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Original Research

Piloting Peer Support to Decrease Secondary Traumatic Stress, Compassion Fatigue, and Burnout Among Air Medical Crewmembers

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A B S T R A C T

Objective: The current research was performed to assess professional quality of life; identify factors associated with secondary traumatic stress, burnout, and compassion satisfaction; and evaluate the effectiveness of a peer support pilot intervention among air medical crewmembers.

Methods: Quantitative research methods were used to assess secondary traumatic stress, compassion satisfaction, and burnout among flight nurses and paramedics. Demographic variables and secondary traumatic stress, burnout, and compassion satisfaction scores using the Professional Quality of Life Scale were assessed. A comparison of survey scores obtained before and 16 months after the implementation of a piloted peer support program was performed.

Results: Crewmembers with less experience within an air medical program and those without a support system are at the highest risk of developing secondary traumatic stress, burnout, and impaired compassion satisfaction. Observed scores for secondary traumatic stress, burnout, and compassion satisfaction suggest that peer support may be an effective intervention among air medical crewmembers. No statistically significant differences in secondary traumatic stress, burnout, or compassion satisfaction were observed by clinical role, marital status, or years in their profession.

Conclusion: Peer support after emotionally challenging or stressful transports may combat secondary traumatic stress, compassion fatigue, and burnout. This intervention would be most beneficial for crewmembers who are newer to the transport organization and lack social or familial support.

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Secondary traumatic stress has been defined as an outcome among professionals who, through a helping relationship, are exposed to or witness trauma and suffering that affects another individual.¹ The associated symptoms are nearly identical to posttraumatic stress disorder and include avoidance, intrusion, and arousal.² The associated sequelae of secondary traumatic stress include

burnout and compassion fatigue.³ Compassion fatigue, which has been described as contrasting compassion satisfaction,³ is a state of decreased empathy that results from repeated exposure to others' suffering.⁴ Burnout has been described as a negative response to stress that results in emotional exhaustion, decreased feelings of personal or professional accomplishment, impaired professional compassion, and depersonalization.⁵

Research has identified nurses who provide care to injured patients are at risk of developing secondary traumatic stress.⁵⁻⁷ Secondary traumatic stress has been studied in emergency,⁷⁻¹⁰ trauma,⁵ oncology,¹¹ pediatric,¹² and labor and delivery nursing specialties.¹³ Symptoms have also been identified in emergency medical services personnel.¹⁴ The events identified as being most distressing to nurses are those that involve children, adolescents, and sudden death.¹⁵⁻¹⁸ Carchietti et al¹⁹ identified the stressors associated with providing care in the air medical environment. These researchers performed research using heart rate, blood pressure, and oxygen saturation of

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air medical crewmembers before and after transports. The study concluded that these crewmembers experienced varying levels of stress during transport, which may influence safety in these challenging situations.¹⁹ The associated stressors of air medical transport and the high acuity of patients who require transport are likely to be associated with increased psychosocial stress among these professionals.

Luftman et al²⁰ identified that prehospital providers such as paramedics, emergency medical technicians, flight nurses, flight paramedics, and firefighters were more likely to screen positive for posttraumatic stress disorder (PTSD) symptoms than in-hospital providers such as emergency department nurses, intensive care unit nurses, clinical assistants, emergency department attending and resident physicians, trauma surgeons, and surgery residents. The study found that 43% of flight nurses had a positive screening for PTSD, whereas 27% of emergency nurses and 22% of intensive care nurses screened positive. Fifty percent of flight paramedics had a positive screening for PTSD development, whereas other prehospital paramedics screened positive 44% of the time. Swearingen et al²¹ identified that health care clinicians who served on critical care air transport teams were over 3 times more likely to report PTSD symptoms than those who serve in general air medical evacuation roles.

Frequent exposure to high-acuity patients who are suffering from severe injuries or illness may be associated with the development of secondary traumatic stress, compassion fatigue, and burnout in air medical professionals. Furthermore, the provision of care in the challenging environments and situations associated with air medical transport may intensify the psychosocial stress associated with providing care to critically ill or injured patients. With the growth of the air medical industry, there is an increasing need to understand the psychosocial impacts of providing care to critically ill and injured patients in air ambulances and explore interventions that may abate the development of secondary traumatic stress, compassion fatigue, and burnout.

