Secondary traumatic stress in medical students

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Abstract

There is growing clinical evidence that health professionals working with survivors of traumatic events may develop traumatic symptoms themselves. During their clinical practice, medical students are also at risk of experiencing secondary traumatic stress. 168 medical students were surveyed to determine the presence of secondary traumatic stress and explore the relations to personality factors and motivation. The findings support the need for specific training on trauma exposure and traumatic stress management in medical education. Assessment should be connected to prevention and intervention efforts.

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1. Introduction

The traumatology field and the concepts of trauma and traumatic stress developed in recent years. Research has first naturally focused on the reactions and symptoms of the primary victim to the traumatic event. Further studies have progressively discovered that people who come to interact and help the primary victim are also exposed to the risk of developing traumatic stress symptoms (Joinson, 1992; Figley, 1993; Hodgkinson & Shepard, 1994; Schauben & Frazier, 1995; Kassam-Adams, 1995; Pearlman & Mac Ian, 1995; Steed & Bicknell 2001). The primary victim’s story and the evidence of the traumatic incident can create new victims even long after the event was over. The term of compassion fatigue was the first concept used to describe the medical assistants’ experience when exposed to trauma in their work (Joinson, 1992). It was later generalised to describe the effects of prolonged exposure to human suffering and trauma. While the primary victim of a traumatic event might experience posttraumatic stress, the family members and the caregivers who are indirectly exposed to the traumatic incident, are at risk for secondary traumatic stress. Secondary traumatic stress is a complex state of fatigue and dysfunction in which workers take on the emotional tension and burden of the victims themselves (Figley, 1995). Symptoms can emerge at cognitive, emotional, behavioural, spiritual, relationship, physical and professional level. Figley(1993) states that symptoms of secondary traumatic stress are identical to those of primary posttraumatic stress disorder: re-experiencing the traumatic event, intrusive thoughts, avoiding reminders of the event, arousal, irritability, loss of hope, generalised anxiety. Furthermore, the revised fourth edition of the Diagnostic and Statistic Manual of Mental Disorders specifies that posttraumatic stress syndrome can be diagnosed in persons who faced a threat of their own or other’s body integrity. There are professional categories, like the medical staff, who suffer prolonged exposure to the suffering of others. In some specialties, medical workers must look after corpses and care for injured victims like it happens on
the battle field (Mealer et al., 2007). Even the diagnosis of serious diseases such as cancer, can cause post-traumatic stress symptoms, affecting both the patient as the clinician. Studies show that compassionate professionals, who have a great capacity to feel and express empathy, are more exposed to the risk of developing STS (Figley, 1993). Another risk factor stated by research on the topic is the duration of the experience. Professionals with less experience are more vulnerable (Cunningham, 1997; Pearlman și Mac Ian, 1995).

Medical students start interacting with patients during their clinical training. The lack of experience and the exposure to patients’ traumatic stories makes them vulnerable to secondary traumatic stress. Numerous studies have attempted to clarify the reasons why students chose to study medicine. Some universities in the world included in the admission interview questions concerning the applicants’ motivation in studying medicine. Students want to cure human suffering, save lives, to better understand the human body, or want the prestige, money and success that come with this profession in some countries more than others (McHarg, Mattick, & Knight, 2007; McManus, Livingston & Katona, 2006; Powell, Boakes & Slater, 1987; Wierenga, Branday, Simeon, Pottinger & Brathwaite, 2003). McManus et al. (2006) found that students’ reasons to chose a medical career correlate with personality factors. Persons who chose medicine to help others were more agreeable and had higher scores in empathy. Those who studied medicine in order to gain the respect of others were less neurotic, less open to experiences, less agreeable and conscientious. They also showed less empathy. The purpose of this present study was to assess the impact working with traumatized people has on medical students who started the medical training. Secondly, we wanted to explore the relationship between motivation to study medicine and secondary traumatic stress. We expect students who chose to study medicine for altruistic reasons to be more vulnerable to STS symptoms than students with more pragmatic reasons. Thirdly, we analysed the variations in agreeability depending on the different reasons stated for the study of medicine. We expect students who have an altruistic motivation to study medicine to present a higher level of agreeability than students who reported other reasons.

