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Second Victim Phenomenon Educational Program Evaluation

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Second victim phenomenon (SVP) occurs when nurses who are involved in an unanticipated adverse event become victimized and traumatized by the event. Following a needs assessment, an SVP education program was implemented, including adverse events and SVP experiences, available support, and a case study. Evaluation indicated nurses had improved knowledge and attitude and increased practice intent. Education that promotes awareness is the first step to support nurses who experience events that can precipitate SVP.

Second victim phenomenon (SVP) is a frequent, but often hidden, consequence of trauma experienced by a healthcare provider (HCP) involved in an adverse event that can have serious, long-term physical and psychological effects on the individual. SVP is a relatively new concept in the healthcare literature. The term *second victim* was coined by Wu (2000) in an editorial in which he discussed error-making and its impact on physicians. It was further defined as "...healthcare providers who are involved in an unanticipated adverse patient event, in a medical error and/or a patient related injury and become victimized in the sense that the provider is traumatized by the event" (Scott et al., 2009, p. 326), though controversy exists around the name (Wu et al., 2017). Events that may lead to HCPs experiencing SVP include patient deaths, even when expected; complications from treatments such

as an air embolism during central line removal; and errors made by HCPs (Scott et al., 2010). Authors described a constellation of symptoms associated with psychological stress (Brunelli et al., 2018) such as depression (Chan et al., 2017; Scott et al., 2009) and fear of making another mistake (Chan et al., 2017; Delacroix, 2017). Physical symptoms may include difficulty sleeping (Chan et al., 2017; Delacroix, 2017) and visceral symptoms such as crying and vomiting (Treiber & Jones, 2018). Reports of SVP are as high as 72.5% in hospitals (Mira et al., 2015). SVP can impact both personal and professional relationships; consequences and symptoms may last years (Schelbred & Nord, 2007).

Discussing the event with a respected peer is the most desired support option for those experiencing SVP (Burlison et al., 2017; Edrees et al., 2016), but victims and peers often are not aware of SVP symptoms, interventions that may help, or how to intervene. Considering the impact that SVP can have on staff, it is important that healthcare leaders implement programs that increase awareness of SVP. The purpose of this project was to evaluate a new SVP awareness educational program for nurses.

BACKGROUND

The role of nursing education in SVP prevention and mitigation has not been well articulated (Jones & Treiber, 2018). The Scott Three-Tiered Interventional Model of Support is widely used by healthcare systems to support HCPs after an event (Scott et al., 2010). Tier 1 is local support in the department, Tier 2 is trained peer supporters, and Tier 3 is a referral network. Scott et al. described Tier 1 as emotional first aid delivered by peers who received basic awareness training about SVP. Tier 1 local support requires that nurses support one another, but nurses may not be aware of or have limited knowledge on SVP. Programs have been proposed for Tier 1 with curriculum and tool kits developed for clinical caregivers (Chung et al., 2018; Daniels & McCorkle, 2016), and researchers reported significant improvement in knowledge following educational interventions (McCarthy et al., 2016; Mira et al., 2017).

Problem

There was no formal training about SVP in a Midwest academic quaternary care center. Nurses who reported emotional or physical distress after an adverse event or error

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The authors have disclosed that they have no significant relationship with, or financial interest in, any commercial companies pertaining to this article.

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DOI: 10.1097/NND.0000000000000978

were encouraged to seek assistance from spiritual care and an employee assistance program.

Needs Assessment

We conducted a needs assessment in four medical-surgical units to understand clinical nurses' knowledge related to SVP and interventions to use following an adverse event, near miss, or error committed by them or a peer. As part of the needs assessment, we used 15 items from the 29-item Second Victim Experience and Support Tool that were relevant and appropriate to awareness of SVP symptoms and support methods. The Second Victim Experience and Support Tool is a scale developed to provide healthcare leaders with data on how best to implement and evaluate support resources for second victims; seven support options are also included in the instrument (Burlison et al., 2017). Items related to physical and psychological distress, non-work-related support, and professional self-efficacy were removed as they were beyond the scope of program planning for this event.

The survey was distributed electronically via workplace e-mail, and 57 (33.5%) nurses responded. The assessment revealed that over three quarters of respondents had been involved in an adverse event, near miss, or error ($n = 46$, 80.7%), yet most participants were *not at all* or *only slightly* familiar with SVP ($n = 40$, 72.7%). The most desired support was "a respected peer to discuss the details of what happened" ($n = 51$, 89.5%). However, nurses also reported that "my colleagues can be indifferent to the impact these situations had on me" ($n = 20$, 35.1%) and "I appreciate my coworkers attempts to console me, but their efforts can come at the wrong time" ($n = 8$; 14%). This suggested peer support is desired, but nurses may need guidance on how to support a peer. The assessment confirmed that an educational program was needed and that results were shared with department leadership who supported development and evaluation of an SVP awareness educational program for nurses on these units.