Research exploring posttraumatic stress reactions among emergency nurses identified the benefit of peer support after traumatizing events.¹⁵ Partlak Günösen et al¹¹ also recommended peer support as a cost-effective intervention for alleviating secondary traumatic stress. With the design and implementation of a pilot peer support program, the researcher hypothesized that the intervention would improve compassion satisfaction and lessen secondary traumatic stress and burnout among clinicians who were involved in an emotionally challenging transport. The current research was performed to examine professional quality of life; identify factors associated with secondary traumatic stress, burnout, and compassion satisfaction; and evaluate the effectiveness of a peer support pilot intervention among air medical crewmembers.

Methods

An observational research design with cross-sectional and longitudinal data collection was used to evaluate the effectiveness of an intervention that was piloted among air medical transport professionals. The intervention was a peer support program that was developed and implemented within an air medical program in the Southeastern United States. With the support of a flight chaplain, the peer support team began with 5 air medical crewmembers and later expanded to 7. During the preintervention evaluation period, 1 member of the peer support team was a paramedic, 1 was a nurse practitioner, and the remaining members were registered nurses. The nurse practitioner and 2 of the registered nurses were also licensed paramedics. At the time of the postintervention survey, 2 additional registered nurses had joined the peer support team, expanding the team to 7 members. The initial training was provided by a licensed clinical social worker with expertise in employee assistance services. The flight chaplain for the program supported the peer support team

members and performed focused outreach to crewmembers after emotionally challenging transports.

The peer support program was introduced to the air medical team during a monthly staff meeting. Referrals after flights that were perceived as being particularly stressful or emotionally challenging were directed to members of the peer support team by word of mouth from other crewmembers who became aware of a stressful transport. The referral process was later expanded to an automated request initiated with an electronic link on the computer desktop of each clinical workstation in the air medical program. The criteria for such transports included those with “high patient acuity,” “stressful scene situation,” “safety event including bird strike,” “crew resource management issues,” “clinical outcome/retrospectively questioning care,” and “other” with a survey field to allow for further description.

The piloted peer support intervention consisted of outreach by text or phone call by members of the peer support team to the involved crewmembers. Education and training were provided to the peer support team members by a licensed clinical social worker who was in practice with employee assistance services at the associated medical institution. The intervention focused on the clinician’s emotional response to the transport rather than the clinical details of the care of the patient. During the peer support outreach, the peer support team member encouraged positive coping skills and reminded the affected crewmembers how to contact available employee assistance services if needed.

This research was approved by the Vanderbilt University Medical Center Institutional Review Board (institutional review board #190483). An anonymous survey link using the Research Electronic Data Capture (REDCap), Vanderbilt University, Nashville, TN platform was distributed to the air medical team before the implementation of the peer support program. Completion of the survey was voluntary and anonymous. The survey included demographic variables of role, marital status, sex, preferred support mechanism, years of experience in their current profession, years of experience with the program, and the 30 items from the Professional Quality of Life Scale (ProQOL).³ Stamm³ described the strong validity and broad use of the ProQOL with minimal shared variance between the constructs of compassion fatigue, secondary traumatic stress, and burnout. Permission to use the ProQOL was obtained from the developer of the instrument before its use in this research. Because of the limited number of flight physicians in the air medical program and the desire to maintain anonymity, physicians were eligible to receive the intervention but did not participate in the pre- or postintervention surveys.

To measure the effectiveness of the peer support intervention across time, participants were also prompted to create a unique identifier with their mother’s birth month using 2 digits, the first letter in the make of their first car, the first letter in the model of their first car, and the first letter in the street where the individual grew up. The postintervention survey also questioned whether the crewmember had been contacted by a member of the peer support team since the start of the program and whether the intervention was found to be helpful. An additional REDCap survey was used in which crewmembers could provide a true or false response to “I believe that the peer support intervention was helpful for me” and offer feedback to the following: “Please provide feedback about the peer support intervention that you received.”

