Available online freely at www.isisn.org

Bioscience Research

Print ISSN: 1811-9506 Online ISSN: 2218-3973

Journal by Innovative Scientific Information & Services Network

REVIEW ARTICLE BIOSCIENCE RESEARCH, 2022 19(1): 138-151. **OPEN ACCESS**

Assessment of the second victim experience among nurses in the first health cluster at Makkah city

Bothaina Othman Mahmoud Fallata, Naglaa Abdelaziz Mahmoud Elseesy and Maram Ahmed Banakhar

Faculty of Nursing, Dep. of Nursing Administration King Abdulaziz University, **Saudi Arabia**

***Correspondence: bo0othaina5@gmail.com** **Received 18-10-2021, Revised: 29-12-2021, Accepted: 05-01-2022 e-Published: 19-01-2022**

In the health sector, witnessing the harm of patients during medical procedures and medical care is complex albeit expected experience among healthcare providers worldwide. However, there is a high level of trauma and stress from unexpected patient harm or medical error engagement. The most difficult cases come when these errors lead to patient injury that permanently damages one's well-being. Therefore, it is valuable to understand the effect of the second victim experience among nurses and help identify the manifestations associated with medical error embroilment and provide lasting solutions to these damages. This review's general emphasis is on assessing the second victim experience and the availability of the support system among nurses to have enhanced awareness of the second victim's experience and what they need after involving them in adverse events. The findings of this review showed nurses had significantly been affected by the second victim experience both emotionally and physically. As a result, after suffering from the second victim syndrome, supports are needed by the nurses and health care providers after the adverse events occur. Also, they need various programs to help them get over their pain and suffering. Recommendations It is imperative for the nursing managers, educators, and researchers to consider the second victim experience among nurses in all hospitals and provide support and programs for improving their psychological and physical well-being to decrease absenteeism, turnover intention, and increase professional self-efficacy.

Keywords: Vitamin D, Knowledge, Perception, Sources, Complications, Deficiency.

INTRODUCTION

Errors are still happening in the health system despite advances made in the management of error prevention, and previous studies have shown that errors in the medical field are considered one of the prevalent causes that lead to death (Ajoudani et al. 2017; Makary & Daniel, 2016).

Nurses are critical in addressing the issue of patient safety; their role in the process of patient safety is considered prevalent in much previous research (Kowalski & Anthony, 2017; Pyo et al. 2018). Errors in nursing can cause mortality, prolonged hospitalization, and negative effects on nurses(Ajoudani et al. 2017; Makary & Daniel, 2016).

Incidents related to patient safety can result in physical and psychological complications and damage patients and caregivers (Kowalski & Anthony, 2017; Pyo et al. 2018). Adverse clinical events occur daily within healthcare systems instigating psychological and bodily harm to patients, their families, medical staff, the organization, and the community. In addition, involvement in medical errors or adverse patient events may result in ongoing emotional turmoil (Lewis et al. 2015). The main priority, as it should, is focused on the patient's well-being, while little

attention is given to the healthcare team member's psychological well-being following an adverse event (Chitwood, 2019).

The second victim was first identified by Albert Wu' paper "The doctor who makes a mistake needs help too," published in 2000. In this study, Wu focuses on the effect of errors on Healthcare Professionals (HCPs) (Wu, 2000). He correctly identifies that the personal and professional distress that HCPs face due to these errors can be compared to post-traumatic stress syndrome (PTSS), which has had a considerable impact on the quality of life of many victims of various adverse events. It is therefore essential to evaluate the effects of adverse events in the healthcare environment. Whenever an error occurs, it causes a domino effect that has lasting implications on four distinct groups of people: the patient and the patient' immediate family (the first victim), HCPs (second victim), the hospital's reputation (third victim) and patients who are harmed in the future (fourth victims) (Wu, 2000). Each adverse event in the healthcare environment has a cascading effect on various key stakeholders in the environment. In most cases, people fail to consider the second, third, and fourth victims of these events and focus on the first victims, it will lead to more hurt, pain, and other errors in the healthcare organization. This neglect is what this research is assessing especially second victims in the nursing sector in Makkah region of Saudi Arabia.

Trauma which happens because of safety accidents and errors is not concerned only by patients and caregiver personnel; all healthcare professional who is in the safety incident can experience a different psychological issue such as fear, distress, feeling of embarrassment, anger, and even frustration beside feeling of some physical symptoms like fatigue, odd behaviors and insomnia (Lee et al. 2019). Many consider changing careers due to the adverse event. Some health providers report suicidal ideations, and others commit suicide because of the event and lack of support (Ullström et al. 2014).

The most critical part of these health care providers is nurses because they are close to patients, so they are greatly affected by these incidents and errors. Moreover, they are in direct contact with patients, and they spend most of their time with the patient, and they are responsible for most of the drug administration tasks; all these things put the nurses in events of patient safety. Therefore, nursing errors may cause serious adverse effects which affect three victims: Nurses, patients, and the health care setting (Harrison et al. 2013).

Several studies have confirmed that 10 % to 43% of healthcare team members suffer from second victim symptoms after an adverse event (Cabilan & Kynoch, 2017; Lewis et al. 2015). These manifestations and their severity are related to the error's significance, the providers' personal responsibility for the incident, and the assistance they receive in recovering from the event. (Miller et al. 2019).

Therefore, one study shows that severity of a second victim experience varies and may be prolonged and life-altering. One aspect mentioned in the second victim literature that has been shown to elicit a second victim response and aid in recovery is organizational support following traumatic events (Scott & McCoig, 2016).

Without the necessary help and support, many second victims are left alone. They can no longer function optimally. This is the reason various individuals act out in the work environment. With so much stress, lack of sleep, and extreme fatigue, individuals cannot properly relate with colleagues and family and cannot fulfill their duties effectively. Their bodies and minds are so exhausted that they cannot be effective in everyday life (Ullström et al. 2014). This is why they need to be given the necessary help to regain their physical and psychological help. Psychologically disturbed individuals are not able to function optimally and are prone to many errors. Assessing the problems that arise from the second victim phenomenon improves the quality of healthcare and improves the livelihood of various healthcare workers, primarily nurses (Burlison et al. 2016).The importance of clinician support (or lack thereof) has been demonstrated to impact clinicians' perceptions of patient safety and entire care teams (Scott, 2015).

