

# A cross-sectional study on the second victim experience and support at Sarawak General Hospital: A tertiary public hospital in Borneo Island, Malaysia

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## ABSTRACT

**Introduction:** Second victim experience (SVE) refers to the emotional and psychological impact experienced by healthcare providers who are involved in patient safety incidents (PSIs). Despite growing awareness of patient safety in healthcare organizations, remedial actions often focus only on the first victim, the patient. Therefore, it is important to recognize and address the emotional and physical toll that PSIs to ensure the well-being of and to promote a culture of safety in healthcare settings. Hence, this study was initiated to determine the prevalence of SVE, assess symptoms related to SVE and evaluate the level of support needed by healthcare providers.

**Materials and Methods:** The Second Victim Experience and Support Tool for Recovery (SVEST-R) questionnaire was utilized to conduct an anonymous survey on the healthcare providers in Sarawak General Hospital (SGH) from August to October 2018.

**Results:** A total of 482 respondents participated in the survey and 46.1% of the respondents reported SVE following their involvement in PSIs. Notably, symptoms such as flashbacks, fear, and stress tend to persist for longer durations compared to other symptoms. It is worth noting that non-work-related support received the highest mean (medical doctors = 3.83; nurses = 3.70), indicating that respondents preferred to seek emotional support from their friends and families. Furthermore, nurses reported a significantly higher experience of absenteeism following PSIs than doctors ( $p=0.003$ ). In addition, most respondents expressed a desire for discussion or counselling with a respected peer or supervisor following their involvement in PSIs.

**Conclusion:** Present study reported a relatively high prevalence of SVE among healthcare providers at SGH. Hence, proactive measures, including non-work related and supervisor support, are essential in facilitating their overall well-being and successful recovery.

## KEYWORDS:

*Patient safety incident, second victim, second victim experience, second victim phenomenon, support resource*

## INTRODUCTION

Fast-paced healthcare environments and complex systems often give rise to medical errors that can harm patients or, in severe cases, lead to fatalities.<sup>1</sup> Unintended or unexpected patient outcomes, commonly referred to as patient safety incidents (PSIs), are unavoidable in healthcare settings and may result in adverse outcomes not directly attributable to the patient's underlying condition.<sup>2</sup> Near misses, which are incidents that do not result in harm, are also considered PSIs. According to Reason's Swiss Cheese Model, PSIs are typically systemic rather than isolated events.<sup>3</sup> Patients directly affected by PSIs are termed "first victims," while healthcare providers experiencing emotional distress from such events are considered "second victims," and healthcare organizations suffering reputational and operational consequences are identified as "third victims".<sup>4</sup>

Despite growing recognition of patient safety within healthcare organizations, interventions often focus solely on protecting patients while neglecting the profound impact on healthcare providers.<sup>5</sup> Second Victim Experience (SVE), a concept first described by Wu in 2000<sup>6</sup>, highlights the emotional and physical toll on healthcare providers involved in PSIs.<sup>6</sup> These individuals may experience diminished confidence, stress, and burnout, which can impair their professional performance.<sup>7,8</sup> Although research has broadened the understanding of SVE, studies reveal that over two-thirds of healthcare providers experience it during their careers, yet fewer than a third receive institutional support.<sup>9,10</sup> Addressing the needs of these providers is crucial to fostering resilience, ensuring their well-being, and promoting a culture of safety.

Globally, prompt emotional support and structured debriefing techniques have shown promise in mitigating the impact of SVE.<sup>11,12</sup> In Malaysia, limited data exist on the

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prevalence and symptoms of SVE, particularly in tertiary public hospitals. Sarawak General Hospital (SGH), a major tertiary hospital in Kuching, Malaysia, presents a unique setting to explore this issue due to its diverse patient population and resource constraints. Previous studies have identified gaps in SGH's patient safety culture, emphasizing the need for enhanced resources and training.<sup>13</sup> This study aims to determine the prevalence of SVE, assess its symptoms, and evaluate support needs among healthcare providers using the validated Second Victim Experience and Support Tool for Recovery (SVEST-R).<sup>14</sup> Findings will provide critical insights into improving patient safety and healthcare quality in Malaysia, advocating for targeted interventions, policies, and research to support affected healthcare providers and ultimately enhance patient care outcomes.