METHODS

A pre-post evaluation design was used to assess the merit of an educational program on SVP knowledge and practice intent.

Program Design and Evaluation

We used a logic model to guide program design, planning, and implementation and specifically focused the collection, analysis, and use of data to evaluate the outcomes of the program and provide opportunity for continuous improvement (Centers for Disease Control and Prevention, 2018; W. K. Kellogg Foundation, 2004). The logic model was also used to present information about outcomes and goals to unit and hospital leadership.

The educational program was developed based on a review of literature on SVP research and programs, guidance of local experts, and the needs assessment described above. Based on recommendations from the leadership team and experience working with these units, a 30-minute educational program was offered eight times during day and night shifts as well as on weekends by the project lead (D. J. C.). The program consisted of lecture with slides, guided self-reflection, and review of case studies. Topics covered were adverse events, near misses, and errors (definitions, rates, and reporting); SVP (definition, stories, symptoms, prevalence, and recovery trajectory); and support interventions (formal support offered by the hospital system and legal considerations of peer support). Nurses were given suggestions on how to provide immediate support to peers, including responding to emotional cues, demonstrating empathy, and recognizing that they cannot "fix" their peers. The program ended with reviewing a case study so that learners could synthesize key concepts. Participants were provided handouts for the hospital employee assistance program, and the presenter stayed 30 minutes after each program for anyone wanting to discuss the topic further. Unit leadership teams received a preview of the education, and attendees were eligible to receive continuing nursing education credit.

Program evaluation examines a program's effectiveness, value, and quality, that is, a program's merit in achieving its objectives (Fink, 2015). Evaluation of the program's merit focused primarily on program effectiveness in changing learners' knowledge, attitudes, and practice intention related to SVP. Program value was evaluated using a proportion of nurses who completed the program, requested continuing education, and completed the survey. Value was also assessed by examining participant reports of usefulness, likelihood of recommending the program to a peer, and perception of program length. Program quality was assessed using comments provided by learners in written and verbal formats. The evaluation assessed short-term outcomes of our logic model.

Participants and Setting

The SVP education program was implemented on the four medical-surgical units that participated in the needs assessment. This setting was chosen based on feasibility and the intent to understand if educational components were meeting the objectives. All 174 (full-time, part-time, and as needed [PRN]) nurses were eligible to participate in the program.

Evaluation Instruments

Evaluation instruments were developed by the project lead using recommendations from the literature and were reviewed and updated based on recommendations of two content experts. Pre-intervention knowledge was assessed using seven true/false items, with a cut score set at answering all seven questions correctly. For the post-intervention

evaluation, learners again completed the knowledge assessment plus 25 additional items designed to evaluate program merit. Self-reported depth of knowledge was measured using four items, attitude was measured using two items, and practice intention was measured using three questions before and after the education using a 5-point Likert scale, with higher scores indicating more agreement with the question (see Table 2). This method of asking questions at the end of the program that related to participants' perception of their prior knowledge and current knowledge captures change with better accuracy than traditional pre-post survey formats (Skeff et al., 1992). Two open-ended items allowed participants to share suggestions to improve the program.

Procedures

Prior to program implementation, the project plan was submitted to the hospital's institutional review board (IRB) for review because of the delicate nature of the topic and the IRB's position that employees are vulnerable subjects. The IRB classified this program evaluation as exempt research. Recruitment was done via an electronic invitation to nurses' work e-mails, a flyer posted on the units, and invitations from the project leader or unit leadership during daily huddles and immediately prior to the scheduled program. Nurses were told during recruitment and at the beginning of the program that participation was voluntary and implied consent. Participants were asked to sign an attendance sheet, necessary for record keeping purposes by the institution and continuing education credit provider, and the pre-intervention survey was distributed prior to the start of the program. Once all nurses completed the pre-intervention survey, the program was presented, and nurses were asked to complete the post survey at the end. Surveys were done on paper and then entered into a secure electronic database by the project leader, who also kept notes to document comments and questions from participants.

Data Availability

The data underlying this article cannot be shared publicly because of privacy of the nurses who participated.

RESULTS

Thirty-seven of the 174 eligible nurses participated in the program (21.3%). All 37 attendees stayed for the duration of the program, and only eight nurses claimed continuing nursing education credits (21.6%). Of the four units invited to participate, units A and B had the majority of participants ($n = 28$, 75.7%). Demographic characteristics of participants are presented in Table 1. The program lasted an average of 30.9 minutes (range: 27–35 minutes), and day shift programs were better attended ($n = 25$, 67.6%).