2. Method

168 students from the Faculty of Medicine in Iasi took part in this study. Students’ age ranges between 19 and 27 with an average of 22.4. The study took place at the beginning of the second semester to make sure the third year can fit the clinical years. Students start clinical training during the first semester of the third year. In order to observe the presence of STS among medical students, we also used a control group, with similar characteristics formed of 60 pharmacists. All participants answered a set of questionnaires. All the scales were edited in the program Unipark the Academic Online Research Network. The link to the online questionnaires was emailed to the medical students’ yahoo groups for each year. The Professional Quality of Life Scale (Stamm, 2005) is a revised version of Figley’s self-administrated test, developed in 1995 to measure secondary traumatic stress. It contains 3 sub-scales of 10 items each, which offer independent scores measuring different concepts: compassion satisfaction ($\alpha = .83$), burnout ($\alpha = .66$) and secondary traumatic stress ($\alpha = .73$). The Impact of Events Scale (Horowitz, Wilner and Alvarez, 1979) initially measured symptoms of direct trauma and not of secondary trauma. In spite of its original purpose, the scale is most frequently used to measure and survey secondary traumatic stress symptoms. It has two subscales that measure avoidance with 8 items ($\alpha = .71$) and intrusion with 7 items ($\alpha = .89$) and can be added to generate a total score ($\alpha = .84$). The factors of the IPIP-NEO model described by Goldberg et al. (2006), represented the basis for operating the Big Five plus questionnaire. To measure compassion we used the specific facet from the factor agreeability ($\alpha = .73$). Student motivation to study medicine was assessed by a four-choice question: "I wish I could help those in distress." "In difficult times the medical profession guarantees a secure income." "Medicine is a respected profession." "My parents insisted that I choose this college." The four choices were selected through a pre-test conducted on a sample of 80 students.
3. Results

Independent Samples T Tests were conducted to compare the level of secondary traumatic stress in medical students and pharmacists. Medical students had significantly higher scores for all the subscales of the dependent variable. Even if medical students (M = 43.54, SD = 5.37) have a significantly higher level of compassion satisfaction in comparison to pharmacists (M = 31.41, SD = 6.56; t(226) = 14.13, p < .001), they also suffer from a higher level of secondary traumatic stress (t(226) = 16.60, p < .001). The Impact of Events Scale indicates that the medical students (M = 43.24, SD = 12.10) experience intrusive and avoiding symptoms which generate a significantly higher level of total distress as compared to the pharmacists control group (M = 18.48, SD = 14.93; t(226) = 10.76, p < .001). These results confirm our hypothesis. Medical students experience a significantly higher level of secondary traumatic stress in comparison to other professionals who do not systematically interact with victims of traumatic events.

To compare the level of secondary traumatic stress for students with the four different types of motivation, we conducted a one-way between subjects ANOVA. There was a significant effect of motivation on compassion satisfaction F(3, 136) = 5.72, p = .001, level of burnout F(3, 136) = 3.87, p = .011 and level of STS (ProQol) F(3,136) = 5.37, p = .002. There was no significant effect on any of the IES scales. Post Hoc comparisons using the Bonferroni test indicated that the STS mean score for students who chose medicine for respect (M = 13.76, SD = 5.55) was significantly lower than that of students who chose medicine to help their peers (M = 17.20, SD = 6) or because their parents insisted (M = 25.66, SD = 7.76). Students who chose medicine to help others report a significantly higher level of compassion satisfaction (M = 37.01, SD = 6.82) compared to students who chose medicine for respect (M = 32.41, SD = 6.77). Burnout is significantly higher for students who go to medical school to please their parents (M = 31.33, SD = 8.62) compared to those who go for altruistic reasons (M = 22.77, SD = 5.35) or for respect (M = 22.97, SD = 4.05). There were no significant differences between the other conditions of the variable.