## MATERIALS AND METHODS

### *Study design & study participants*

A cross-sectional study via a paper-based, self-administered questionnaire was conducted in SGH with approximately 4,568 staff and 995 beds, from August to October 2018. Convenience sampling was employed due to challenges to openly recruiting healthcare providers who have encountered PSIs, as there are perceptions that PSIs reflect a lack of competency and hinder open discussion about such experiences.<sup>15</sup> In addition, this exploratory study invited only medical doctors or nurses providing direct patient care in SGH. Sample size was calculated using an overall probability of the prevalence of second victims ( $p = 0.5$ ), probability of the first type error ( $\alpha = 0.05$ ) and the precision ( $d = 0.05$ ). Hence, the required sample size was 384.<sup>16</sup>

### *Study instrument*

The distributed questionnaire comprised three sections namely, (1) sociodemographic characteristics which include profession, gender, age, ethnicity, education level and occupational tenure; (2) SVEST-R; and (3) the desired forms of support by the second victim. The SVEST-R is a validated instrument that consists of 29 items and seven dimensions to measure SVE and support received. The seven dimensions assess the desirability of different forms of support needed which includes psychological distress, physical distress, colleagues' support, supervisors' support, organizations' support, non-work-related support, and professional self-efficacy. Additionally, there are two outcomes measured by the instrument, namely turnover intentions and absenteeism. Participants were to respond using a 5-point Likert scale ranging from 1 (strongly do not desire) to 5 (strongly desire). Burlison et al. state that the higher a score is for a specific dimension, the greater it indicates in terms of the level of psychological distress, physical distress, a decreased level of self-efficacy, and a perceived lack of support.<sup>17</sup> In addition, the desired forms of support were rated using the 5-point Likert scale, where the desired options are 5 (strongly desired) or 4 (desired), 3 (neutral) represents the neutral option, and the not desired options are 2 (not desired) or 1 (strongly not desired).

### *Statistical analysis*

Statistical analysis was performed using IBM Statistical Package for the Social Sciences (SPSS) version 22.0. Standard

descriptive statistics were used to summarize the demographic data by using counts with percentages for categorical variables and means with standard deviations (SD) for the scores from SVEST-R were regarded as the outcome variables. The  $p$  value was determined by one-sample independent  $t$ -tests. All calculated  $p$  values  $< 0.05$  were considered statistically significant.

### *Ethical consideration*

This study was registered with National Medical Research Register (NMRR) with registration number NMRR-18-1953-43147 and ethical approval from Medical Research and Ethics Committee (MREC) was obtained prior to the recruitment of study subject/participant.

## RESULTS

### *Demographic characteristics*

The survey had a total of 482 respondents, surpassing the minimum requirement of 384 to account for non-response. Majority of the respondents were in the age group of 26 to 30 years ( $n=169$ , 35.1%), while 82% of the respondents were nurses ( $n=395$ ) (Table I). The respondents in this study represented a diverse range of ethnic backgrounds, including Chinese, Malay, Indian, Iban, Bidayuh, and others. The largest ethnic group was Malay, accounting for 31.7% of the total respondents ( $n=153$ ). Additionally, the highest education attainment of the respondents varied, spanning from diplomas to Doctor of Philosophy (PhD) degrees, encompassing specialty trainings such as post-basic and sub-specialty certifications. The majority of respondents (47.3%) held a diploma, which is the minimum qualification required for nurses in Malaysia. The occupational tenure of the respondents also varied, ranging from less than one year to over twenty years; with the majority of respondents having an occupational tenure of one to five years ( $n=152$ , 31.5%).

