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## Emotional challenges of paramedical students during clinical practice and their Coping strategies in Saudi Arabia

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Paramedical students often face difficult cases of injury, death, tension in families of patients and public anxiety during clinical practice. The current study sought to identify the emotional challenges faced by paramedic students during clinical practice and its impact on patient care, the professional and personal life of the students, and to identify the strategies used by paramedic students to cope with their emotional challenges. The researchers used a descriptive, cross-sectional design. A close-ended questionnaire distributed to interns and paramedic students who were studying or graduating from the Emergency Medical Services (EMS) bachelor's degree program was used to collect quantitative data. The study was conducted in Riyadh, Saudi Arabia, between June 1 and July 30, 2020. The study included a total of 137 students. Results showed that emotional challenges had a significant negative impact on their patient care, professional life and personal life ( $p < 0.00$ ). In addition, emotional challenges include the following coping strategies implemented by paramedic students; developing professional skills, modifying a wrong intervention, deliberately facing stressful conditions, reflecting on stressful situations, communication skills to guide challenging interactions, and controlling the mind and body. This study found that paramedic students face emotional challenges that have a negative effect on the quality of patient care, their professional and personal life and use a variety of strategies and techniques during clinical practice to overcome emotional challenges. Before, during and after EMS practical clinical training, educators of paramedical students carry out more instructional and educational duties to reduce the impact of emotional challenges on paramedical students.

**Keywords:** Emotional challenges, coping strategies, paramedic students, Emergency Medical Services (EMS)

### INTRODUCTION

Emergency Medical Services (EMS) paramedics serve a vital part of healthcare professionals (Collopy, Kivlehan and Snyder, 2012). They work hard to save lives (NAEMT, 2014) and are responsible for integrating critical data and skills to make high-consequence decisions (Bledsoe et al., 2006), while acknowledging the reality that the condition of a given patient can deteriorate (Hammer et al.,

1986). During their regular EMS job, they are required to face obstacles including high-speed driving, going through red light intersections, dealing with people who are violent or emotionally or mentally disturbed, dealing with the deceased or sexually abused or dying children, and controlling irritated or frustrated spectators and/or family members (Bledsoe et al., 2006). These challenges can place simultaneous effects on them (De Boer et al., 2011). Such effects can

impair the well-being of paramedics and their professional and personal lives and suffer from certain signs and symptoms such as nightmares, flashbacks and hallucinations of past incidents, anxiety, depression, decreased concentration, sleeping difficulties, fluctuations in heartbeat (E. Salas, J. E. Driskell, S. Huges, 1996; Mealer et al. 2009). Particularly, paramedics who are exposed to many emotional challenges may be subjected occupational psychological conditions that result in symptoms of post-traumatic stress effect; its prevalence symptoms among paramedics was reported to be as high as 20%–22% (Petrie et al. 2018). Regarding to paramedic students, work-related challenges can affect the physical and emotional well-being (Asbury et al. 2018). Emotionally stressful circumstances might result from seeing scenes that stimulate anxiety associated with fear of uncertain events, working with unfamiliar equipment, and making mistakes during practical training (Williams, 2013a). They may be at risk of poor academic performance, poor motivation and, eventually, withdrawal from the training program (Williams, 2013b) which will affect their decision to accept emergency medical services (EMS) as their future profession.

Among paramedic students, emotional challenges need essential strategies for coping. A deeper understanding of these strategies can promote enhanced academic performance and will enable them to solve training-related issues (Shepherd and Wild, 2014a). A dominant strategies of coping as mastering the mind and body, avoidance and stress management by active confrontation (Iranmanesh, 2013). Two different types of coping strategies that are problem-focused and emotion-focused have been identified; students can choose one or both of these strategies depending on the nature of the perceived danger (Prati, Palestini and Pietrantonio, 2009). Though emotion-focused coping strategies were more commonly used, problem-solving was still widely used (Shepherd and Wild, 2014b). More diverse coping strategies are used, including socializing with friends, sports, using caffeine or drugs, ignorance, and aerobic exercise (Beaton et al., 1997). Paramedics also respond to their emotional challenge with coping strategies such as alcohol, herbal and chemical medications, family and social support, breathing exercises and humour-related material (Christopher, 2015). Due to Muslim culture, the use of alcohol was limited among students, but humour-related interventions and social and family support were recognized as the prevailing modes of coping (Essex and Scott,

