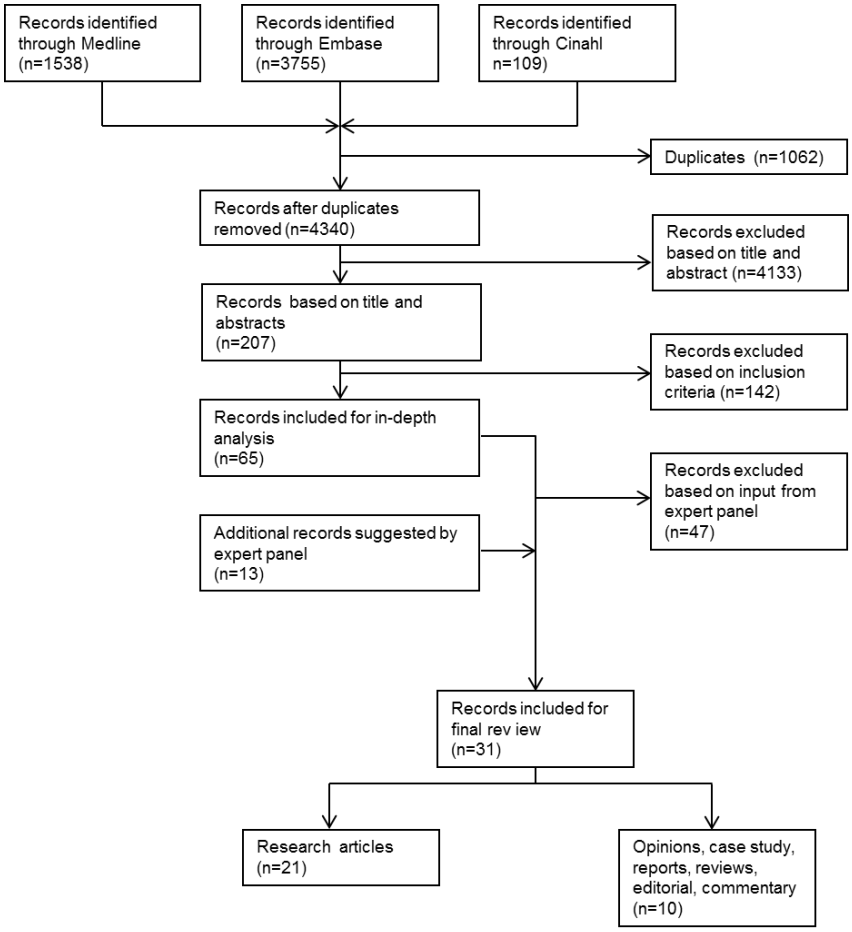
Author	Country	Year of study	Setting	Design/type of study	Participants	Quality appraisal*	Outcome
Newman (1996)	USA (Philadelphia)	Not reported	Hospital	Qualitative study Cross-sectional Semi-structured interviews	30 family physicians	7/7	There is a need for support and most of the participants received this from a spouse.
Schelbred *et al*. (2007)	Norway	2003	ABS in Norway	Qualitative study Cross-sectional Semi-structured interviews	10 nurses	7/7	Support by colleagues, doctors and managers are seen as helpful
Scott *et al*. (2008)	USA (Missouri)	2007-2008	Hospital	Qualitative study Cross-sectional Interviews and thought-evoking questionnaires	11 staff nurses and 3 immediate nursing supervisors	5/7	There is a need of support for health care providers individually. This publication suggests building an institutional support program
Scott *et al*. (2009)	USA (Missouri)	2007-2008	Hospital	Qualitative study Cross-sectional Semi-structured interview	31 professionals involved in patient safety events (10 physicians, 11 registered nurses and 10 other health professionals)	7/7	There is a need for individual and institutional support
Scott *et al*. (2010)	USA (Missouri)	2007-2008	Hospital	Quantitative study Cross-sectional Questionnaires	898 professionals	5/6	Description of an institutional support program
Sexton *et al*. (2009)	USA	Not reported	Hospital	Qualitative study	RN nurses	5/6	Expressive writing can help nurses with their coping process
Waterman *et al*. (2007)	USA and Canada	2003 -2004	Hospital	Quantitative study Cross-sectional Questionnaires	3171 physicians with various specialities	6/7†	Adequate support by the institution in coping with error-related stress is only found by 10% of participants
Wolf *et al*. (2000)	USA	Not reported	Not reported	Mixed methods Cross sectional Questionnaires	402 health care professionals of which 208 nurses, 112 pharmacists and 82 physicians various specialities	4/6	Managers and physicians are less supportive than friends, family members and colleagues at work
Wu *et al*. (1991)	USA	1989	Hospital	Quantitative study Cross sectional Questionnaires	114 house officers	6/6	House officers discussed their mistake with supervising or attending physicians, patient or family are at a conference
Wu *et al*. (1993)	USA	1989	Hospital	Quantitative study Cross sectional Questionnaires	114 house officers	6/6	Seeking social support is not a common coping strategy