The data National Academy of Medicine NAM (2019) in the USA gathered alarming statistics about healthcare providers' stress, depression, post-traumatic and emotional exhaustion. In addition, statistics demonstrate that nurses are suffered. For instance, their investigation revealed that twenty-four percent of intensive care unit nurses screened positive for post-traumatic stress disorder symptoms, and emotional fatigue rose as a result by 23–31% among primary care nurses. (NAM, 2019).

1.2. Significant of study

Given the astounding the second victim phenomenon's implications on our healthcare

organizations, this phenomenon cannot be ignored. Most of the conducted studies on this topic have been administered in Western regions, but there is a limited study in the Asian contexts and the Middle East, which results in a significant gap in this field. Make the point that the second victim phenomenon is less well-documented in nursing. This knowledge and comprehension gap is concerning, given the second victim phenomenon's impact on the nursing profession; no study on this subject had been conducted in Saudi Arabia (KSA), according to the researcher's knowledge and search.

A considerable amount of the literature focused on describing the adverse psychological effects and the need for organizational support for nurses as the second victim. However, few studies have focused on how support affects the second victim: nurses and its influence on the safety culture of the work environment in providing the optimum nursing care (Scott, 2015).

Hopefully, this study will give more contribution and attention to second victims in healthcare by addressing that nurses need support.

Furthermore, this study could be significant to the following:

Nursing Students:

This research study delivers learning greater insight, problems & challenges they may encounter throughout their clinical performance in their chosen nursing career. This study will give them a better and broad perspective about their profession and aid them in enhancing coping abilities and self-confidence.

Nurse Practitioner:

This study addresses nurse emotional turmoil following adverse events, providing better support to deliver overall quality nursing care. As the second victim- the information gathered in this research helps identify the areas of strength and weaknesses, addressing concerns of the second victim phenomenon in the anticipated clinical event unfolds.

Hospital/Nursing Administration:

This study provides understanding to support further the second victim nurses in an adverse event, building a culture of safety within the organization in which these sensitive issues are discussed in a clear, non-judgmental, and non-punitive manner. The nursing admin must create conditions that ease the impact of the adverse event while promoting safety and a healthy working environment's "one that is safe, empowering and satisfying" (ANA, 2018 par). This study will provide the knowledge of what remedial measures they need to institute. Further, this will help the hospital administration/organization build a better relationship professionally with the nurses.

Ministry of Health, Makkah Health Cluster:

The result of this study can help the ministry of health update their information with regards to the therapeutic significance of nurses, incorporating in their programs the importance of nurses- including their psychological and physical health, for initiate quality nursing support and education, and overall nursing concerns in Makkah.

Future Researchers:

This study will provide additional information and insight, if not new, as well as topics and acknowledgments of experience of second victim nurses. The ideas here may be used and presented as reference dates in conducting research or investing other related findings' validity. Which hopefully will be developed by future researchers to make it more essential and helpful in nursing professionals.

Significant of the review

The importance of this review to identify the evidence to increase the body of knowledge about the second victim experience and support system among nurses. In this way, a Scopus empiric analysis and conceptual study, which looked at the assessment of the second victim experience among nurses, evaluated and synthesized the studies into integrated best clinical research evidence and nurse priorities and beliefs in decision-making or change-making.

Purpose of Review:

This Scopus review aims to evaluate all the available evidence on the second victim experience and support system among nurses.

Search Strategy:

Key Search Terms

Numerous critical terms were used to search the databases for pertinent studies: "experiences, nurse(s), second victim, errors, health care provider, support system and adverse event." The search commenced with each keyword and was further enhanced through the use of Boolean operators to organize and combine phrases. (and/ or/ not).

Inclusion Criteria

This criterion ensured that research that was

selected had the following criteria:

English-language publication.

Published in the recognized database between 2010 and 2020: This helped ensure that the most recent and relevant information on the research topic was considered. The ten years' time frame also made sure that the research considered adequate previous research.

Peer-Reviewed Articles: Peer-reviewed articles provide accurate and dependable information that can be adduced due to the rigorous process the peer review puts those articles through.

Type of participants: In the review of this information, the search focuses on studies on registered nurses who have unexpectedly made adverse medical errors as participants, so they had a second victim experience. This will ensure that only nurses who have been second victims are included in the review.

This review will consider any qualitative, quantitative, mixed methods, and systematic review studies conducted on nurses who have experienced the second victim phenomena in all clinical settings.

Exclusion Criteria

Letters, reports, commentaries, notes, grey literature, and conference abstracts: These materials have no concrete proof. They are opinions of people who have not undergone enough scrutiny and review to be used as a basis for conclusions.

Search Strategy

A three-step search method was utilized to conduct a more comprehensive search for published studies on the subject mentioned in English language sources. A limited search of the Medline Web of Science (WoS) and Scopus databases was conducted for this review, as these two databases provided a list of search headings and overviews of key research outputs that were useful when attempting to identify keywords contained in the titles or abstracts of potentially relevant articles.

Secondly, a broad search that incorporates extra terms across Saudi Digital Library: PsycINFO, Medline (WoS), Scopus, and Science Direct and ProQuest databases. Thirdly, a hand-search of all studies' reference lists and bibliographies is highlighted in the second step to identify additional relevant articles. Furthermore, Google Scholar was considered an additional source.

Study Selection Process

PRISMA includes a four-phase flow schematic as illustrated in figure 1.