2008). A qualitative study among paramedic students and explored their perceptions and experiences during their fieldwork. Four themes were used, including “getting on with the job,” “struggling with emotion,” “talking it through,” and humor. Participant responses underscored the significance of “talking it through” and “off-loading” with friends, colleagues, partners, and their clinical mentor. Support of their mentor, notably with respect to the technical aspects of training facilitated reduction in anxiety. Humor was an additional beneficial strategy, which also permitted students to “off load” after difficult experiences. These results focus the significance of experiences within existing support systems and recognize the critical role of the clinical supervisor in facilitating thought and reflection (Hyttén and Hasle, 1989).

## MATERIALS AND METHODS

### Aims and objectives

The research objectives for this study were:

- 1-Evaluating the effect of the emotional challenges faced by paramedical students during clinical practice on the care of patients and on the professional and personal lives of students.
- 2-Identify the coping strategies used by paramedical students to overcome the emotional challenges they face during their clinical practice.

### Methods

#### Design

A descriptive, correlational design was used to describe the emotional challenges faced by paramedical students during clinical practice.

#### Sample and Setting

The accessible population for this study was all paramedic students who in clinical practice courses from June 1 and July 30, 2020. Participants who met the following eligibility criteria were included in the study: (1) at least their first clinical practice courses, in an EMS - BSN program; (2) conversant in English (able to read and write English); (3) voluntarily participate in the study; and (4) had hands-on contact with patients in the field of EMS. Utilizing the statistical software G-Power version 3.1.3 (Faul, Erdfelder et al. 2009) with the following input parameters (one tailed independent sample t-test, alpha error probability = 0.05, power = 0.80 and effect size of 0.5), the estimated sample size needed was 137.

However, a larger sample size is required to make a firm conclusion.

This study was carried out at Prince Sultan College for Emergency Medical Services (PSCEMS), King Saud University (KSU). PSCEMS is considered one of the most modern colleges at King Saud University in its major in the Kingdom of Saudi Arabia and Middle East. The College aims at preparing qualified cadres technically and scientifically in the area of emergency medical services to contribute in achieving the goals and aspirations of the kingdom in the scope of pre hospital care, medicine of mass gatherings and disaster and sustainable development in this major, and to provide the local market with competent graduates who are able to bear the burden of providing this specialized care.

### Instrument

The research instrument utilized in this study consisted of two parts. Part (1) provided information on participant demographics, more specifically, their academic year. Part (2) the survey questionnaire developed by the researchers was utilized in this study. The survey was developed using the information obtained based on an in-depth literature review. Based on clinical experience review sessions conducted over many years of the EMS program, we have been able to recognize several concerns, challenges, problems that paramedical students are experiencing over their experience and how they can handle their emotional challenges. It was divided into 3 parts and included a standardized Likert scale (three points, where 0 = Agree, 1 = Disagree, and 2 = Neutral).

The validity of the survey was assessed by the content validity of the panel of experts (3 EMS specialists). The reliability of this tool was 0.80 and it has the internal consistency (Cronbach's  $\alpha = 0.70$ ) (Ferrell and McCaffery 2008). An English version of the questionnaire was administered, as this is the medium of instruction in all EMS schools in the Kingdom of Saudi Arabia. The questionnaire was tested as a pilot among 20 students for comprehensibility, language appropriateness, and sensitivity of questions and average length of administration.

### Ethical approval

This study was carried out with the approval of the ethical committee of King Saud University (reference no.20- 0264). Permission was given to the Dean of the College of PSCEMS to undertake

the study. Prior to the distribution of the questionnaire, informed consent was received from each participant. Participants were assured that their responses would be confidential and anonymous, and that refusal to participate would in no way jeopardize their studying.