### *Symptoms and duration of second victim experience*

The symptoms and duration of second victim experience varies among respondents. Present finding shows the 19 most commonly associated symptoms with SVE and their corresponding duration which can vary from as short as 24 hours to over a year (Figure 1). These symptoms encompass a spectrum of severity, ranging from mild manifestations like feelings of shame to more severe effects such as burnout or leaving their profession. Notably, symptoms such as hypervigilant, flashbacks, fear, and stress tend to persist for longer durations compared to other symptoms. Present findings corroborated with the study by Vanhaect et al. where the most common symptoms that bothered second victims were hypervigilance, flashbacks, and fear.<sup>18</sup> In addition, 40 to 50% of the respondents had experienced more severe symptoms such as intention to leave a discipline or profession, wanting to move to another organisation or even fear of losing their job. The impact of these symptoms may be influenced by the severity of PSIs, which could explain the variability in durations observed.<sup>19</sup>

### *Prevalence of SVE and degree of harm in the PSI*

Present finding shows that the prevalence of SVE among medical doctors and nurses was 46.1% ( $n=222$ ) (Table II) which corroborated with study conducted by Mayo Clinic,

**Table I: Socio-demographic characteristics of respondents**

Items	n=482 (%)
Profession	
Doctor	87 (18)
Nurse	395 (82)
Gender	
Male	76 (15.8)
Female	406 (84.2)
Age range	
20-25	27 (5.6)
26-30	169 (35.1)
31-35	100 (20.7)
36-40	67 (13.9)
41-45	63 (13.1)
46-50	27 (5.6)
51 and older	29 (6)
Ethnicity	
Malay	153 (31.7)
Chinese	78 (16.2)
Indian	20 (4.1)
Iban	98 (20.3)
Bidayuh	102 (21.2)
Others <sup>a</sup>	31 (6.4)
Education level	
Diploma	228 (47.3)
Diploma with post-basic qualifications	132 (27.4)
Degree	97 (20.1)
Master	21 (4.4)
Master (with sub-specialty)	2 (0.4)
PhD	2 (0.4)
Occupational tenure (year)	
< 1	9 (1.9)
1-5	152 (31.5)
6-10	125 (25.9)
11-15	65 (13.5)
16-20	64 (13.3)
20 and above	67 (13.9)

<sup>a</sup>Others include the minority ethnic groups such as Kenyah, Lun Bawang and Kelabit.

**Table II: Prevalence of SVE and degree of harm in the PSIs**

Prevalence of SVE and degree of harm	Doctors n	Nurses n	Total n (%)
Ever felt like a second victim after PSI			
No	46	214	260 (53.9)
Yes	41	181	222 (46.1)
Degree of harm in the PSI <sup>a</sup>			
No harm	22	138	160 (72.1)
Temporary harm	13	37	50 (22.5)
Permanent harm	2	2	4 (1.8)
Fatal harm/Death	4	4	8 (3.6)

<sup>a</sup>Degree of harm in the PSI among respondents who answered “Yes”

United States where the prevalence was reported at 47.8%.<sup>18</sup> In addition, other studies found that healthcare providers are likely to experience PSIs at least once in their careers with varying percentages, ranging from 10.4% to 30%.<sup>20-22</sup>

*Domain descriptive findings from SVEST-R*

Present survey findings reported a higher mean score for psychological distress (medical doctors = 3.35; nurses = 3.22) than physical distress (Table III). Psychosomatic symptoms such as sleep disturbances and appetite change are physical

symptoms that are caused or exacerbated by psychological factors. Physical distress may arise because of the toll that the SVE takes on the individual's overall health and resilience.

*Desired forms of support by the second victim*

Second victim support opinions desirability by respondents is presented using the 7 survey items in Table IV. Findings from Table IV shows that 53.5% of the respondents desired to discuss the event with their manager or supervisor, and only 15.6% did not desire this option (mean = 3.46, SD =1.06).