* explorative evaluation studies containing structured or unstructured interviews are scored on 7 criteria
† quality appraisal of effect evaluation studies which contains 7 criteria (see methods section quality appraisal p 6)

RESULTS

Article abstracts for the 207 candidate studies were reviewed by members of the research team. Based on this initial review, 65 studies were identified as relevant because they addressed one or both research questions. The panel of experts identified 13 additional articles. These 13 additional articles contain research articles, a review of the Medically Induced Trauma Support Services (MITSS) toolkit of second victim resource materials (MITSS, 2011), and a case study. This search resulted in the identification of 31 pertinent articles meeting the search criteria. These 31 pertinent articles contain a total of 21 research articles, one editorial (Wu, 2000), one commentary (Levinson and Dunn, 1989), one white paper (Conway *et al*., 2010), three reviews (Schwappach and Boluarte, 2009; Sirriyeh *et al*., 2010; Smith and Forster, 2000), one case study (van Pelt, 2008), and three reports (Arndt, 1994; Carr, 2000; Wolf, 2005). The search strategy is outlined in figure 1. The key characteristics of the research articles are displayed in table 1.

Figure 1: overview search strategy



Research question 1: What kind of support can be provided on the individual level?

Individual support for second victims can be rendered by a variety of individuals, such as managers, supervisors, counsellors, therapists and colleagues. The highest level of collegial support is found by discussion of the adverse event to understand what went wrong. Clinicians who accept criticism and discuss the adverse event with colleagues perceive more support from those colleagues (Aasland and Forde, 2005). Discussing a clinical error with a colleague is still not common practice in today‟s health care systems. In the study of Bell *et al* (2010), 30% of faculty physicians and nearly 50% of trainees were not comfortable discussing their error. They found it hard to talk with colleagues about errors because they were afraid of potential damage to their professional reputation and image. Some physicians feel that colleagues minimize the mistake or avoid their emotional concerns (Christensen *et al*, 1992). Clinicians who discuss the clinical error with colleagues do this usually for professional and personal reasons including the need for emotional support (Kaldjian *et al*., 2008). Open discussion and disclosure of the mistake could have a positive impact on their stress and reduce the likelihood of future mistakes and should be organized and facilitated (Smith *et al;,* 2000; Wu *et al.,* 1991; Wu, 2000). This also has the potential to lead to better patient outcomes, better patient-professional relationship and improved health care delivery. But disclosure of the adverse event to the patient is seen as one source of physicians distress (Waterman *et al*., 2007). Physicians studied by Gallagher *et al*. (2003) reported that none of the participants saw a counsellor or a psychologist about the error. They found that the most difficult challenge was to forgive themselves for the error.

The way in which the manager and the administrator handle errors influences whether the provider feels safe in reporting an error. It also plays a role in identifying the causes of the error and implementation of changes to prevent recurrence (Arndt, 1994; Wolf, 2005). If the manager has had an experience with a bad patient outcome himself, it can be valuable to share it. If not, he/she can still be supportive and responsive to the victim‟s needs (Scott *et al*, 2008). Supervisors can support second victims by emphasizing their continued trust in them. This can be done by reassuring the second victim that their professional abilities are still important to the organization and to their professional teams (Engel *et al.,* 2006; Newman, 1996; Schwappach and Boluarte, 2008). Scott *et al.* (2008) suggest that immediate support should be provided to the clinician following the adverse event and that the time between the adverse event and support is crucial. A trusting relationship between