### Data analysis

All collected data entered into a database and subsequently analysed using SPSS software (version 26.0) for windows, with the significance level of 0.05 having been established. Descriptive statistics were used to summarize the demographic information and the results of the EMS students' emotional challenges. Examine of significant differences between groups defined in terms of the types of respondents (levels of study) in students' emotional challenges scores was analyzed using a one-way ANOVA. Pearson's correlation test will be performed to explore the relationship between independent variable (emotional challenges) and continuous dependent variable (patient care, professional life, and personal life).

## RESULTS

### Characteristics of the Study Participants

Of the 190 questionnaires distributed, 137 completed questionnaires were obtained (with response rate of 72%). The study data showed that 31.4% of the students were in year 2 (semesters 5–6), 29.2% were in year 3 (semesters 7–8), 15.3% were in year 1 (semesters 3–4), 8.8% were interns, and 15.3% were graduates (Table 1).

**Table1: Participant characteristics of the Sample (N=137)**

	Variable	Frequency	Percent
Academic year level	Year 1 (semesters 3–4)	21	15.3
	Year 2 (semesters 5–6)	43	31.4
	Year 3 (semesters 7–8)	40	29.2
	Interns	12	8.8
	Graduates	21	15.3

### Predictors of Emotional Challenges

Multiple linear multiple regression analysis was conducted to identify predictors of emotional challenges. The results of this study revealed that a model contained three variables (Patient care, professional life, personal life). The patient care

explained 76.5 % of the variance in level of emotional challenges ( $r^2=0.765$   $p = 0.00$ ). The professional life explained 26.9 % of the variance in level of emotional challenges ( $R^2=0.269$   $P = 0.00$ ). The personal life explained 22.5 % of the variance in level of emotional challenges ( $R^2=0.225$   $P = 0.00$ ). Each of the predictor variables is assigned a weight (" $\beta$ " in column), which, when placed in a prediction equation, corresponds to its power to affect the level of emotional challenges. For each unit change in the independent variables, there is an expected change equal to the sizes of these values in emotional challenges. Patient care was the most significance on the level of emotional challenges ( $\beta = 0.871$ ,  $P = .000$ ), followed by professional life ( $\beta = 0.518$ ,  $P = .000$ ) and personal life ( $\beta = 0.474$ ,  $P = .000$ ). The direction of influence for each of these predictors was a positive one; that is, as the value of these predictors increased, the level of emotional challenges increased (Table 2).

**Table 2: Significant Predictors of Emotional Challenges (N = 137)**

Variables	R2	t	Sig.t	$\beta$	P
Patient Care	.675	20.98	0.000	0.871	0.000
Professional Life	.269	7.01	0.000	0.518	0.000
Personal Life	.225	6.25	0.000	0.474	0.000

$\beta$  = partial correlation  
\*Significant at  $\alpha \leq 0.05$

#### Difference between Selected variables (Patient Care, Professional Life, and Personal Life) and Level of emotional challenges

ANOVA shows that a 0.05 level of significance was used to compare the five academic year levels regarding the emotional challenges encountered by the students during field practice. No statistically significant differences were found between the five academic year levels and emotional challenges ( $p=0.70$ ), patient care ( $p=0.60$ ) and personal life ( $p=0.06$ ). However, the significance value of professional life (0,053) was marginally higher than the significance value (0, 05), suggesting that there was minimal statistical significance (Table 3). 1

**Table 3: Difference between Selected variables (Patient Care, Professional Life, and Personal Life) and Level of emotional challenges (N = 137)**

Variables	F	df1	df2	P
Patient Care	0.68	4	132	0.604
Professional Life	2.39	4	131	0.053
Personal Life	2.30	4	132	0.062
Emotional Challenges	0.53	4	132	0.70

#### Strategies used by paramedical students to overcome emotional challenges

During field practice, the paramedic students in our study encountered significant emotional challenges. The study addressed the strategies used to cope with these emotional challenges by paramedic students through following strategies.