Table III: SVEST dimensions and outcome variables

SVEST Measures <sup>a</sup>	Doctor (n=87)			Nurse (n=395)		P-value <sup>b</sup>
	No. of items	n (%) for mean score $\geq$ 4	Group mean (SD)	n (%) for mean score $\geq$ 4	Group mean (SD)	
Dimension <sup>c</sup>						
1) Psychological distress	4	30 (34.5)	3.35 (0.90)	116 (29.4)	3.22 (0.87)	0.225
2) Physical distress	4	23 (26.4)	3.01 (0.98)	107 (27.1)	3.06 (0.88)	0.666
3) Colleague support	4	23 (26.4)	3.44 (0.65)	134 (33.9)	3.53 (0.67)	0.253
4) Supervisor support	4	21 (24.1)	3.47 (0.49)	87 (22.0)	3.38 (0.61)	0.159
5) Institutional support	3	21 (24.1)	3.23 (0.71)	117 (29.6)	3.37 (0.66)	0.073
6) Non-work-related support	2	58 (66.7)	3.83 (0.76)	264 (66.8)	3.70 (0.77)	0.171
7) Professional self-efficacy	4	15 (17.2)	3.13 (0.64)	84 (21.3)	3.10 (0.73)	0.694
Outcome <sup>d</sup>						
8) Turn-over intention	2	22 (25.3)	3.09 (0.89)	94 (23.8)	2.96 (0.89)	0.229
9) Absenteeism	2	11 (12.6)	2.59 (0.96)	89 (22.5)	2.92 (0.89)	0.003

<sup>a</sup>The respondent's score for each dimension or outcome was defined as the mean of 2–4 items each rated on a 5-point scale of 1 = strongly disagree and 5 = strongly agree.

<sup>b</sup>P-value is determined by one-sample independent t-tests.

<sup>c</sup>A higher score for each specific dimension represents experiencing more psychological distress, more physical distress, decreased professional self-efficacy, and a greater degree to which support is perceived as inadequate.

<sup>d</sup>A higher score for each specific outcome represents more turnover intention and absenteeism.

Abbreviations: SD, standard deviation; SVEST, Second Victim Experience and Support Tool.

Table IV: Second victim support opinions desirability by respondents

Survey Item	Desire		Not desire		Neutral		Mean	SD
	n	(%)	n	(%)	n	(%)		
1) The ability to immediately take away from my unit for a little while	162	(33.6)	161	(33.4)	159	(33.0)	2.94	1.18
2) A specified peaceful location that is available to recover and recompose after one of these types of events	196	(40.7)	121	(25.1)	165	(34.2)	3.15	1.12
3) A respected peer to discuss the details of what happened	242	(50.2)	87	(18.0)	153	(31.7)	3.37	1.02
4) An employee assistance program that can provide free counselling to employees outside of work	225	(46.7)	97	(20.1)	160	(33.2)	3.30	1.12
5) A discussion with my manager or supervisor about the event	258	(53.5)	75	(15.6)	149	(30.9)	3.46	1.06
6) The opportunity to schedule a time with a counsellor at my hospital to discuss the event	217	(45.0)	107	(22.2)	158	(32.8)	3.23	1.12
7) A confidential way to get in touch with someone 24 hours a day to discuss how my experience may be affecting me	222	(46.1)	107	(22.2)	153	(31.7)	3.26	1.16