the involved health care provider and the individual that is providing support is important (Schelbred *et al.,* 2007; Scott *et al,* 2009). Family members, friends and colleagues seem to provide more support than managers and physicians (Wolf *et al*., 2000). Most of the nurses felt they need to be supported and do this by discussing their errors with colleagues and nurses in the ward (Meurier *et al*., 1997). Support can be given by asking about the emotional impact of the adverse event and how the colleague is coping (Meurier *et al.,* 1997; Wu, 2000). Scott *et al*. (2008) described key phrases that managers can use to stimulate a critical conversation with second victims and suggested some key actions for interacting with the second victim. These include “This had to have been difficult. Are you okay?”, “I believe in you”, “I can not imagine what that must have been like for you. Can we talk about it?”, “You are a good nurse working in a very complex environment”. Key actions for interacting with the second victim include being there and present for the clinician, practicing active listening skills and allowing the second victim to share the personal impact of his or her story. It is important to avoid condemnation without knowing the story (Scott *et al*., 2008). Good support from colleagues and a good relationship with the patient in the aftermath of an error can have a positive effect on the second victim (Sirriyeh *et al*., 2010). An overview of considerations and interventional strategies to support second victims is provided in table 2.

Table 2: Overview of identified considerations and interventional strategies to support second victims

Considerations
• Time between adverse event and support is crucial with 24/7 availability (Schelbred and Nord, 2007; Scott *et al.*, 2010) • Structured sessions need to be provided (Engel *et al*., 2006) • Highly respected physicians or physicians in a senior position should be encouraged to discuss their errors and feelings (Levinson and Dunn, 1989) • Programs which focus to prevent, identify and treat burnout (West *et al*., 2006) • Promote empathy within the team (West *et al.*, 2006)
Strategies
• Talk and listen to second victims (Arndt, 1994) • Organize and facilitate open discussion of the error (Engel *et al*., 2006; Fischer *et al*., 2006; Meurier *et al*., 1998) • Share experiences with peers (Engel *et al.*, 2006) • Organize special conferences on the issue of second victims to increase awareness (Levinson and Dunn, 1989) • Provide a professional and confidential forum to discuss their errors (Levinson and Dunn, 1989) • Inquire about colleague coping (Wu, 2000) • Expressive writing (Wu *et al.*, 2008)

Research question 2: Which support can be rendered at the organizational level?

A support program is likely to be most effective if it is part of a comprehensive process for responding to patient safety incident. It should include plans for taking actions not only to correct system failures and inadequacies within the health care environment but also actions to support the second victims on organizational level. Trainees and faculty physicians in the study of Bell *et al*. (2010) reported that around 40% of them were adequately supported at their hospital or practice when involved in an adverse event.

The culture of the organization plays an important role. A culture that supports mutual criticism and constructive feedback at the workplace reduces the impact of the adverse event (Aasland and Forde, 2005). An organizing principle for institutions is to configure support to maximize timeliness and availability. But also guarantee the confidentiality of discussions and facilitated access to a higher level

of professional support (Scott *et al*., 2010; van Pelt, 2008, Waterman *et al.,* 2007). So support should be provided 24 hours a day and 7 days a week (Conway *et al*., 2010; Scott *et al*., 2010; van Pelt, 2008) i.e., credible peer support and interactions should be available immediately after an incident as a form of emotional first aid, ideally before the clinician leaves the clinical environment. Denham (2007) proposes five rights for second victims: treatment, respect, understanding and compassion, supportive care and transparency and opportunity to contribute to enhancing systems of care.

McDonald *et al*. (2010) describe seven pillars for responding to patient safety incidents. One of these pillars is education and training for professionals, administrative and supportive staff. In this pillar health care providers in a harmful event are encouraged to actively participate in the communication process and disclosure as a part of their healing and learning processes. In addition, risk management and department supervisors are trained to identify the need for support and to refer providers to the second patient program. This program includes peer-peer support, individual and group employee assistance and fitness-to-work assessments as needed. The employee assistance programs give general support and are intended to provide non-specific support for employees who are experiencing distress of any kind and are typically organized by the human resource department of the organization (Waterman *et al*., 2007).