This research was informed by the theoretical foundations of the ProQOL scale, which identifies professional quality of life as being impacted by opposing concepts of compassion satisfaction and compassion fatigue. Compassion fatigue, as illustrated in the model, is composed of burnout and secondary traumatic stress.³ The ProQOL scale yields scores for secondary traumatic stress, compassion satisfaction, and burnout.³ The instrument uses Likert scales to obtain responses to 30 questions on a scale of 1 to 5. These questions yield scores for secondary traumatic stress, compassion satisfaction, and

burnout. Compassion satisfaction scores below 23 are defined as indicating low compassion satisfaction and may represent the presence of compassion fatigue. Scores of 42 and greater are identified as indicating high compassion satisfaction, and scores between 23 and 41 are representative of moderate compassion satisfaction. Scores for burnout below 23 represent low burnout, and those above 41 are indicative of high burnout. Scores of 23 through 41 are defined as indicating moderate burnout. Secondary traumatic stress scores above 41 are defined as indicating high secondary traumatic stress. Scores of 22 or less indicate low secondary traumatic stress, and moderate secondary traumatic stress is defined by scores between 23 and 41.³ Statistical analyses were performed using SPSS Version 28 (IBM Corp, Armonk, NY).

Descriptive statistics were obtained for both independent and dependent variables from the preintervention survey. Independent *t*-tests were performed to identify the presence or absence of statistically significant differences in compassion satisfaction, burnout, and secondary traumatic stress scores by independent variables of sex, role, and marital status. Data were assessed for normality (skewness) and homogeneity of variance. There was skewness in 1 or more groups for the variable secondary traumatic stress. Equal variances were not assumed for the dependent variable burnout.

Analyses of differences in compassion satisfaction and burnout scores by marital status, sex, and role were performed using independent *t*-tests. Because of skewness in the data, analyses of differences in secondary traumatic stress by marital status, sex, and role in the preintervention survey were performed using the Mann-Whitney *U* test. Within the postintervention survey data, analyses of differences in secondary traumatic stress, burnout, and compassion satisfaction were performed using the Mann-Whitney *U* test because of the small sample size in the paramedic group. Given that the data were skewed and it was a small group size, analyses of differences in scores for secondary traumatic stress, burnout, and compassion satisfaction between groups for primary support mechanism, time in the profession, and longevity with the air medical program were completed with the Kruskal-Wallis test. Pairwise comparisons of variables assessed using Kruskal-Wallis tests were performed using unadjusted *P* values to identify statistically significant differences within the data. Comparisons of secondary traumatic stress, burnout, and compassion satisfaction scores in the preintervention and postintervention data were performed using the Wilcoxon matched pairs test.

Using the unique identifiers created by each participant, 13 crewmembers were identified as having participated in the pre- and postintervention surveys. Frequency statistics for demographic variables assessed in the preintervention survey were determined. Secondary traumatic stress, burnout, and compassion satisfaction scores from the preintervention survey were calculated for each of the demographic variables. Secondary traumatic stress, burnout, and compassion satisfaction were also assessed by crewmember role in the

postintervention survey. A dependent *t*-test was used to determine differences in mean secondary traumatic stress, burnout, and compassion satisfaction scores between the pre- and postintervention surveys. The level of significance for all analyses was set at $P < .05$.

Results

Before the implementation of the peer support program, 60 air medical crewmembers completed the anonymous survey. Frequency statistics for the postintervention data were assessed (Table 1). Postintervention data were provided by 37 crewmembers. However, 1 participant did not specify a clinical role, and another provided incomplete responses assessing the ProQOL score and was not included in the final analysis. There were no statistically significant differences in mean scores for secondary traumatic stress, burnout, and compassion satisfaction by sex, marital status, and role (Table 2). Statistically significant differences in burnout and secondary traumatic stress scores were identified by the primary support mechanism (Table 2). The highest scores were observed among those clinicians who reported that they were their own primary support mechanism. Those clinicians who reported a primary support mechanism of family, work colleagues, or friends outside of work had lower secondary traumatic stress and burnout scores. Pairwise comparisons of differences in burnout scores between family (20.21 ± 5.31) and self (26.09 ± 4.55) were statistically significant ($P = .004$). Pairwise comparisons of differences in secondary traumatic stress scores for friends outside of work (19.63 ± 4.44) and self (26.64 ± 6.83 , $P = .014$) and family (20.93 ± 4.26) and self (26.64 ± 6.83 , $P = .009$) were statistically significant. There were no statistically significant differences in compassion satisfaction scores by the primary support mechanism.