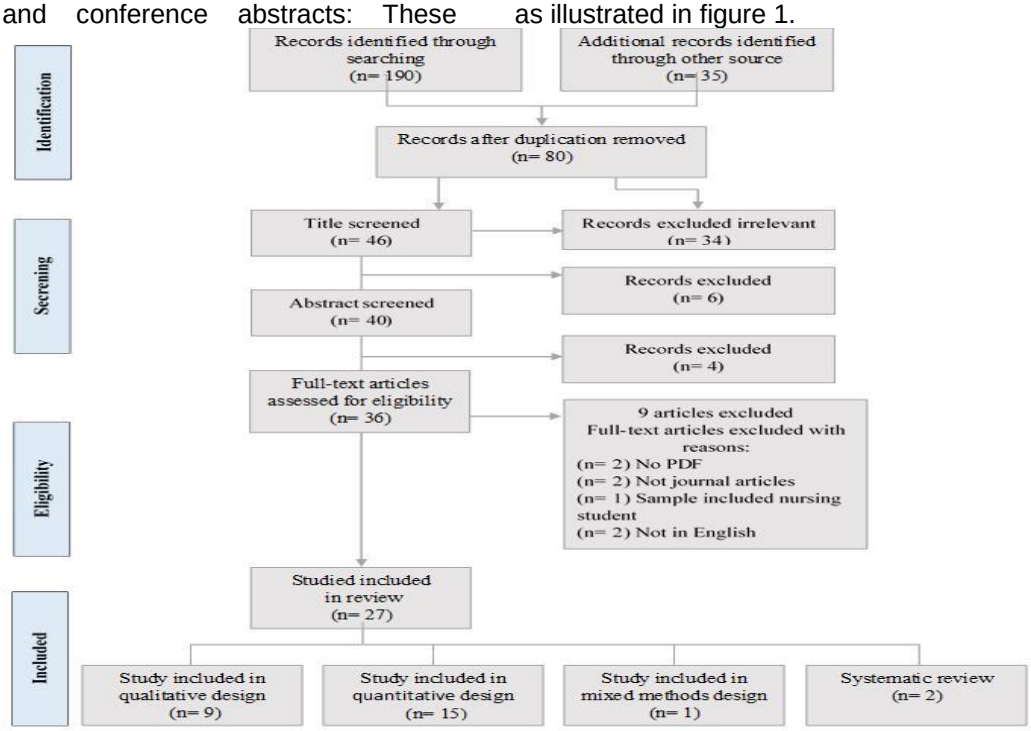

Figure 1: PRISMA Flow Diagram Adopted from (Mohar et al 2015)

Initially, 190 articles were recognized through database searching and 35 from other sources. Eighty articles remained after removing duplication. Next, following the criteria for inclusion and exclusion, 34 articles were related to irrelevant citations. The researchers then screened the remaining 46 articles manually (titles, abstracts, and full texts), and only relevant articles were retrieved. Finally, 36 Full-text articles were included, nine articles were eliminated with reasons. Finally, 27 studies were included in the review nine qualitative, 15 quantitative, one mixed-method, and two systematic review articles.

Findings

Findings from the 27 involved studies six main themes were divided which are: "psychological distress of the second victim," "physical distress of the second victim," "Support for the second victim," "programs for the second victim," "impact of organizational support," and "relationship of second victim experience with turnover."

Theme 1:

Psychological Distress of Second Victim

According to research, one of the signs of the second victim experience among nurses is the psychological distress of the second victim. Therefore, this theme identifies the psychological symptoms faced by the nurses and health care providers in the adverse events with any errors. The studies below illustrate how second victims develop psychological perceptions of shame, guilt, and isolation due to various errors and patient injuries during patient care.

As study undertaken by Chan et al. (2017) navigated a qualitative descriptive study in Singapore to discover the psychological reactions, coping methods, and support requirements of Singapore nurses who were second victims of unfavorable events. They found out that adverse events had substantial psychological effects on the lives of nurses. Furthermore, adverse events were seen to have a long-lasting effect on nurses. According to their research, second victims had various psychological responses to the events. These include having intrusive thoughts, failure to accept responsibility, issues with their self-identity, among others. The study's findings are vital in improving effective second victim support programs. In addition, these findings provide essential background on the consequence of the second victim syndrome.

With similar study was conducted by McLennan et al. (2015) discovered that the effects of the second victim phenomena among nurses and anesthesiologists working at Switzerland's five university hospitals concluded that experiencing adverse effects had serious effects like bad emotional state, feeling of blame or guilt, embarrassment, and feeling uncertainty. So often, the mistakes incident overwhelms nurses.

These two studies provide a similar conclusion and show that the responses involved feelings of depression, fear, worry, guilt, frustration, anger, bad psychological state, guilt, stigma, and uncertainty.

Mok et al. (2019) also conducted a study in Singapore on the Second Victim Experience and Support Tool. Using a quantitative cross-sectional research design, they used a tool to collect data from 1163 nurses in Khoo Teck Puat Hospital by the Department of Nursing, Yishun Health Campus, and the National Healthcare Community. The study found that nurses in the state second victims feel the overwhelming distress that affects professional, physical and mental aspects were; about 31.8% of the study participants decided to quit, while 9.3% were regularly absent after a medical mistake. These results have deep insight into the state of second victims in the nursing profession.

Further, Rodriquez et al. (2018) were done a study in Massachusetts that applied the cross-sectional research design with a questionnaire composed of 39 questions concerning the personal and professional aspects of 77 healthcare providers. The study revealed that clinicians adapted their emotional offerings to align with organizational expectations, leading to feelings of pent-up guilt and stigma that may have been attributed to burnout, modifying roles, or even early retirement. The study results highlight the requirement to enhance better support systems for healthcare workers involved in an adverse clinical incident.

Moreover, Pratt & Jachna, (2015) also represents the psychological effects of the second victim syndrome in nurses. After conducting a cross-sectional research involving 79 nurses in the United States, these two scholars identified a variety of symptoms that various nurses depicted after experiencing an adverse effect. These symptoms include; outrage, guilt, embarrassment, anxiety, loneliness, dissatisfaction, and decreased job satisfaction. Further, these scholars identified several physical symptoms that accompany psychological distress.

This study highlights the pain and suffering that various nurses go through after experiencing adverse effects. It appears that the road ahead for this nurse is not easy and, without checking, would lead to stigma and mental illness.

Another study was done by Gupta et al. (2019) that offers a comprehensive analysis of the second victim syndrome. Although the participants are not nursing who are the focus of this study, their results can be extrapolated to include nurses because they focus on the second victim experience in the medical sector. In this research, qualitative research found numerous treatment errors in medicine, which led to various events in medicine. From their study, Gupta et al. show that adverse events lead to psychological stress in medical practitioners. Further, due to their anxiety and nervousness, as they do their duties, health care practitioners are more susceptible to making more errors during patient care due to the psychological distress that comes from their second victim experience. Therefore, it is vital to know the plight of second victims, especially nurses, and give them the necessary care before returning them to practice.

Also, Vanhaecht et al. (2019), in their study on the effect of Patient Safety Incidents, found that healthcare providers who were engaged in events that caused permanent harm or led to the death of their patients were hugely affected in their personal, professional lives. They were more affected by the incidences when the severity of the events was more pronounced. The most common symptom was hyper-vigilance. Other common expressions of group work include experiencing questions about one's expertise and ability, feeling incapable of giving high-quality treatment, and sensing discomfort among team members. These symptoms have a massive influence on the productivity of a healthcare workers leading to poor productivity and more mistakes during the implementation of their duties and responsibilities.