##### First, developing professional competency.

Paramedic students were, in general, mindful of the shortcomings of their professional knowledge and skills. As such, 70.8% of students used a range of methods to enhance their knowledge, skills and abilities. Via direct experience with activities, the reflections of others, as well as through discussions with their educators, supervisors, higher-level students, and senior classmates, the participants sought to develop their knowledge and skills in order to gain appropriate and essential skills with respect to strategies, procedures, and patient care.

##### Second, modifying an incorrect intervention

As emotional discomfort arose from an erroneous patient intervention, 70.8% of respondents showed that by immediately correcting and changing their mistake, they sought to minimize any further patient damage. It helped to reduce the degree of psychological stress and to inculcate comfort.

##### Third, facing stressful conditions deliberately

Two - thirds of the paramedic students indicated that they chose to deal directly with certain situations when facing tough situations and did not try to prevent them.

##### Forth, reflecting on stressful situations

In order to deal with challenging circumstances, sixty-two percent of the students used reflection methods. These included their attempts to examine stressful conditions and to

incorporate alternate reactions.

#### **Fifth, communication skills to direct stressful interactions**

79.6 % of paramedic students used their communication skills to restrict or avert emotional pressure when communicating with others (patients, workers, instructors, and colleagues) who could feel the impact of trauma, particularly if the patient was frustrated or irritated. They stated that by maintaining eye contact and suitable communication, they would try to reduce tension.

#### **Finally, conquering the mind and body**

The respondents reported the use of other mental behaviors, including optimistic thinking (77.4%) and realism (66.4%) to deal with emotional challenges. Others indicated that by engaging in their favorite activities (75.9 %), they coped with emotional challenges. The students have used strategies such as releasing feelings (73.7 %), praying (73.7 %), deep breathing (69.3 percent), and avoiding stressful individuals (62.8 %) to restrict physiological symptoms and to monitor their bodies and minds. Some students, however, suggested that they used potentially dangerous approaches to resolve the influence of their emotions, including deviation from their objectives and cessation of critical thinking (42.3%), taking herbal and other drugs (36.5%), and giving up on their studies (27%).

### **DISCUSSION**

The findings of this study show that paramedic students face various situations that they interpret during training period as emotionally challenging. In addition, most students indicated that angry or highly distressed witnesses and family members who had just undergone a traumatic incident and sometimes had unreasonable expectations of the paramedics resulted in some emotional challenges.

The results showed a strong correlation between emotional challenges and patient care. In addition, paramedic students also faced emotional challenges in training period, and these challenges influenced the standard of treatment given to patients. Even so, 61.8% of the students reported that they were highly influenced by stressful circumstances and that the strain came from other public safety practitioners, extremely frustrated or angry bystanders and family members, and the loss of trust of the patients, which put additional psychological stress on the paramedic students. About half of the students

(53.7%) indicated that the quality of patient care was compromised due to frustration, pressure, shouting, crying, and crowding by the patient's family or at the incident site. The students therefore suggested that, during lab practice, they favored simulation exercises. In fact, due to the emotional situations they had encountered in the field, which had adversely influenced patient care, 61.8 % of the paramedic students were interested in simulation-based education.

The results indicated a strong positive relationship between the emotional challenges of the students and their professional lives. As a result, paramedic students seemed to be greatly impacted by the emotional challenges they encountered during training period and that these challenges influenced their success and professional life. More than half of the respondents indicated that anxiety, fatigue, a lack of seriousness of team members, patients' poor conditions or death, unsuccessful resuscitation, fear of failure, heartbeat fluctuations, uneasiness, lack of motivation, labored breathing, and shaking during field practice were harmful to their professional conduct. Alternatively, 79.9% of the students confirmed that they had experienced strong positive effects when they felt satisfied, appreciated, and received gratitude from a patient's relatives after successful patient care, all of which motivated them to continue pursuing their EMS career. However, 42.9% of the respondents indicated that traumatic incidents such as patient deaths had a negative impact on their EMS career choice.