Statistically significant differences in secondary traumatic stress scores were observed by years with the air medical program (Table 2). The highest scores for secondary traumatic stress and burnout were observed in the group with 0 to 5 years in the air medical program. Pairwise comparisons of secondary traumatic stress scores by years with the program were statistically significant between the groups with 0 to 5 years (24.37 ± 5.79) and 5 to 10 years (18.91 ± 3.56 , $P = .004$) with the program and the groups with 0 to 5 years (24.37 ± 5.79) and greater than 15 years (18.90 ± 5.51 , $P = .009$) with the program. Statistically significant differences in compassion satisfaction scores by years with the air medical program were observed (Table 2). Pairwise comparisons of compassion satisfaction scores by years with the air medical program were statistically significant between the groups with 0 to 5 years (38.90 ± 5.39) and greater than 15 years (44.60 ± 4.30 , $P = .004$) with the program and the groups with 10 to 15 years (37.44 ± 6.35) and greater than 15 years (44.60 ± 4.30 , $P = .004$) in the program.

No statistically significant differences in secondary traumatic stress, burnout, or compassion satisfaction scores were present by years in their profession (Table 2). The highest mean secondary

Table 1
Demographic Data

Years in Profession (N = 60)	< 10 n (%)	10-15 n (%)	15-20 n (%)	> 20 n (%)
Number of participants	11 (18.3)	17 (28.3)	9 (15)	23 (38.3)
Years With the Program (N = 60)	0-5 n (%)	5-10 n (%)	10-15 n (%)	> 15 n (%)
Number of participants (%)	30 (50)	11 (18.3)	9 (15)	10 (16.7)
Primary Support Mechanism (N = 60)	Family n (%)	Work Colleagues n (%)	Friends Outside of Work n (%)	Self n (%)
Number of Participants	28 (46.7)	13 (21.7)	8 (13.3)	11 (18.3)
Sex (Preintervention Group) (N = 60)	Male n (%)	Female n (%)	Not Provided n (%)	
Number of participants	36 (60)	23 (38.3)	1 (1.7)	
Clinical Role (Preintervention Group) (N = 60)	Nurse n (%)	Paramedic n (%)		
Number of participants	44 (73.3)	16 (26.7)		
Clinical Role (Postintervention Group) (N = 35)	Nurse n (%)	Paramedic n (%)		
Number of participants	27 (77.1)	8 (22.9)		
Marital status (N = 60)	Single n (%)	Married n (%)	Not Provided n (%)	
Number of participants	16 (26.7)	41 (68.3)	3 (5)	

Table 2
The Preintervention Compassion Satisfaction, Secondary Traumatic Stress, and Burnout Scores by Demographic Variables