In general, psychological symptoms that lead to stressful and traumatic life events even to the second victim can range from "mild" to "severe." Mild stress reactions manifest in a variety of ways, including insomnia, irritability, anxiety, interpersonal tension, concentration deficits, and worsening of pre-existing health conditions. On the other hand, severe psychological harm might be defined as the presence of symptoms consistent with the American Psychiatric Association's (APA) diagnostic criteria for Post-Traumatic Stress Disorder (PTSD). According to the APA, the stressor that produces this condition is extremely upsetting to almost anyone and falls outside the typical range of human conduct. Persistent hyperarousal (e.g., issues with attention and memory, inability to relax, impulsiveness, a proclivity to get shocked easily, difficulty falling or staying asleep, anxiety); psychological numbing (e.g., depression, and apathy toward activities, estrangement from others, and lack of desire for the future); and Persistent thinking about the source of stress (e.g., flashbacks or vivid and intrusive recollections, returned nightmares, intense distress when faced similar situations). Post-Traumatic Stress Disorder can present acutely, chronically, or in a delayed manner. It takes faith to take more calculated risks and to allow time to recuperate from a traumatic event induced by human design. The most likely scenario is that symptoms will initially be more acute following the episodes and then lessen over time. However, when an individual is exposed to stimuli comparable to those associated with the traumatic occurrence, symptoms may intensify.

This research literature reveals that psychological damage is not fundamentally different for second victims of various errors or mistakes committed, but is rather proportional to the severity of the error or mistake committed. In other words, while the psychological effects of second victims in health care may differ, the nature of their distress is comparable.

It's an excellent idea to focus additional research on the behavioral and psychological effects of the second victim. The lack of understanding regarding the second victim's repercussions has grown dramatically over the years, yet there has been very little attention devoted. The researchers know that the distress induced by this encounter may be dangerous based on current facts. However, because the long-term consequences of second victim experience are unknown, a minority of people with healthy coping mechanisms were able to cope just fine without assistance. However, those who are suffering silently from the long-term consequences may need to be addressed to provide distressing and assistance. While significant advances have been made in studies, our understanding of what defines a second victim from the victim's perspective remains restricted (Burlison et al. 2016).

Theme 2: Physical Distress of Second Victim

The second victim phenomena have

various effects on nurses experiencing it. One of the effects of the phenomenon is physical distress among various healthcare professionals, especially nurses. This theme seeks to identify the various physical symptoms noticeable among nurses as per various research studies. The following studies provide a detailed analysis of the various symptoms of physical distress of the second victim.

Similarly, Connors et al. (2020) conducted a study on the second victim experience among nurses in the USA, focusing on 337 nurses at the Teaching Hospital. This study revealed that nurses faced various physical symptoms, including loss of appetite, loss of sleep, and fatigue. Further, the study revealed that clinicians experienced some form of emotional upheaval after experiencing adverse events. The result also showed high rates of burnout among nurses who were exposed to adverse events.

Apart from this, Kable et al. (2018) undertaken a study in Australia at various acute care settings in a significant regional area health service using qualitative descriptive, and data collected by interview method from 10 nurses shows that engagement in an adverse event is traumatic for clinicians, providing significant distress which caused anorexia, insomnia, fatigue, and less sleep. These findings show a considerable similarity with the findings from the above study. In addition, this study shows how the effects of the second victim have a physical toll on nurses.

Undoubtedly, the above results are confirmed by Burlison et al. (2016) in their study in a pediatric hospital in the USA. While considering the adverse effects on cancer and other critical care nurses and other healthcare professionals, they interviewed 983 respondents using the SVEST tool. This research studied the personal impact of inclusion in patient safety incidents, and the significant organizational support role in minimizing caregiver trauma resulting from incidents has been recognized. This is the initial study to establish a connection between second victimization and stress with complications of work-related. It also illustrates that the association throughout work impacts and distress can be illustrated by recognition of support by the organization. This engages healthcare institutions' efforts to form and improve assets to assist their staff behind occurrence patient safety incidents. This research demonstrates the adverse consequences of the second victim encounter and the necessity to help healthcare givers recover from these experiences. Going through the results of this study, it is clear that there is significant evidence of physical distress among nurses after experiencing adverse events during patient care.

In addition, Joesten et al. (2015) conducted a study in Massachusetts at an adult community teaching hospital using cross-sectional design and data collected with a questionnaire PSE survey, 27 calculated surveys from 120-second victims in the hospital when some support services were provided; only 32% of survey respondents felt adequately supported by the hospital, less than one-third of respondents reported support services were provided to them, and the perception of 30% to 60% of respondents was that various support services were not received any support. In addition, the study revealed that nurses showed a few upsetting sides effects after mistakes, such as alarming recollections and stress around claims. However, there was a small bolster given for nurses after these occasions.

All the studies show relevantly similar conclusions that indicate the factors affecting the physical well-being of nurses going through the second victim experience, such as fatigue, insomnia, sleeplessness, and anorexia, then traumatic events, burnout, and lost relationships.

Theme 3: Support for the Second Victim

This theme describes the supports needed by the nurses and health care providers after the adverse events occur. The following six studies describe the level of support and help needed by second victims after witnessing the error or injury of patients under their care. This theme is central as it forms a basis for developing effective second victim support programs in the healthcare community.

In a study conducted by Stone, (2020) in North Carolina using qualitative descriptive study design with comprehensive literature search method, nurses were the study participants, and the study indicated that in order to reduce the likelihood of a nurse being murdered as a result of an unfavorable occurrence, healthcare organizations and nurse executives should provide post-mortem support to the nurse.

Also, Ullustrom et al. (2014) conducted a research study in Sweden at Swedish college 21 clinics utilizing subjective exploratory consider and information collected utilizing semi-structured interviews from 21 healthcare providers. The findings corroborate previous research indicating that mental discomfort is the most pervasive consequence of bad occurrences. Additionally, it was shown that the consequences

on the healthcare provider were related to the organization's response to the occurrence. The majority of informants need organizational help or received it in an unstructured and unsystematic manner. Additionally, the Lack of help and feedback exacerbated the difficulty of processing the situation and achieving emotional closure.

Besides, a study conducted by Finney et al. (2020) in the USA at a single institution with quantitative cross-sectional using SVEST from 310 participants who were nurses. The study concluded that supportive resources for nurses as 74.8% of nurses were lacking the knowledge about the term of the second victim. Overall, 47.8% of nurses reported that they experienced all symptoms of the second victim after an error and 19.1% in the previous year. In addition, 18.4% of nurses in the study experienced psychological distress, 14.3% intentions to leave, 13.0% reduced experience of professional efficiency.