TABLE 1 Characteristics of the Participants

	<i>n</i> (%)
No prior education on SVP	29 (78.4)
BSN/MSN as highest nursing degree earned	25 (67.6)
Years of nursing experience	
New graduate to 2 years	18 (48.6)
3–5 years	14 (37.8)
Greater than 6 years	5 (13.5)
Primary shift	
Day	20 (54.1)
Night	7 (18.9)
Even rotation, day/night	10 (27)
Nursing unit	
A	18 (48.6)
B	10 (27)
C	7 (19.4)
D	2 (5.4)
<i>Note.</i> $N = 37$. SVP = second victim phenomenon.	

Knowledge Test: Pre-Post Survey

All nurses ($N = 37$, 100%) completed the pre and post surveys. For the knowledge test, one item was deleted, and the cut score was reset to six items. One item, *Every health professional who is directly involved in an adverse event is considered a second victim*, was removed from the test as seven (16.2%) answered the item correctly on the pre survey and decreased to four (10.8%) on the post survey. This result called into question the clarity of education on this item as the concept that an error did not have to occur for nurses to experience SVP was presented during the program, and these results suggest the content was likely misinterpreted. The mean pre score was 4.81, with 11 (29.7%) nurses passing, and the mean post score was 5.49, with 24 (64.9%) nurses passing. Of note, scores for those who reported prior education on SVP were actually lower at both the pretest (4.75 compared to 4.83) and post-test (5.25 compared to 5.55).

Demographic Characteristics and Knowledge, Attitude, and Practice Intention

There was also improvement in self-reported depth of knowledge, attitude, and practice intention items following the program (see Table 2). An analysis of variance revealed that years of experience, rated either new graduate to 2 or

TABLE 2 Self-Reported Depth of Knowledge, Attitude, and Practice

	Prior to Education Mean (SD)	After Education Mean (SD)
Depth of knowledge		
Rate your knowledge of second victim phenomenon	2.31 (0.91)	4.39 (0.59)*
Rate your level of knowing physical and psychological symptoms of second victim phenomenon	2.53 (0.99)	4.44 (0.72)*
Rate your knowledge of employee services available after an adverse event, error, or near miss	2.75 (1.23)	4.19 (0.91)*
Rate your level of confidence in discussing events in a legally appropriate way with colleagues	2.61 (1.19)	3.97 (0.90)*
<i>Total</i>	<i>10.19 (2.79)</i>	<i>17 (2.38)</i>
Attitude		
Do you believe that the current safety event reporting process is nonpunitive?	3.75 (0.95)	4.22 (0.75)*
Do you believe that second victim phenomenon is a problem in your practice setting?	3.03 (0.93)	3.67 (0.88)*
<i>Total</i>	<i>6.78 (1.34)</i>	<i>7.89 (1.10)</i>
Practice intentions		
How likely are you to report a safety event?	4.41 (0.80)	4.86 (0.35)*
How likely are you to seek support for second victim phenomenon?	3.35 (1.25)	4.51 (0.61)*
How likely are you to support a peer demonstrating symptoms of second victim phenomenon?	4.24 (0.68)	4.97 (0.16)*
<i>Total</i>	<i>12 (1.86)</i>	<i>14.35 (0.79)</i>

Note. N = 37.
*p < .001.

3 years or more of experience, was not significantly associated with the number of correct answers on the knowledge test, attitude total score, and practice total score. The same was true for demographic characteristics of educational level and prior education on SVP. Nurses reported that prior to education they *probably* or *definitely* would seek support for themselves 49.5% (n = 17) of the time and after education 94.6% (n = 35) of the time. Nurses reported they *probably* or *definitely did* support a peer exhibiting symptoms of SVP prior to education 91.9% (n = 34) of the time and would *probably* or *definitely* support a peer 100% (N = 37) of the time after education.

Program Value and Quality

All 37 nurses were satisfied with the program, reporting that they would recommend it to a peer, that they thought time spent on the topic was sufficient, and that the content was useful to practice. Eleven (29.7%) nurses left suggestions to improve SVP response in the participating units, including offering additional education, ensuring nurses know about

available resources, and recommending that management or a designated person check on nurses after an event. Nine (24.3%) nurses left additional comments. Of those nine, the majority stated they were thankful for the education and they learned a lot. One shared “a reality check of the peers around me.” Participants’ comments after the program were noted and tended to be disclosure in nature. Several nurses reported having experienced SVP, and one noted concern about a peer. They spoke of having to always be “on,” not allowing time to recover before taking care of another patient, and one worried that “toxic masculinity” may deter nurses from seeking assistance.