Years in Profession (N = 60)	< 10 (n = 11) Mean ± SD	10-15 (n = 17) Mean ± SD	15-20 (n = 9) Mean ± SD	> 20 (n = 23) Mean ± SD	P Value
Compassion satisfaction	40.45 ± 4.85	38.06 ± 5.94	41.89 ± 4.17	41.39 ± 5.81	.245 ^a
Secondary traumatic stress	22.00 ± 3.19	25.59 ± 6.85	21.22 ± 4.63	20.13 ± 4.99	.058 ^a
Burnout	20.55 ± 5.32	24.59 ± 4.54	21.67 ± 5.15	20.96 ± 5.30	.091 ^a
Years With Program (N = 60)	0-5 (n = 30) Mean ± SD	5-10 (n = 11) Mean ± SD	10-15 (n = 9) Mean ± SD	> 15 (n = 10) Mean ± SD	P Value
Compassion satisfaction	38.90 ± 5.39	42.82 ± 3.16	37.44 ± 6.35	44.60 ± 4.30	.004 ^a
Secondary traumatic stress	24.37 ± 5.79	18.91 ± 3.56	22.56 ± 4.07	18.90 ± 5.51	.007 ^a
Burnout	23.33 ± 5.25	19.82 ± 2.82	22.44 ± 5.25	20.10 ± 6.35	.093 ^a
Primary Support Mechanism (N = 60)	Family (n = 28) Mean ± SD	Work Colleagues (n = 13) Mean ± SD	Friends Outside of Work (n = 8) Mean ± SD	Self (n = 11) Mean ± SD	P Value
Compassion satisfaction	40.93 ± 5.22	40.23 ± 6.09	40.50 ± 5.43	38.91 ± 6.32	.863 ^a
Secondary traumatic stress	20.93 ± 4.26	22.69 ± 6.20	19.63 ± 4.44	26.64 ± 6.83	.039 ^a
Burnout	20.21 ± 5.31	22.92 ± 3.86	21.25 ± 4.95	26.09 ± 4.55	.030 ^a
Sex (N = 59)	Male (n = 36) Mean ± SD	Female (n = 23) Mean ± SD			P Value
Compassion satisfaction	40.36 ± 5.97	40.17 ± 5.03			.901
Secondary traumatic stress	21.44 ± 5.62	23.35 ± 5.70			.188 ^b
Burnout	21.89 ± 5.82	22.17 ± 4.38			.212
Role (N = 60)	Nurse (n = 44) Mean ± SD	Paramedic (n = 16) Mean ± SD			P Value
Compassion satisfaction	39.82 ± 5.21	41.81 ± 6.34			.221
Secondary traumatic stress	22.75 ± 5.86	20.63 ± 4.80			.361 ^b
Burnout	21.82 ± 4.99	22.56 ± 5.94			.629
Marital Status (N = 57)	Single (n = 16) Mean ± SD	Married (n = 41) Mean ± SD			P Value
Compassion satisfaction	40.75 ± 5.41	39.95 ± 5.78			.635
Secondary traumatic stress	21.63 ± 4.76	22.59 ± 6.03			.859 ^b
Burnout	22.94 ± 6.15	21.73 ± 5.03			.448

SD = standard deviation.

^a Statistical significance determined using the Kruskal-Wallis test.^b Statistical significance determined using the Mann-Whitney U test.

traumatic stress scores were observed among crewmembers who reported being in their profession for 10 to 15 years. The lowest mean secondary traumatic stress scores were among crewmembers who reported having 15 to 20 and greater than 20 years in their profession. The highest scores for burnout were also observed in the group of crewmembers who indicated they had 10 to 15 years of experience in their current profession. The highest mean scores for compassion satisfaction were observed in the groups with 15 to 20 and greater than 20 years of experience in their profession (Table 2).

No statistically significant differences in the mean scores for secondary traumatic stress, burnout, and compassion satisfaction by clinical role in the air medical program (nurse or paramedic) were observed in the preintervention survey (Table 2) or the postintervention survey (Table 3). There were no statistically significant differences in secondary traumatic stress, burnout, and compassion satisfaction between the contacted and not contacted groups (Table 4). Although only 12 participants in the postintervention survey indicated they had received the intervention, 13 participants reported feeling the intervention was helpful. The remaining survey participants reported this survey item was not applicable.

Table 3
The Postintervention Compassion Satisfaction, Secondary Traumatic Stress, and Burnout Scores by Clinical Role

Role (N = 35)	Nurse (n = 27) Mean ± SD	Paramedic (n = 8) Mean ± SD	P Value ^a
Compassion satisfaction	41.33 ± 5.28	38.75 ± 9.74	.773
Secondary traumatic stress	21.81 ± 6.06	22.25 ± 6.27	.862
Burnout	21.74 ± 6.17	20.25 ± 4.98	.714

SD = standard deviation.

^a Statistical significance determined using the Mann-Whitney U test.

When scores from the postintervention survey were compared with those from the preintervention survey, the mean scores for compassion satisfaction decreased, and the mean scores for secondary traumatic stress and burnout increased. However, the differences between these scores were not statistically significant (Table 5). Among the 13 participants who provided responses for both the pre- and postintervention surveys, only 1 reported having received the peer support intervention. Therefore, analyses to assess for statistically significant differences in the mean scores for secondary traumatic stress, burnout, and compassion satisfaction over time among those who reported they did or did not receive the intervention could not be completed.