Moreover, a study was undertaken by Harrison et al. (2015) in the USA at two big educational hospitals in the United Kingdom & United States using a quantitative cross-sectional design. The tool used to gather the data was Health Professional Experience Questionnaire (HPEEQ); 265 doctors and nurses participated. The study showed that when nurses and physicians "felt highly supported, valued, or trusted by nurse directors," their emotions of empowerment increased and their contacts with coworkers and/or patients became more effective.

In addition to this, a study conducted by Cabilan and Kynoch (2017), in the USA at all researches performed in any health care organizations over the world using qualitative phenomenological study design and data collection tool was comprehensive search (Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI QARI)). Two hundred eighty-four nurses were participated in the study and concluded that the support deficiency had an essential outcome among decisions of nurses whether to the recovery process and disclosed the error. Therefore, an A strong support system is critical for alleviating psychological distress, facilitating the disclosure process, and boosting nurses' satisfaction. The analysis also identifies study gaps that include support system characteristics distinguished by nurses and the paucity of articles worldwide.

Furthermore, Pinto et al. (2013), a study performed in two National Health Service (NHS) institutions in London and the United Kingdom, anticipating the qualitative study design and the semi-structured interview method used to collect data from 27 participants involving surgeons and nurses, and the study, indicates that their reactions relay on the possibility of prevention of complications, their experiences, personality, patient impacts, reactions, peer feedback, and organization culture. Discussion of consequences, deconstructing events, and justification was among the most common coping mechanisms. Organizational support was generally prescribed as insufficient, and individuals mainly indicated strong corporate blame cultures. Recommendations to support health care workers in controlling the personal outcomes of complications included better guidance, teamwork techniques, blame-free opportunities to identify complications, and structures that target the human factors of complications.

The thorough research demonstrate that inference is consistent because a good support system is critical for easing emotional distress, enhancing the discovery process, and assisting nurses in the reconciliation process.

Additionally, Rinaldi et al. (2016) performed qualitative analysis on 33 healthcare employees. The purpose of this study was to look for second victims among Italian health care providers. The interviewees mentioned the stages of post-event recovery as described in the literature, but in a manner inconsistent with the American study. Both individuals vividly recalled the bad occurrence and described physical and emotional symptoms associated with it. Psychological help to second victims was deemed insufficient and useless. While the usual post-event recovery course is anticipated, it may not always be followed precisely in this Italian study. Further study on the second-victim phenomena and necessary supporting treatments will help future physicians better understand their patients' experiences and desired interventions to limit harm. Healthcare providers become second casualties on a daily basis, and given that human capital is the most significant asset in healthcare infrastructures, it is critical to provide effective interventional services to assist and educate these workers following an unfortunate occurrence.

Theme 4: Programs for the Second Victim

After suffering from the second victim syndrome, nurses need various programs to help them get over their pain and suffering. This theme describes the programs needed by the nurses

after the adverse events occur. There have been detailed research and studies on the programs providing help and support for the second victim in the healthcare organizations. This theme included six studies. These studies provide different conclusions that have been described below.

Significantly, Mira et al. (2015) conducted a study in Spain's National Health System, using a qualitative study design and a comprehensive search method, in order to synthesize existing information about the aftermath of adverse events (AEs) and establish a recommendation set for minimizing their adverse impact on patients, healthcare providers, and organizations in contexts where no prior experience or apology is accessible. There was there were a total of 27 participants in study, including doctors and nurses. A total of fourteen journals and sixteen websites were analyzed.

The results were divided into eight categories: safety and organizational procedures, patient treatment, constructive approach to avoiding recurrences, support for clinicians and healthcare teams, mobilization of resources to apply an adequate response, educating patients and/or family members, incident analysis, and protecting health practitioners' and organization's reputations. According to the report, adverse events result in shame, anxiety, and a lack of confidence in health care providers. The majority of them engage in at least one of these second victim cases. They receive very little instruction or instructional sessions on the coping mechanism. The nurses expressed stigma, remorse, distrust, denial, and an inability to recognize the fact.

Another, Scott et al. (2010) performed another study in Kansas City at the University of Missouri Health Care, using a descriptive cross-sectional template and a 10-item Web-based survey to collect data from 5299 nurses and healthcare providers.

In 2009, Missouri Health Care (MUHC) established a second victim advocacy infrastructure to assist physicians, student learners and volunteers with emotional support. In this ground-breaking intervention, a robust support infrastructure known as the For YOU Team provides clinicians with direct emotional and social support on a 24-hour-a-day basis. The team utilizes a three-tiered model to meet each individual's specific needs. The menu of robust emotional support programs includes everything from on-demand emotional first aid to skilled counseling. The study ended with implementing a program to provide second victims with emotional, mental, physical, and professional support.

Even though many healthcare organizations suggest second victims' needs and plan interventions to assist them to make a healthy recovery, few have formalized action plans to adjust these victims' many unique needs at the organizational level. Ideally, readily accessible support infrastructure must be reachable to all clinicians during twenty-four hours, seven day a week, so staff members were experiencing an unexpected medical event can receive quick assistance. Employees must be informed of available assistance and what to expect after an incident. Such programs should include screening and monitoring at-risk providers immediately after the unexpected event, practical, emotional support to expedite their recovery, and mitigation of adverse career outcomes. Professional support must become a standard component of the organization's response to a medical emergency, beginning from the moment the event is discovered.

The above two studies are comparable in outcome and conclusion that few programs can be developed to overcome the effects and burnout on the second victim.

Furthermore, Burlison et al. (2017), a study carried out in the USA at specialized pediatric hospital managing children with disastrous events with cross-sectional research design and data collection tool used SVEST, 303 participant's health care providers involved in the study concluded that healthcare organizations should have accurate information to support second victim's programs and save more solutions for them.

However, a study undertaken by Lee et al. (2019) in Korea at Korean hospitals using qualitative study design and interview method used for data collection from 16 nurses, physicians, and pharmacists. The research reveals that the holistic considerate of the second victims' perception in the east of Korea through data attainment using a qualitative design. The second victim phenomenon is composed of six stages: accident and chaos response; disturbing reflections; Integrity restoration of self-esteem; bear inquisition; seeking first aid and moving on (Scott et al. 2010). These study findings also highlight the five phases of the second victim response process and could help create Korean support programs provided for a second victim. The above two studies do not demonstrate the similarities in the results and conclusion.

