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IN BRIEF REPORT

Vicarious Traumatization and Coping in Medical Students: a Pilot Study

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Abstract
Objective This study explored the impact of traumatic experiences on medical students during their clerkships.
Methods Medical students completed an anonymous online survey inquiring about traumatic experiences on required clerkships during their third year of medical school, including any symptoms they may have experienced as well as coping strategies they may have used.
Results Twenty-six percent of students reported experiencing vicarious traumatization (VT) during their third year of medical school.
Conclusions The experience of VT in medical students is relevant to medical educators, given that the resulting symptoms may impact student performance and learning as well as ongoing well-being. Fifty percent of the students who experienced VT in this study did so on the psychiatry clerkship. It is important for psychiatrists to recognize that this is a potential risk for students in order to increase the likelihood that appropriate supports are provided.

Keywords Vicarious traumatization · Medical students · Burnout · Wellness

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There is extensive literature on the experiences of mental health professionals and the potential risks for developing symptoms and syndromes associated with caring for patients [1–3]. Compassion fatigue is a unique form of burnout seen in caregivers [4]. Both burnout and compassion fatigue are potential long-term effects of the work of caring for others. Compassion fatigue has been called the "cost of caring" [3]. Symptoms include a dread of working with certain patients, a reduced capacity for empathy, and a lack of joyfulness at work. Physical symptoms may include headache, gastrointestinal symptoms, muscle tension, sleep disturbance, and fatigue [4]. Mood swings, irritability, anxiety, depression, anger, resentment, poor concentration, focus, and judgment are potential emotional symptoms.

The term "vicarious traumatization" (VT) is a framework describing the effects of empathic engagement when working with victims of trauma and violence. Common symptoms in clinicians include apathy, hopelessness, exhaustion, irritability, cynicism, and disillusionment [2]. There are strategies to preventing VT, the most important being self-awareness and maintaining proper professional distance [2]. Pearlman and Mac Ian [1] note that VT is an enduring change in the world view and self-concept of the clinician resulting from cumulative experiences. McCann and Pearlman [5] noted that VT could be short-term or cumulative over time.

Tabor [3] sought to differentiate the terms VT, burnout, posttraumatic stress disorder (PTSD), and other similar concepts. VT was defined as the negative changes and emotions experienced by individuals who have worked with survivors of abuse and trauma. The range of symptoms included change in trust, control, psychological needs, self-esteem, and belief systems. Burnout and compassion fatigue differed, as they could occur outside of a trauma setting. Although PTSD and VT seem similar, the former typically occurs after experiencing an actual traumatic incident. Tabor found prevention to be

the best intervention to address VT, which includes a supportive environment and increasing awareness of the concept itself. Less experienced clinicians have an increased likelihood of the symptoms of VT; those with less supervision have the highest levels of symptoms. Positive coping strategies include verbalization of feelings, utilizing emotional supports, being in good physical condition, having hobbies, and spiritual activities. Substance use and disengagement are not useful strategies in the long term.

The literature on medical students experiencing burnout and depression is burgeoning [6, 7], although there is not substantive literature on the topic of VT in this population. A recent study of the prevalence of stress, depression, and burnout in medical students as well as coping resources [8] found that 55 % of respondents scored in the high burnout range and 60 % reported depressive symptoms. The most helpful coping mechanisms endorsed by students were social support from peers or faculty, counseling services, and extracurricular activities.

IsHak et al. [7] reviewed the literature on burnout in medical students. They defined burnout as "a state of mental and physical exhaustion related to work or care-giving activities" ([7], p. 242). Burnout involves emotional exhaustion, depersonalization, and loss of a sense of personal achievement [9]. They found that the prevalence of burnout ranges from 45 to 71 % of medical students. Should it persist beyond medical school, the authors noted that burnout is associated with psychiatric disorders and thoughts of suicide. Burnout is more prevalent in early career physicians than in senior physicians [7]. Students who work on hospital wards or stay overnight for call are at a higher risk for burnout [6]. Kearney et al. [10] describe centering, self-care, and self-awareness measures for physicians in order to minimize compassion fatigue.

A wide range of terms has been used to describe the experiences of health-care professionals that work with traumatized patients. VT has been discussed in several articles but is minimally discussed in terms of the experiences of medical students. The idea for this study was precipitated by several students verbalizing their experiences of emotional distress during their third-year psychiatry rotation. They sought out their resident and attending for supervision. The students recognized that the content in patient histories of experiences that was "difficult" to handle from an emotional perspective was "passed on to social work or psychiatry" on many services, but that this could not happen while rotating on psychiatry. This was challenging for them. Ultimately, some of the students had an interest in developing interventions to help prevent this level of distress for future students. The goal of the current study is to begin to investigate the prevalence of VT among medical students and to determine what coping strategies are used to prevent these sequelae.

Methods

All members of a recent medical school graduating class at a southern university received invitations to participate in this pilot survey, which was approved by the institutional review board of the university. Two members of the graduating class sent an e-mail invitation inviting anonymous research participation. Unrelated to this study, all students in the class had previously completed a brief assignment during their third-year psychiatry rotation to research the definition of VT, with the expectation that this would help them develop insight into the impact of some of their experiences during the clerkship. The study invited students to participate in the exploration of its occurrence in medical students. The recruitment e-mail reintroduced the topic of VT, which was defined as "the transformation leading to negative changes in the mental health of health care workers who encounter individuals who have survived a history of abuse or trauma." The e-mail invitation contained a link to an eight-question online survey inquiring about the students' thoughts as to whether VT occurred, symptoms experienced, and supports utilized. Students received a follow-up e-mail to further encourage participation. In order to participate, students must have completed their third-year clerkships and be a member of the current graduating class.