The feedback form made available to crewmembers upon the start of the peer support intervention received predominantly positive feedback (Table 6). One individual provided negative feedback that was described as a lack of response after a challenging transport. Although 12 crewmembers indicated they received the peer support intervention when completing the postintervention survey, 13 participants reported that the intervention was helpful.

Table 4
The Postintervention Compassion Satisfaction, Secondary Traumatic Stress, and Burnout Scores by Intervention and Control Groups

	Received Intervention or Control Group (N = 36) Mean ± SD	Contacted (n = 12) Mean ± SD	Not Contacted (n = 24) Mean ± SD	P Value ^a
Compassion satisfaction	42.42 ± 5.00	39.96 ± 6.94	39.96 ± 6.94	.361
Secondary traumatic stress	21.92 ± 6.90	21.58 ± 5.79	21.58 ± 5.79	.960
Burnout	21.92 ± 4.34	21.17 ± 6.49	21.17 ± 6.49	.344

SD = standard deviation.

^a Statistical significance determined using the Mann-Whitney U test.

Table 5

The Longitudinal Pre- and Postintervention Mean Compassion Satisfaction, Secondary Traumatic Stress, and Burnout Scores

	Preintervention (n = 13) Mean ± SD	Postintervention (n = 13) Mean ± SD	P Value ^a
Compassion satisfaction	38.62 ± 6.44	37.08 ± 7.14	.294
Secondary traumatic stress	21.54 ± 4.43	22.69 ± 6.81	.376
Burnout	21.69 ± 5.39	22.38 ± 6.46	.602

SD = standard deviation.

^a Statistical significance determined using the Wilcoxon matched pairs test.

Discussion

The data suggest the pilot peer support intervention had a mitigating effect on secondary traumatic stress, burnout, and impaired compassion satisfaction among crewmembers who completed stressful or emotionally challenging transports. Scores for secondary traumatic stress, burnout, and compassion satisfaction in the preintervention and postintervention surveys were without statistically significant differences in the groups of crewmembers who did or did not receive the piloted intervention. Because those crewmembers who received the intervention had completed a challenging transport, the elevation of scores for secondary traumatic stress and burnout scores and the decreased compassion satisfaction scores would be expected. Although these data were collected to evaluate a piloted intervention, the findings suggest the intervention may combat secondary traumatic stress and burnout and help maintain compassion satisfaction among crewmembers who experienced a transport that was perceived by peers as being emotionally challenging.

The absence of statistically significant differences in the mean scores for secondary traumatic stress, burnout, and compassion satisfaction by sex identifies that male and female crewmembers are equally at risk of experiencing secondary traumatic stress, burnout, and impaired compassion satisfaction. Although no statistically

Table 6

Feedback Submitted by Crewmembers

Intervention was helpful. True or False.	Feedback
False	I mentioned having a troubling and trying patient interaction with our peer support person and received no follow-up.
True	I was contacted by multiple members of the peer support team those of whom I am closest to and have worked with most frequently after a terrible flight just to offer a listening ear and it was invaluable to me.
True	Just talking with like-minded people who are peers and know what we go through is important. Others outside of our circle can be helpful, but the few that really knows what happens in the back of an aircraft, at base, at home, and at work make the most difference. My advice would be to get the peer support group actual training or have eap (Employee Assistance Services) come do ride-alongs.
True	
True	I think that this program and group is essential.
True	I received calls and texts to see how I was doing. (Flight chaplain) also reached out to me and that was appreciated.
True	I cannot tell you how greatly appreciated the phone call was from xxx! It is comforting to know (air medical program) is looking out for me. Sorry for the delay in the feedback.
True	This is a good thing for our program.
True	I felt like it was helpful after one of my more difficult calls. I think knowing someone is there to talk can ease anticipated stress.
True	I mentioned having a troubling and trying patient interaction with our peer support person and received no follow-up.

significant differences in the mean scores for secondary traumatic stress, burnout, and compassion satisfaction were observed by marital status, the lowest mean scores for secondary traumatic stress and burnout and the highest mean score for compassion satisfaction were observed in the group of crewmembers who reported family was their primary support mechanism.