Moreover, Choi et al. (2020) undertook a

cross-sectional analysis in Korea on 492 nurses to determine the extent and complexity of the second victim issue among nurses by analyzing their interactions with and reactions to patient safety incidents (PSIs). The proportion of participants who reported meeting a sleeping disruption was statistically significantly different, with 42.4 percent reporting direct experience and 21.0 percent reporting indirect experience. Additionally, the difference between the 34.3 percent with direct experience and the 22.1 percent with indirect experience was statistically significant when task or work changes were included (resignation). Indirect experience resulted in total PTSD ratings of 11.97 points (95 percent confidence interval [CI]: 17.31 to 6.63), which were significantly less than those associated with direct experience. Additionally, individuals who believed the medical error did not contribute to PSI had a total PTSD score of 4.39 points (7.23 to 1.55) lower than those who believed it did. Numerous nurses reported psychological distress as a result of PSIs at levels that may interfere with their job. PSIs had a greater effect on nurses who had direct touch with them than on those who had just indirect exposure. As a result, psychological support programs for nurses are critical for mitigating the negative consequences of PSIs.

Apart from this, Edrees et al. (2016) used a mix of approaches to perform their study, which included encounter frequency counts, staff questionnaires, and evaluations by rising peer responders. We used descriptive statistics to summarize the demographic features and proportions of categorical, Likert, and ordinal responses. The open-ended answers to questionnaires and focus groups were analyzed using qualitative analysis and coding. To provide an overview of rising's progress and to assess its initial viability and eventual implementation. Phases of the program included designing the Resilience in Stressful Events (RISE) program, hiring and educating peer responders, piloting the program in the Department of Pediatrics, and implementing the program in the hospital. Peer responders confirmed that experiences were influential in most cases, with 83.3 percent indicating that they met the needs of callers. However, a lack of awareness of the program was an obstacle to hospital-wide expansion.

Though, over the last four years, the monthly call rate has amplified from one to four calls. The software was born out of a need for group support. According to a baseline employee poll, the majority of staff had experienced an expected unfavorable episode and preferred peer assistance. Throughout the first 52 months, a total of 119 calls were made involving 500 persons. The majority of calls were made by nurses, with only a few involving medical blunders (4 percent). Peer responders indicated that 88 percent of contacts were successful, and 83.3 percent met the caller's needs. The program's low visibility created an obstacle to hospital-wide growth. However, the monthly call rate has risen from one to four calls over the last four years. Again, the program emerged in response to calls for group assistance. Hospital personnel recognized the critical nature of developing a cross-disciplinary peer support network for second victims. Peer responders demonstrated superior performance in reacting to calls, primarily for adverse events instead of medical errors. The low initial call volume highlights the vital nature of increasing alertness about the importance of emotional support and the convenience of the service.

Theme 5: Impact of Organizational Support on the Second Victim

It is crucial to provide sufficient organizational support for second victims in the medical profession. This will prevent the pain and suffering of many healthcare workers and will also ensure that these workers can continue serving patients professionally. The following three studies have evaluated the impact of organizational support on the second victim.

This importance was first confirmed by Ozeke et al. (2019) in their systematic review, where they emphasized the need to recognize the nature of the "second victim" experience and establish organizational support for affected healthcare practitioners. An organizational environment must be built where these sensitive issues are discussed, non-judgmental, and non-punitive. They also underline the need of well-organized support structures capable of meeting the needs of healthcare workers.

Further, the qualitative study results by Ullström et al. (2014), where 21 healthcare practitioners at a Swedish university hospital were questioned following a negative event, confirms the importance of organizational assistance when dealing with the second victim phenomenon among nurses and other healthcare professionals. The results of semi-structured interviews evaluated using qualitative content analysis and the QSR NVivo software for coding and categorization confirmed previous research

indicating that emotional distress, frequently persistent, occurs following unfavorable occurrences. Additionally, they indicate that the healthcare provider's effects were tied to the organization's response to the occurrence. The majority of respondents lacked organizational assistance or received an unsystematic and an unstructured support. Additionally, the formal investigation rarely provided the parties with timely and appropriate input. The absence of support and inadequacy of feedback exacerbated the difficulty of processing the situation and achieving emotional closure.

The same results were arrived at when Burlison et al. (2016) carried out a cross-sectional survey in the USA on 155 nurses' study to find out the effect of patient safety culture on second victim suffering, we evaluated the association between patient safety culture characteristics, organizational support, and second victim distress. The Second Victim Experience and Support Tool (SVEST) was administered to nurses providing direct patient care to assess their support for organizational, personal, and professional distress following their involvement in a patient safety incident. Organizational support elucidated the relationships between non-punitive responses to errors and physical distress and non-punitive responses to errors and professional distress in great detail and partially explained the relationship between non-disciplinary actions to errors and psychological distress. Additionally, perceptions of second victim-related anguish may be milder when hospital cultures are characterized by a non-disciplinary action to errors. Eliminating punitive responses to errors and cultivating supportive coworkers, bosses, and institutional contacts can all be beneficial tactics for treating second victim experiences' culpability.

Theme 6: Relationship of Second Victim Experience with Turnover:

The failure to give the necessary support and help to the second victims of adverse events leads to poor performance and the eventual quitting of various healthcare. It is therefore essential to provide practical support and help to these individuals. The following two studies analyze the relationship between the second victim and turnover in healthcare facilities. This information is vital in providing background on why it is essential to provide effective programs for the second victim.

As Van Gerven et al. (2016) conducted a cross-sectional research in Belgian on 5788 nurses and physicians to ascertain the percentage of healthcare practitioners that involved personally in a patient safety issue (PSI), as well as the association between engagement and the harm' degree of associated with problematic pharmaceutical use, excessive alcohol use, burnout risk, and work-home interference (WHI). The data suggested that 9% of the total group had engaged in a PSI activity within the prior six months. Participating in a PSI increased the probability of burnout (=0.40, OR=2.07), problematic drug use (=0.33, OR=1.84), greater WHI (=0.24), and increased turnover intentions (=0.22). Patient harm was related with problematic drug use (OR=1.56), burnout risk (OR=1.62), and WHI (OR=1.62). Second, victims of a PSI face severe negative repercussions. To minimize the negative impact, and effective organizational solution should be implemented.

Additionally, Burlison et al. (2016) in a cross-sectional research, we explored the connections between self-reported second victim-related distress and turnover intention and absenteeism. Concurrently, support from organization was analyzed in order to hypothesize possible correlations between depression and work-related outcomes. Even after controlling for demographic characteristics, the findings indicated that second victim distress was substantially associated with turnover intentions (P 0.001) and absenteeism (P 0.001). Additionally, organizational support completely mediated the distress-turnover intentions (P 0.05) and distress-absenteeism (P 0.05) relationships, indicating that expectations of support from organization, which account for turnover intentions and absenteeism, are associated with the second victim experience.