Team meetings can provide positive emotional support, such as support groups or discussions of mistakes presented by the ones who committed the adverse event (Fischer *et al.,* 2006; Wu *et al*., 1993). Death and complication as well as morbidity and mortality conferences are valuable opportunities to review adverse events and medical errors (Engel *et al*., 2006; Gallagher *et al*., 2003; Hobgood *et al*., 2005). These types of conferences were found to be helpful for surgical and obstetrical resident physicians to share their experience and identify ways to do things differently in the future. These conferences can be structured sessions or facilitate and encourage more informal open discussions which may generate powerful synergy among the health care team and can be modified to allow open discussion of the physician‟s emotional reaction to the adverse event (Engel *et al*., 2006; Levinson and Dunn, 1989; Smith and Forster, 2000). Some programs include a reflective writing intervention as described by Janel Sexton *et al.* (2009).

A comprehensive organizational support infrastructure is reflected in the “Scott three – tiered emotional support system” (Scott *et al*., 2010). The first tier is immediate “emotional first aid” and can be seen as basic care to make sure that the second victim is okay. This should be organized at the

local or departmental level. Sixty per cent of the participants in the study by Scott et al (2010) found this support sufficient when this tier was organized by individual unit leaders and colleagues/peers. Key actions and key phrases that the can be used are described above. The second tier is support by peers trained in the second victim phenomenon and includes aggressive monitoring of clinicians by frontline managers, with referrals to patient safety or risk management experts. Thirty per cent of participants in Scott"s study needed peer-support which was organized by a specially trained peer support „emotional first aid" rapid response team. The third tier comprises expedited referral to professional counselling services following the unanticipated clinical event. This type of support was needed by 10% of the participants in the study by Scott *et al*. (2010). To complement the three tiered interventional strategy, the University of Missouri Health Care program includes 24/7 availability for second victim support and encourages immediate clinician support, education about the second victim phenomenon and monthly team meetings to share best practices for addressing the unique needs of second victims. During routine meetings of both second victim supporters and team mentors deidentified cases are reviewed and lessons learned are shared to advance the skill set of trained colleagues (Scott *et al*., 2010).

There are a few support programs described in the literature that are designed to provide care for both first and second victims. The most prominent is the non-profit organization Medically Induced Trauma Support Services (MITSS). The mission of MITSS is to “support healing and restore hope” for those who have been negatively affected by an error and has as goal to “assist affected individuals to process adverse medical events in a positive manner in order to move forward both personally and professionally” (Carr, 2000). An additional more general program that may be useful within the clinical environment is the Critical Incident Stress Management (CISM). This interventional response is primarily designed for non- medical community-based responses. This complex program aims to decrease the effect of critical incident stress by an established team-based approach composed of mental health professionals and peer support personnel. Support is generally provided to groups of affected individuals. CISM contains a pre-crisis preparation, demobilization and staff consultation, group information, debriefing for stakeholders, defusing, critical stress debriefing, individual crisis intervention, family CISM, organization consultation and follow-up referral (Wolf, 2005).

The Institute for Healthcare Improvement (IHI) recently published a white paper on respectful management of a serious clinical adverse event (Conway, 2010). The IHI Clinical Crisis Management Plan has an ultimate strategy of avoiding harm after the crisis of an adverse clinical event. This Clinical Crisis Management Plan takes into account three victims with corresponding priorities. This institutional response plan includes the following elements: organizational culture of safety, internal notification, a Crisis Management Team, priority 1 is the patient and family, priority 2 is the frontline staff and priority 3 is the organization. Priority 3, the organization, includes elements concerning the event, internal and external communication, external notifications and unannounced visits by regulatory bodies. A Crisis Management Team is recommended by IHI to ensure the priorities of an organization towards the three potential victims and to ensure crucial internal and external communications. This team should be established by the organization to assemble immediately in response to a serious clinical adverse event (Conway *et al*., 2010).

DISCUSSION

When an adverse event occurs, health care providers frequently suffer from emotional distress. This can be noted by the patient, the patients‟ family and the health care providers. Emotional distress can be related to an increased likelihood of subsequent adverse events (West *et al*., 2006). When second victims are supported, personal distress can be reduced (Arndt, 1994). Support should be given to health care providers directly involved in the care of the patient as well as others in proximity to the patient and family members (Denham, 2007). Support can be provided on the individual level and at the organizational level. At the individual level, it is important that support is given immediately by colleagues, managers and supervisors. Organizations need to have response plans which prevent and support the health care providers who are involved in an adverse event. Because when health care institutions don‟t support their people, they will lose all the trust and respect and in long term it will harm the culture of the organization (Denham, 2007). Two aspects need to be considered when establishing a support program at organizational level: first, understanding nature and causes of an adverse event and second, reacting appropriately when an adverse event has occurred. Institutional response plans must establish a support network that provides additional care for the second victims that need more than peer/colleague support (Scott *et al*., 2008). Support may also be needed on long