Abbreviations: SD, standard deviation

## DISCUSSION

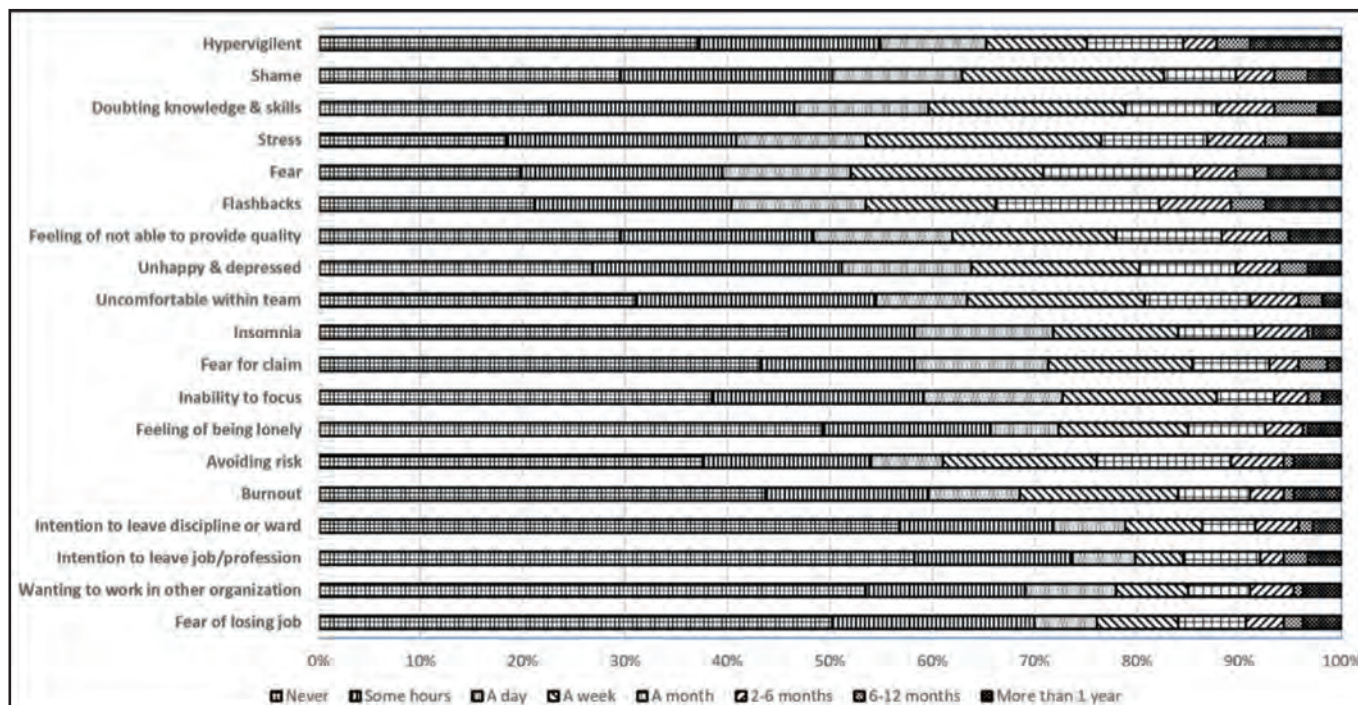
### *Prevalence of SVE and degree of harm in the PSI*

Present findings depict a significantly higher proportion of nurses who experienced SVE compared to doctors which could be attributed to the fact that nurses typically spend more time at the bedside, providing direct care and interacting closely with patients. Nurses close proximity with the patients makes them more likely to witness adverse events or errors first-hand, thus intensify feelings of guilt, self-doubt, and responsibility.<sup>20–22</sup> Furthermore, it is worth noting that nursing is a predominantly female profession, while the medical field is relatively gender-balanced in Malaysia. Gender disparity between the medical doctors and nurses could contribute to differences in SVE as female nurses may experience more emotional distress, guilt, and self-blame after adverse events.

Findings from this survey also shows that 72.1% (n=160) of the respondents were involved in PSI without any harm to patients because healthcare providers need adhere to ethical principles and have a duty to provide safe and effective care. However, when PSIs occurs, healthcare providers may question whether they could have prevented the incident or if their actions were in line with their professional obligations. Regardless of patient harm, moral distress and ethical uncertainties can contribute to the SVE.