DISCUSSION

Overall, we found improvements in knowledge and self-reported knowledge, attitude, and practice intent immediately following the educational intervention. This project revealed that although nurses were willing to support their peers, they were less likely to *probably* or *definitely seek support for themselves* prior to education (n = 17,

45.9%). The finding that less than half were likely to seek support is in line with previous conclusions that when HCPs have unmet needs after an event, they may feel isolated with their feelings and suffer in silence (Ullstrom et al., 2014). Education dramatically improved nurse practice intentions, with nearly 95% reporting that they *probably* or *definitely will seek support* ($n = 35, 94.6\%$). This finding highlights the importance of education to improve practice intention to seek support rather than suffering in silence.

The pre-intervention needs assessment identified that nurses in these units, consistent with the literature, strongly desired peer support ($n = 51, 89.5\%$; Burlison et al., 2017; Edrees et al., 2016). Not having a formal peer support program within the system and with prior education not appearing to have made an impact on knowledge of SVP, nurses may have not identified when a peer was experiencing SVP. All nurses ($N = 37, 100\%$) reported that after education they *probably* or *definitely will support a peer demonstrating symptoms of SVP*. Although it is important that nurses are willing to support their peers, they must be able to identify the signs of SVP. This program resulted in a marked improvement in knowledge of physical and psychological symptoms of SVP immediately following the program. In the absence of formal peer support training or with limited resources, providing nurses with foundational knowledge on SVP and providing suggestions for supporting peers helps to strengthen support that nurses were already providing to their peers.

Experience, nursing education, and prior education on SVP were not associated with a significant difference in self-reported knowledge, attitude, and practice intent. This may point to the lack of education on this topic in basic nursing education as well as in the workplace. Also, despite eight participants reporting previous education on SVP, the quality and content of prior education on SVP is unknown. A lack of education on SVP and a “just culture” on the unit may explain not finding a difference in results based on experience.

The results of this project suggest that nurses in a practice setting benefit from an SVP education program and that nurses may desire to talk about events that occurred months or even years prior. These nurses appeared to want to share their experiences in hopes of helping others. Even without a formal peer support program, these nurses may serve as informal peer supports in their units.

Limitations

This was a program evaluation intended to evaluate the merit of repeating and improving this program to meet nurses' needs. It is also important to note that this is a single-group evaluation that lacks generalization beyond this group, which is often the case in evaluating a newly developed program. Only 21.3% of invited nurses participated

in the SVP education. While appearing to be a low participation rate, this is higher than usual participation for a voluntary education activity in this setting. The education was offered during normal work shifts as requested, but this limits ability to attend because of patient care priorities. All nurses were invited to participate, but PRN nurses may not have been working during the times the program was offered. Other strategies to deliver the program should be considered such as online modules or incorporating this topic into annual competencies.

Although the program was spread evenly between the unit locations, the A and B units had more familiarity with the project leader and that may have led to selection bias. Though names were not recorded in notes taken during discussions, participants who stayed to have further discussion with the project lead were primarily from units A and B, suggesting that education on this sensitive topic may benefit from a professional development practitioner who is familiar to staff. As the educational content differed that, in the literature, a standardized tool was not utilized. Results were only measured immediately following the program, so it is unclear if changes in knowledge, attitude, and practice intent were retained.

Next Steps

Future changes to the program include adding educational offerings with the option for electronic modules, adjusting the content based on the most frequently missed knowledge items, and having a nursing professional development practitioner known to units C and D present the content. After nurses have foundational knowledge of SVP and peer support, the desire to share experiences could be used as an interactive educational program and, with facilitator support, a way of practicing how to support peers following an incident. The prevalence of SVP and the number of registered nurses who reported being involved in an adverse event, near miss, or error would strongly suggest that SVP is a topic that should be covered in nursing orientation. Evaluating intermediate and long-term outcomes to reduce or prevent consequences of SVP is imperative to improve the program and to determine the program's overall merit. Intermediate outcome evaluation will include skill application assessment via focus group interviews with program attendees months after attending the program. Long-term impact will be evaluated using data collected from various sources that demonstrate an increase in referrals to employee assistance and pastoral care as well as reports of absenteeism and the number of caregivers who leave employment following an adverse event. Based on the initial success of this program, results from this evaluation are being used to help guide the design of a formal awareness and Tier 2 peer support program within the greater healthcare system.

Conclusion

We found that nurses reported a willingness to support peers experiencing SVP, but nurses must know the signs and symptoms of SVP in order to intervene. Nursing professional development practitioners can start with an educational program to improve knowledge on SVP and nurses practice intentions in seeking support for themselves and/or a peer. This topic may be emotionally difficult for nurses, so having a trusted facilitator may promote more active discussion and increase participation rates. Nursing professional development practitioners may not only provide nurses with the education they need but also act as trusted peers for those in need. Nurses can support their peers experiencing SVP and refer them to existing employee support programs once they know what to look for after a traumatic event. This may be a logical first step for hospitals not ready to implement a large-scale SVP peer support program.

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