term basis and should be integrated in the total scheme for quality of care. Nursing is the profession that is the most represented in health care institutions and health care organizations should be aware of the impact of an adverse event on their health care providers and how they can support them. Arndt (1994) concluded that when nurses are not supported their situation can become even worse. Because of the serious impact of an adverse event on nurses and not enough support some of them are thinking about leaving their job (Arndt, 1994). So immediately support by colleagues is a must. It seems that 60% of the health care providers involved in an adverse event found that the support given by colleagues and, peers is very helpful and were not in need of specially trained peer support (Scott *et al.,* 2010). For this the culture of the organization is vital in shaping informal norms that accelerate open dialogue, continuous improvement and organizational training (Hobgood *et al*., 2005). Supporting nurses and other health care providers is part of a good work environment and this work environment influences the quality and safety of care and should be seen as a part of the whole safety system. Mistakes can happen and errors are not always the direct fault of the health care provider but can also occur due to latent failures (Denham, 2007). Institutions need to take their responsibility for this and support their health care providers. Not only managers but also nurses are also concerned about the quality of care they deliver. There is still work on local and national level to change the safety culture (Jagsi *et al*., 2005). For changing the safety system leadership and culture are important. There are differences in leadership and hospital culture within and across countries. Departmental leaders can influence the unit culture and should have a full understanding of the institutional investigation process for unexpected events. The Clinical Crisis Management Plan outlined by IHI is a roadmap for an integration of support infrastructure deployment for the first, second and third victim of unanticipated adverse events (Conway *et al*., 2010). However there are still barriers to providing support, such as negative attitudes toward medical errors, the threat of professional loss of respect and the lack of available institutional support (Sirriyeh *et al*., 2010). Provision of support is not the only problem to address. Organizations need to break the stigma that remains regarding access and use of mental health care services (Wu *et al*., 2008), as part of the evolution to a no shame, no blame culture and a culture of continuous improvement (Goldberg *et al*., 2002). In designing a support network, organizations should also consider that students also can become second victims and should be included in support programs. Engel *et al*. (2006) suggest that residency programs should provide educational opportunities to openly discuss errors even if they are

associated with good patient outcomes and little perceived resident physicians‟ responsibility. They encourage development of widespread “error conferences” like death and complication and morbidity and mortality conferences. However, morbidity and mortality conferences traditionally examine medical facts rather than the impact of the error on patients or physicians (Wu, 2000). In morbidity and mortality conferences, personal stories of second victim experiences should be shared with young learners.

Literature shows there is no consensus of how to effectively support second victims or how best to design a support program. Some hospitals have begun to integrate emotional support in their root cause analysis but there are other experts who believe that this should be kept as separate functions (Guadagnino and Waterman, 2007). There are little considerations of the positive results that may allow constructive use of the error for learning and improvement (Sirriyeh *et al*., 2010). Future research is necessary to provide organizational tools to assess effectiveness of support program adherence to international standards. International research programs on the impact of these support systems on the first, second and third victim should be encouraged.

Since 2000, with the introduction of the term second victim, there has been an increase in the number of publications about second victims and support systems for second victims, which also means an increase of grey literature about the subject. Grey literature contains less hard data which we did not include in our review. The high amount of grey literature suggests that most knowledge remains within the organizations and is not internationally published. To learn more about the support systems, knowledge sharing networks within and across countries should be organized in search for excellence.

CONCLUSION

To improve the quality of care and to sustain a culture of patient safety, there is also a need to support health care providers who are suffering as second victims. As the patient safety movement advances, second victim support should be an integral part of research, conferences and training. To ensure safe and just environments of care, managers, clinicians and the academic world need to launch and evaluate supportive strategies for second victims. At present, it appears that comprehensive support programs should contain support by colleagues, managers and supervisors. The organizations

support network should be organized and supported by senior organizational leaders. Second victims should be encouraged to be actively involved in the design and development of support structures. Comprehensive programs should include support for the patient, health care provider, and plans to address adverse events on the organizational level to ensure integration within a comprehensive patient safety system. These programs should be designed to provide short-term, middle, and long term support to all victims of serious health care adverse events.

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