There was a higher proportion of respondents (3.6%) who admitted they had been involved in fatal PSIs as compared to PSIs resulting in permanent harm (1.8%). Fatal harm or death PSIs could have a potentially detrimental effect on the second victim such that having an ingrained memory of a past event in question can make a healthcare providers inculcate a tendency to minimise it in the future, which





**Fig. 1:** Symptoms and durations of second victim experience in the aftermath of a patient safety incident  
 (Note: Results were based on 222 respondents (of the 482 respondents) who answered the question about whether they felt like a second victim after a patient safety incident)

might invariably affect decision-making.<sup>23,24</sup> Healthcare providers may even refuse to accept similar patients because of that inculcated fear, which can be considered as “negative defensive medicine”.<sup>25</sup>

*Domain descriptive findings from SVEST-R*

Interestingly, respondents' professional self-efficacy was not significantly affected by the occurrence of PSIs to the same extent as psychological and physical distress. Present finding highlights the importance of identifying which stressor category might have a severe impact on respondents' professional self-efficacy in the event of a medical error, and of taking appropriate measures to minimise the impact of these stressors and focus on addressing psychological and physical distress rather than professional self-efficacy. Therefore, it is essential that all healthcare providers are equipped with high resilience, the capacity to manage with stress and stressors within an environment and the ability to interact in a way to promote personal well-being.<sup>26</sup>

In addition, findings reported in Table III shows that non-work-related support received the highest mean (medical doctors = 3.83; nurses = 3.70), indicating that respondents preferred to seek emotional support from friends and families. Whereas the mean for colleague support (medical doctors = 3.44; nurses = 3.53), supervisor support (medical doctors = 3.47; nurses = 3.38), and institutional support (medical doctors = 3.23; nurses = 3.37) received lower mean scores. Only 24.1% of medical doctors and 29.6% of nurses expressed a desire for support that could be offered by the hospital. Therefore, the SVEST-R tool is important in evaluating the quality of support resources for improvement within the organisation and offering site-specific preferred support options.

Second victim tend to have an intention to turn-over and be absent from work if support is perceived as inadequate and SVE occurs.<sup>27</sup> Present findings show that a greater proportion of respondents (25.3% of medical doctors and 23.8% of nurses) reported having turn-over intentions, while 12.6% of medical doctors and 22.5% of nurses reported the possibility of being absent from work as a result of SVE. Healthcare providers who experienced being a second victim often feel as though they let down the patient and often question their career path. In addition, healthcare providers that experienced SVE have even decided to leave their chosen profession, and tragically, a few have resorted to suicide as a means to escape their anguish. To alleviate the suffering and facilitate the recovery of second victims, it is vital for healthcare organisations to establish organised support systems, especially for PSI with severe or fatal outcomes.<sup>28</sup>

However, there were no significant statistical differences between medical doctors and nurses for all dimensions and outcomes, except for absenteeism. Nurses reported a significantly higher experience of absenteeism following PSIs than medical doctors (p=0.003). This is consistent with the finding from this study in which nurses experienced a higher degree of SVE than doctors. Nurses may be more susceptible to absenteeism associated with SVE because of proximity to patients and greater emotional attachment. As a result, they may feel a greater sense of personal responsibility for adverse events or patient outcomes, leading to increased emotional distress. Such emotional distress experienced by nurses may contribute to increased absenteeism.<sup>29</sup>

*Desired forms of support by the second victim*

Present findings corroborated with a study by Burlison et al.<sup>29</sup> such that the most desired second victim support option was

“a respected peer to discuss the details of what happened.” Gathering input from healthcare providers on their desired forms of support can furnish tailored guidance for augmenting provisions for individuals who have experienced SVE. Moreover, healthcare providers who interact with respected peers or supervisors feel valued and cared for, which assists them in moving forward.<sup>29</sup>