CONCLUSION

The preceded studies conducted across the world; discussed limited experiences faced by the nurses who are considered second victims. Limited studies are included in this analysis, and the widely held research studies have been done in European countries and USA. There were no studies in Arab countries, and there were no studies in Saudi Arabia. More importantly, research studies considering adverse events in Arab countries are minimal, especially in Saudi Arabia; this issue may limit the studies, which consider second victims experience among nursing personnel.

A considerable amount of the literature focused on describing the adverse psychological effects and the need for organizational support.

However, few studies have focused on how support affects the second victim and its influence on the safety culture of the work environment (Scott, 2015). For example, one study found that the provision of support for the second victim positively affected perceptions and attitudes of patient safety, whereas unsupported clinicians were at risk for repeated errors that affected patient safety (Susan D. Scott, 2011).

In addition, nurses' second victim experiences were not illustrated based on the type of event in all of the included studies. However, the type of event might be included in the type of experience of nurses; thus, we need the type of event and compare it to the nurses' experiences related to this issue.

CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

ACKNOWLEGEMENT

I would like to express my deep gratitude to Professors in the Faculty of Nursing, Dep. of Nursing Administration King Abdulaziz University, for their patient guidance, enthusiastic encouragement and constructive criticism of this research work

REFERENCES

Ajoudani, F., Habibzadeh, H., & Baghaei, R. (2017). Second Victim Experience and Support Tool: Persian translation and psychometric characteristics evaluation. *International Nursing Review*, *68*(1). https://doi.org/10.1111/inr.12628

Burlison, J. D., Quillivan, R. R., Scott, S. D., Johnson, S., & Hoffman, J. M. (2016). The Effects of the Second Victim Phenomenon on Work-Related Outcomes: Connecting Self-Reported Caregiver Distress to Turnover Intentions and Absenteeism. *Journal of Patient Safety*, *17*(3). https://doi.org/10.1097/PTS.0000000000000301

Burlison, J. D., Scott, S. D., Browne, E. K., Thompson, S. G., & Hoffman, J. M. (2017). The second victim experience and support tool: Validation of an organizational resource for assessing second victim effects and the quality of support resources. *Journal of Patient Safety*, *13*(2). https://doi.org/10.1097/PTS.0000000000000129

Cabilan, C. J., & Kynoch, K. (2017). Experiences of and support for nurses as second victims of adverse nursing errors: a qualitative systematic review. In *JBI database of systematic reviews and implementation reports* (Vol. 15, Issue 9). https://doi.org/10.11124/JBISRIR-2016-003254

Chan, Shi Teng, Khong, B. P. C., Pei Lin Tan, L., He, H. G., & Wang, W. (2017). Experiences of Singapore nurses as second victims: A qualitative study. *Nursing and Health Sciences*, *20*(2). https://doi.org/10.1111/nhs.12397

Chitwood, T. M. (2019). *Second Victim: Support for the Healthcare Team*. http://rave.ohiolink.edu/etdc/view?acc_num=casednp1554820138107259

Choi, E. Y., Pyo, J., Lee, W., Jang, S. G., Park, Y. K., Ock, M., & Lee, S. Il. (2020). Nurses' experiences of patient safety incidents in Korea: a cross-sectional study. *BMJ Open*, *10*(10). https://doi.org/10.1136/bmjopen-2020-037741

Connors, C. A., Dukhanin, V., March, A. L., Parks, J. A., Norvell, M., & Wu, A. W. (2020). Peer support for nurses as second victims: Resilience, burnout, and job satisfaction. *Journal of Patient Safety and Risk Management*, *25*(1). https://doi.org/10.1177/2516043519882517

Edrees, H., Connors, C., Paine, L., Norvell, M., Taylor, H., & Wu, A. W. (2016). Implementing the RISE second victim support programme at the Johns Hopkins Hospital: A case study. *BMJ Open*, *6*(9). https://doi.org/10.1136/bmjopen-2016-011708

Finney, R. E., Torbenson, V. E., Riggan, K. A., Weaver, A. L., Long, M. E., Allyse, M. A., & Rivera-Chiauzzi, E. Y. (2020). Second victim experiences of nurses in obstetrics and gynaecology: A Second Victim Experience

and Support Tool Survey. *Journal of Nursing Management*, *29*(4). https://doi.org/10.1111/jonm.13198

Gerven, E. Van, Elst, T. Vander, Vandenbroeck, S., Dierickx, S., Euwema, M., Sermeus, W., De Witte, H., Godderis, L., & Vanhaecht, K. (2016). Increased risk of burnout for physicians and nurses involved in a patient safety incident. *Medical Care*, *54*(10). https://doi.org/10.1097/MLR.0000000000000582

Gupta, K., Lisker, S., Rivadeneira, N. A., Mangurian, C., Linos, E., & Sarkar, U. (2019). Decisions and repercussions of second victim experiences for mothers in medicine (SAVE DR MoM). *BMJ Quality and Safety*, *28*(7). https://doi.org/10.1136/bmjqs-2018-008372

Harrison, R., Lawton, R., Perlo, J., Gardner, P., Armitage, G., & Shapiro, J. (2013). Emotion and Coping in the Aftermath of Medical Error: A Cross-Country Exploration. *Journal of Patient Safety*, *11*(1). https://doi.org/10.1097/PTS.0b013e3182979b6f

Joesten, L., Cipparrone, N., Okuno-Jones, S., & DuBose, E. R. (2019). Assessing the perceived level of institutional support for the second victim after a patient safety event. *Journal of Patient Safety*, *11*(2). https://doi.org/10.1097/PTS.0000000000000060

Kable, A., Kelly, B., & Adams, J. (2018). Effects of adverse events in health care on acute care nurses in an Australian context: A qualitative study. *Nursing and Health Sciences*, *20*(2). https://doi.org/10.1111/nhs.12409

Kowalski, S. L., & Anthony, M. (2017). Nursing's evolving role in patient safety. In *American Journal of Nursing* (Vol. 117, Issue 2). https://doi.org/10.1097/01.NAJ.0000512274.79629.3c

Lee, W., Pyo, J., Jang, S. G., Choi, J. E., & Ock, M. (2019). Experiences and responses of second victims of patient safety incidents in Korea: A qualitative study. *BMC Health Services Research*, *19*(1). https://doi.org/10.1186/s12913-019-3936-1