Table 1. Means and standard deviations of STS depending on the type of motivation

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To compare the level of agreeability for students with the four different types of motivation, we conducted a one-way between subjects ANOVA and Post Hoc Bonferroni tests. Results indicated a significant effect of motivation on agreeability F (3,164) = 7.38, p < .001. Students with altruistic motivation are significantly more agreeable than those who study medicine for a secure income (p = .037) or for future respect (p=.026). There are no significant differences between agreeability of students with altruistic motivation and those who study medicine to please their parents (p = .059). Students motivated by the respect associated with the medical profession show a significantly lower level of agreeability compared to students who chose medicine for a self income as well (p = .041).

Table 2. Means and standard deviations of agreeability depending on the type of motivation

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4. Discussions

The present paper had three main objectives. Firstly, we wanted to assess the level of STS in Romanian medical students. Therefore we compared the medical students’ STS scores to those of the control group consisted of pharmacists. We found significant differences in all of the subscales of the dependent variable. Studies that compared STS scores in medical staff to other professionals reached similar conclusions (Dominguez-Gomez & Rutledge, 2009; Mealer et al., 2007). Traumatic stress is one of the main sources of stress identified by the medical assistants performing activities in the emergency, intensive therapy and oncology departments next to the amount of work and lack of support (Kash et al., 2000; Schwam, 1998, Maytum, Heiman, & Garwick, 2004). Romanian students don’t get any specific training in medical school about trauma work, stress coping strategies or the risks they are exposed to in their future profession.

Our second hypothesis stated that students who chose to study medicine for altruistic reasons will report higher levels of STS compared to their colleagues. Results partly confirmed this hypothesis. Students who chose medicine because it is a respected profession, have a significantly lower level of STS than students who chose medicine to help others and those who wanted to please their parents. Therefore, instead of pointing out altruistic motivation as a risk factor for STS, statistical analysis seems to indicate a protective effect of motivation focused on getting respect. The Romanian context does not fulfill the expectations of those who choose a medical career for financial satisfaction. The results could be explained by the effect of cognitive dissonance. Choosing medicine to meet parents' wishes or for financial rewards that come much later might result in a state of dissonance that helps internalizing the motivation. Those who want the get respect from practicing medicine are able to maintain this type of extrinsic gratification as medical status is appreciated in the Romanian society. Thus, those seeking the respect of others by being a doctor will get less involved in patients’ traumatic stories and will be less vulnerable to STS symptoms. However, this does not seem to be the appropriate solution that benefits both physicians and patients. This explanation is supported by the differences obtained between scores on compassion satisfaction scale. Students who choose medicine to help others have a significantly higher level of compassion satisfaction than those who chose this college for respect. Empathy is an essential ingredient in the patient - physician interaction. It is a significant predictor of treatment success by strengthening the relationship, the adherence to treatment and patient’s confidence (Hojat, Gonnella, Nasca et al, 2002). On the other hand, empathy is one of the main risk factors for STS (Figley, 1995). Our third hypothesis supports these findings. Results show that students who study medicine to help their peers are most agreeable. They are compassionate, altruistic and trustful, significantly more than their colleagues who search for respect or secure income. Other studies also find relations between personality factors and motivation to choose a medical career (McManus et al, 2006; Millan et al, 2007). As in the previous hypothesis, students who seek respect seem to show the fewest humanitarian features. Results are consistent with those reported by McManus et al (2006).

The purpose of this study and the limited space did not allow sufficient deepening of vast implications of the results. The importance of motivation in choosing a medical career, personality factors involved and the importance of this information in the admission to the Faculty of Medicine, are elements that should be considered and explored in more detail. The ethics of practicing medicine for respect and altruistic motivation as a risk factor for STS are topics that require further elaboration.

References