Meanwhile, the least desirable option of support is item 1 which is (‘the ability to immediately take away from my unit for a little while’) with 33.6% of respondents desired, and 33.4% of respondents did not desire this support item (mean = 2.94, SD =1.18). The mean for other support items was higher than the neutral score of 3. Senior management and intermediate managers must be committed to building a non-punitive culture in response to errors, thereby encouraging reporting and learning from errors to prevent recurrence.<sup>30</sup>

#### *Coping strategies and recommendations*

The emotional impact of a PSI and the appropriate coping strategies to mitigate it have a dynamic relationship which can evolve according to varying circumstances. A mistake can elicit a specific emotional response, which may prompt a second victim to choose a particular coping strategy that can, in turn, elicit another response. Therefore, it is crucial to select appropriate coping strategies to overcome the impact of SVE, as dysfunctional coping strategies can adversely affect health worker well-being, reduce self-confidence, and increase fear of making mistakes, hence potentially leading to increased risk for future PSIs.<sup>31,32</sup> Literature reveals two main coping strategies: the problem-focused strategy and the emotion-focused strategy. These are crucial for second victims to develop an effective coping strategy by dealing with the error, analysing it, and learning from it, either alone or in collaboration with colleagues.<sup>33,34</sup>

Debriefing sessions have been identified as beneficial for assisting second victims to cope with the emotional impact and demands of their daily workload. Debriefing is a discourse that focuses on sharing and analysing information after an incident occurred. It may follow a simulated or actual experience and provides learners with a forum to reflect on and learn from their mistakes.<sup>35</sup> The process of debriefing can be initiated promptly following a PSI. Debriefing sessions may involve the participation of a skilled facilitator. However, it is also possible for teams to conduct self-debriefing exercises with the aid of debriefing scripts and cognitive aids.<sup>36</sup> During debriefing sessions, second victims could analyse the PSIs that happened and evaluate their actions and clinical decision-making.

A supportive and non-punitive culture within the healthcare setting is recommended to help mitigate the severity of SVE.<sup>37,38</sup> Such culture fosters learning and continuous improvement, as well as reducing the burden of blame and self-doubt on second victims. In addition, leadership plays a crucial role in creating and sustaining these cultures. Leaders should demonstrate a commitment to patient safety, learning, and the well-being of healthcare providers by promoting a blame-free environment, encouraging open communication, and recognizing the importance of psychological support. Leaders who prioritise the well-being

of their staff contribute to a culture where second victims feel supported, valued, and empowered to engage in error prevention and recovery processes.

Peer responders can assist and facilitate the second victims to effective psychological first aid, according to the experience of a group at Johns Hopkins.<sup>39</sup> The peer responders are professional colleagues who, in most cases, are the first to give the second victims the support they need, and hence these peer responders should ideally be trained in psychological first aid. In addition, it is important for experienced and senior healthcare providers to render appropriate guidance to the junior healthcare providers when discharging their services to provide optimal patient care.

#### *Limitations*

First, the causal effect relationship could not be established due to the nature of a cross-sectional study. Second, convenience sampling can be liable to selection bias because it does not offer representativeness. Third, it is also possible that the response rate of this self-administered questionnaire would be negatively impacted by potential respondents' fear of admitting that something went wrong, and of the possible repercussions, since blame culture is not uncommon in Malaysia. Lastly, we did not conduct a multivariate analysis since this study is mostly exploratory and is intended to generate hypotheses. This study serves a basis for further research in Malaysia, hence both clinical significance and statistical significance shall not be within the remit of our study.

#### **CONCLUSIONS**

This study demonstrated a relatively high prevalence of SVE among healthcare providers in a tertiary public hospital in Borneo Island. Furthermore, present findings highlight the importance of implementing proactive measures to support second victims and underscores the significance of non-work related support, as well as supervisor support. These endeavours play a vital role in safeguarding the well-being and sustained effectiveness of healthcare providers, ultimately benefiting both individuals and the quality of care provided to patients.

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#### **CONFLICT OF INTEREST**

The authors declare that they have no conflicts of interest.

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