In contrast, the highest mean scores for secondary traumatic stress and burnout and the lowest mean score for compassion satisfaction were observed in the group for crewmembers who reported being their own primary support mechanism. These differences demonstrate the protective benefits of having a supportive relationship but may raise concern for detrimental effects of discussing these emotionally challenging transports with members of one's family, particularly with those who are not in a health care profession. In addition, sharing details of such transports with individuals who were not involved in the care of the patient is likely to violate patient privacy and confidentiality. The risks of violating patient privacy and confidentiality and introducing stress into the familial unit may be abated through the provision of peer support within the workplace. To promote patient privacy and confidentiality, peer support outreach and discussions with crewmembers should focus on emotions and coping rather than clinical details of the transport itself.

With the highest scores for secondary traumatic stress and burnout and the lowest scores for compassion satisfaction identified among crewmembers who reported being with the program for less than 5 years, the current research suggests that peer support outreach to these professionals would be beneficial. This aligns with prior research that identified increased stress among nurses who were new to a clinical practice area and had not yet developed a supportive network of peers.²² Because the highest scores for compassion satisfaction and the lowest scores for secondary traumatic stress and burnout were observed among more experienced air medical crewmembers, peer outreach by these professionals to those who are newer to an air medical program is likely to provide a protective effect after transports that are emotionally challenging.

Although 1 individual provided negative feedback about the peer support intervention early in the implementation of the program, all subsequent feedback was positive and reflected a positive perception of the program. The negative feedback related to the absence of a response from a peer support crewmember highlights the need for a reliable method of receiving referrals, such as an automated notification through a transport debriefing tool. In addition, individuals who contact crewmembers after such transports must communicate with other members of the peer support program to confirm the completion of outreach and clarify whether additional interventions are deemed necessary. This loop closure also prevents multiple contacts from differing members of the peer support team, which may in itself increase the stress associated with the transport. Because the flight chaplain for the air medical program performed outreach to crewmembers who had experienced a transport that would be considered emotionally challenging, this research also suggests the benefits of these specialty team members to promote compassion satisfaction and combat secondary traumatic stress and burnout.

Research examining secondary traumatic stress among nurses who provide care to patients in stressful situations described the benefit of peer support.^{11,15,22} Similar to the findings of the current research, Sil-litoe et al²³ implemented a Peer Assessment After Clinical Exposure program within an emergency department and concluded that the intervention was well-received. Positive comments about a peer support program were also described by clinicians practicing in military hospitals.²⁴ The current research yielded a further assessment of the benefit of peer support in combating secondary traumatic stress, compassion fatigue, and burnout among health care clinicians who are involved in a challenging patient care situation. Because there is a dearth of research reporting quantitative measures in assessing the

efficacy of peer support programs among nurses and paramedics, the current research benefits this literature gap and supports the implementation of such interventions to benefit air medical crewmembers.

Limitations

This research was performed at a single air medical transport service. No control group was established because the piloted peer support program sought to benefit all air medical crewmembers who were involved in a stressful or emotionally challenging transport. Among those crewmembers who completed both the pre- and post-intervention surveys, only 1 had received the intervention. Therefore, analysis of longitudinal data to identify the presence of statistically significant differences in secondary traumatic stress, compassion fatigue, and burnout scores between those who did or did not receive the intervention could not be performed. Because participation in the pre- and postintervention surveys was optional, selection bias may have influenced the observed scores. The lower response rate in the postintervention survey also resulted in a smaller sample size.

Conclusions

The current research identified higher scores for burnout and secondary traumatic stress among those air medical crewmembers who indicated being their own support mechanism. The lowest compassion satisfaction and highest secondary traumatic stress scores were observed in the group of crewmembers who reported being with the program for less than 5 years. These results validate the role of peer support, particularly among crewmembers who are newer to their program or agency. The similar pre- and postintervention scores for secondary traumatic stress, compassion satisfaction, and burnout, despite some crewmembers having completed stressful or emotionally challenging transports, suggest that peer support has a mitigating effect on the negative impacts associated with caring for critically ill or injured patients in the air medical profession.

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