Students were asked if they felt they had experienced VT. They were asked to indicate on a Likert scale what symptoms were experienced and to identify how long each lasted. In addition, they were asked to identify coping strategies they used and whether these were found to be helpful.

Study data was collected and managed using Research Electronic Data Capture (REDCap) [11] hosted at the study university.

Results

Sixty-four out of 180 third-year medical students completed the online, anonymous survey. About 57 % of respondents were female, and 77 % were in the age range of 25–29. Twenty-six percent of respondents (N=16) reported experiences of VT and subsequently answered questions about these experiences. The majority (50 %) of the students indicated that the VT had occurred while they were on their psychiatry or surgery clerkships. Symptoms of VT commonly endorsed included difficulty managing emotions (100 %), sleep disturbance (unrelated to call) (83 %), loss of meaning/hope (75 %), irritability (75 %), physical complaints (58 %), changes in self-esteem (50 %), difficulty managing boundaries between self and others (42 %), and avoidance of cues related to the traumatic event (41 %). A transcription error prevented the collection of the events identified by study participants as meeting the definition of VT. Anecdotal experiences from

students in the class on psychiatry included an adult patient committing suicide the day of discharge from an inpatient service and a teenager impregnated by her stepfather demanding an abortion. Examples of "avoidance of cues" could be avoiding talking about rotations, avoidance of topics related to traumas experienced by patients, or even avoiding the clerkship locations when possible. Typical duration of symptoms ranged from less than a week while on service (loss of meaning/hope) to 1 to 3 weeks while on service (sleep disturbance, difficulty managing boundaries, avoidance of cues), to daily experiences while on service (difficulty managing emotions), and to symptoms enduring after leaving service (physical complaints and changes in self-esteem).

Symptoms experienced less frequently included difficulty making decisions (25 %), hypervigilance (25 %), exaggerated startle response (17 %), and difficulty with trust and intimacy (8 %). None of these symptoms occurred every day while on the clerkship service that was associated with the vicarious trauma incident and none lasted beyond the time the student left the service.

In regards to coping with the experience and/or symptoms, students endorsed engaging in stress-relieving activities, talking to peers, and talking to a significant other. Each of these strategies was described as "helpful." Only one student used talking to housestaff, while two used talking to an attending; each was rated as helpful. One person endorsed talking to a mental health professional, which was rated as "not helpful."

Almost 40 % of the students indicated that they had not been adequately prepared by the medical school curriculum to handle events that may cause VT.

Discussion

Vicarious traumatization was found in over a quarter of the survey respondents, with resulting symptoms that potentially could have a significant impact on the functioning of medical students across multiple domains of their lives. Many of the symptoms were reported as time-limited, but some may have lasting impact that could not be detected by this study. Students did identify coping strategies that they used and found to be helpful; unfortunately, few students endorsed talking to attendings or housestaff as a resource for coping. Both the literature [8] and the experience of the authors suggest that there is much to be gained from these conversations, and further consideration of barriers to students talking to attendings and more advanced clinicians during their clerkship is warranted.

We know that younger practitioners with less training are more at risk for developing VT [3]. While third-year medical students have close supervision for physical examinations or procedures, there is likely less supervision for the gathering of the initial history and collateral information that may be a precipitating factor for VT. The students in this study cited psychiatry, surgery, and ob-gyn as the services that were most likely to generate these symptoms. It is notable that a significant number of students felt that they had not been adequately prepared for these stressors/events. The emotional concerns of medical students may be an afterthought for faculty or residents on a busy service, particularly as some may have become somewhat inured to the impact of patient histories themselves as a part of acculturating to the specialty.

As prevention of VT involves awareness of the situation and the provision of a supportive environment, clerkship directors and faculty in these departments should be made aware of this risk for medical students and include specific measures to avert this negative outcome of medical training. An understanding of the definition of VT alone does not seem sufficient to inoculate the student from negative outcomes. Most of the symptoms did not extend past the duration of the clerkship (ob-gyn or psychiatry, 6 weeks; surgery, 8 weeks). While it is good news that enduring impact of VT was not reported as a significant concern in this group, the high proportion of students experiencing symptoms suggests a need for increased awareness and teaching of protective practices that decrease the risks of VT.

Surveys were completed up to 20 months following the clerkship in which incidents leading to VT occurred, creating retrospective ratings of VT and associated symptoms. A more timely survey of experiences may produce a very different picture of the types and duration of symptoms as well as the perception of whether VT occurred. In this study, about one third of students to whom the survey was sent responded. Data collection more immediately after a potentially traumatizing clerkship may increase response rates as well as the generalizability of the findings, which may be limited in this pilot study.

From the methodology of this study, it cannot clearly be determined that symptoms developed during clerkship were the result of VT, as opposed to burnout, or other issues associated with the demands and culture of the clerkship and/or medical school. Students at this university have reported, however, that limits on duty hour expectations have not been violated on these three services or during their clerkship year. There is some similarity in descriptions of VT and secondary traumatic stress (STS), which conceptualizes reactions of a caregiver to an acute event [3, 12]. STS may be a more accurate term to use in describing medical student experiences. A follow-up study is underway to gather further information including symptomatology in order to differentiate between VT, STS, and burnout in this population. In addition, we are exploring timing and duration of symptoms to more accurately describe these sequelae in medical students.

Implications for Educators

- Over a quarter of medical students are reporting symptoms of vicarious trauma, particularly during psychiatry, ob-gyn, and surgery clerkships.
- Medical students are generally not talking to housestaff and attendings about the symptoms they are experiencing.
- Forty percent of students indicated that they had not been adequately prepared by the medical school to cope with the impact of working with traumatized patients.
- Protective practices, such as education, self-awareness, and self-care, have been shown to decrease the risk of vicarious traumatization.

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