Lewis, E. J., Baernholdt, M. B., Yan, G., & Guterbock, T. G. (2015). Relationship of Adverse Events and Support to RN Burnout. *Journal of Nursing Care Quality*, *30*(2). https://doi.org/10.1097/NCQ.0000000000000084

Makary, M. A., & Daniel, M. (2016). Medical error-the third leading cause of death in the US. *BMJ (Online)*, *353*. https://doi.org/10.1136/bmj.i2139

McLennan, S. R., Engel-Glatter, S., Meyer, A. H., Schwappach, D. L. B., Scheidegger, D. H., & Elger, B. S. (2015). The impact of medical errors on Swiss anaesthesiologists: A cross-sectional survey. *Acta Anaesthesiologica Scandinavica*, *59*(8). https://doi.org/10.1111/aas.12517

Miller, C., Scott, S. D., & Beck, M. (2019). Second victims and mindfulness: A systematic review. *Journal of Patient Safety and Risk Management*, *24*(3). https://doi.org/10.1177/2516043519838176

Mira, J. J., Lorenzo, S., Carrillo, I., Ferrús, L., Silvestre, C., Astier, P., Iglesias-Alonso, F., Maderuelo, J. A., Pérez-Pérez, P., Torijano, M. L., Zavala, E., Scott, S. D., Aibar, C., Anglès, R., Aranaz, J., Bonilla, A., Bustinduy, A. J., Crespillo, C., Fidel, S. G., … Vitaller, J. (2015). Lessons learned for reducing the negative impact of adverse events on patients, health professionals and healthcare organizations. In *International Journal for Quality in Health Care* (Vol. 29, Issue 4). https://doi.org/10.1093/intqhc/mzx056

Mok, W. Q., Chin, G. F., Yap, S. F., & Wang, W. (2019). A cross-sectional survey on nurses' second victim experience and quality of support resources in Singapore. *Journal of Nursing Management*, *28*(2). https://doi.org/10.1111/jonm.12920

Ozeke, O., Ozeke, V., Coskun, O., & Budakoglu, I. I. (2019). Second victims in health care: Current perspectives. In *Advances in Medical Education and Practice* (Vol. 10). https://doi.org/10.2147/AMEP.S185912

Pinto, A., Faiz, O., Bicknell, C., & Vincent, C. (2013). Surgical complications and their implications for surgeons' well-being. *British Journal of Surgery*, *100*(13). https://doi.org/10.1002/bjs.9308

Pratt, S. D., & Jachna, B. R. (2015). Care of the clinician after an adverse event. In *International Journal of Obstetric Anesthesia* (Vol. 24, Issue 1). https://doi.org/10.1016/j.ijoa.2014.10.001

Pyo jeehee, Ock, M., & 한영주. (2018). A Qualitative Case Study on the Medical Litigation Experience of bereaved Families due to Medical Accident. *Korea Journal of Counseling*, *19*(5). https://doi.org/10.15703/kjc.19.5.201810.25

Rinaldi, C., Leigheb, F., Vanhaecht, K., Donnarumma, C., & Panella, M. (2016). Becoming a "second victim" in health care: Pathway of recovery after adverse event. *Revista de Calidad Asistencial*, *31*. https://doi.org/10.1016/j.cali.2016.05.001

Rodriquez, J., & Scott, S. D. (2018). When Clinicians Drop Out and Start Over after Adverse Events. *Joint Commission Journal on Quality and Patient Safety*, *44*(3). https://doi.org/10.1016/j.jcjq.2017.08.008

Scott. (2015). The second victim experience: Mitigating the harm. *American Nurse Today*, *10*(9), 8–11. http://search.ebscohost.com/login.aspx?direct=true&AuthType=sso&db=ccm&AN=110369398&site=ehost-live&scope=site&custid=ns206789

Scott, S. D., Hirschinger, L. E., Cox, K. R., McCoig, M., Hahn-Cover, K., Epperly, K. M., Phillips, E. C., & Hall, L. W. (2010). Caring for our own: Deploying a systemwide second victim rapid response team. In *Joint Commission Journal on Quality and Patient Safety* (Vol. 36, Issue 5). https://doi.org/10.1016/S1553-7250(10)36038-7

Scott, S. D., & McCoig, M. M. (2016). Care at the point of impact: Insights into the second-victim experience. *Journal of Healthcare Risk Management : The Journal of the American Society for Healthcare Risk Management*, *35*(4). https://doi.org/10.1002/jhrm.21218

Shamseer L, Moher D, Clarke M, Ghersi D, Liberati A, Petticrew M, Shekelle P, Stewart L, PRISMA-P Group. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015: elaboration and explanation. BMJ. 2015 Jan 2;349(jan02 1):g7647**.**

SPSC. (2017). *Saudi Patient Safety Center*. Https://Www.Spsc.Gov.Sa.

Stangierski, A., Warmuz-Stangierska, I., Ruchaał, M., Zdanowska, J., Gołwacka, M. D., Sowiński, J., & Ruchaał, P. (2012). Medical errors - Not only patients' problem. *Archives of Medical Science*, *8*(3). https://doi.org/10.5114/aoms.2012.29413

Stone, M. (2020). Second victim support programs for healthcare organizations. In *Nursing management* (Vol. 51, Issue 6). https://doi.org/10.1097/01.NUMA.0000662664.90688.1d

Susan D. Scott. (2011). *The Second Victim Phenomenon: A Harsh Reality of Health Care Professions*. Agency for Healthcare Research and Quality.

Ullström, S., Sachs, M. A., Hansson, J., Øvretveit, J., & Brommels, M. (2014). Suffering in silence: A qualitative study of second victims of adverse events. *BMJ Quality and Safety*, *23*(4). https://doi.org/10.1136/bmjqs-2013-002035

Vanhaecht, K., Seys, D., Schouten, L., Bruyneel, L., Coeckelberghs, E., Panella, M., & Zeeman, G. (2019). Duration of second victim symptoms in the aftermath of a patient safety incident and association with the level of patient harm: A cross-sectional study in the Netherlands. *BMJ Open*, *9*(7). https://doi.org/10.1136/bmjopen-2019-029923

Wu, A. W. (2000). Medical error: the second victim. The doctor who makes the mistake needs help too. *BMJ (Clinical Research Ed.)*, *320*(7237).

Zhang, X., Li, Q., Guo, Y., & Lee, S. Y. (2019). From organisational support to second victim-related distress: Role of patient safety culture. *Journal of Nursing Management*, *27*(8). https://doi.org/10.1111/jonm.12881