The personal lives and well-being of the students were not negatively influenced by the emotional problems they experienced during field practice. Many of the paramedic students had the feeling that they could not do anything to prevent PTSD triggered by stressful events they had witnessed. In fact, we found that 83.5 % of paramedic students chose EMS as their technical career because when services were effectively provided to patients who recognized their efforts, they felt pride, happiness, excitement, and peace. Nonetheless, 52 % of students reported that faculty members' core paramedic education, academic therapy, and emotional support help them cope with patients, families, colleagues, and the public's subjective feelings.

This study found that paramedic students used a number of techniques during field practice to deal with emotional challenges. The students used techniques aimed at enhancing their professional performance, correcting their errors,

addressing difficult circumstances, and focusing on challenging problems to effectively address these challenges. A critical strategy that helped students to cope with the emotions encountered was the development of professional competence. The students endured stress and anxiety during their academic preparation, since they usually lacked awareness, skills and self-assurance. As such, they suggested that attempts to develop their professional skills were a problem-based approach that helped them to cope with emotional challenges. Academic teachers should therefore create an atmosphere in which, without fear of the judgment of educators, paramedic students can demonstrate their expertise and professional abilities and in which teachers help students gain skills and competence.

By rapidly remediating incorrect behavior, the paramedic students showed the personal importance of patient protection. As such, prior to field practice preparation should concentrate on patient safety and risk management, including before-field protective management techniques. In addition, students should have opportunities to explicitly discuss their stresses, as this will allow them to learn once out in the field to handle these circumstances.

The ability to exercise power over both the body and mind was a significant coping mechanism. Therefore, the students participated in a series of exercises with this purpose in mind. So many authors perceived themselves and set legitimate professional goals as rationalists. The truth of a stressful event is not changed by positive thought, but it can have an important effect on one's reactions and comprehension. Similarly, the students were able to minimize their experiences of stress by doing their favorite tasks, as this provided them with a sense of calm and the ability to relieve their emotions.

An extra method used by the students to control stress-related emotions was the use of herbal preparations, chemicals, and medicines. 42% of students reported smoking cigarettes in this sample, but no students reported using alcohol as it is banned in Saudi Arabia. Therefore, the avoidance by students of consumption of alcohol can be related to religious and legal constraints. Some students suggested that they used herbal formulations to suppress stress because they found it to be less harmful than prescription drugs and to have less side effects. Nearly 90 % of the students, meanwhile, used methods such as deep breathing, calming, and drinking water to decrease the influence of

negative emotions. It is also suggested that paramedic students undergo mandatory instruction in non-pharmacological stress reduction strategies. The literature specifies that in reducing the effect of negative feelings, nervousness, and sleeplessness, special breathing exercises are beneficial.

Another technique that students use to cope with the emotional difficulties they encounter in the field is to release emotions through interactions with family, friends, educators, and others; these interactions provide these students with vital social support. The findings revealed that in an effort to deal with emotional stress, 90% of the students prayed. The most common tactic used to cope with feelings during practical training was to stop and escape from stressful conditions. The variability associated with these findings may be due to variations in the responses of the students. Unfortunately, in the short term, avoidance only restricts emotional stress; instructors and trainers should therefore be careful to recommend escape as an adaptive technique for paramedic students. They actually gave up on their study program in the few occasions in which the students could not articulate their difficulties.

### Limitations

First, there was a lack of similar research, especially in Saudi Arabia, on the topic. Second, there is little data on the emotional challenges of full-time paramedics working in the field. In addition, the research shows that the strategies used by paramedic students to deal with their emotional challenges are an opportunity to decide. In addition, to distinguish how they perceive the emotional challenges they face in their programs; it is another chance to conduct a comparison study on students from various EMS colleges and other professions.

### CONCLUSION

This research reported that paramedic students are prone to stressful events that can adversely affect patients' quality of care and their professional and personal lives. A substantial percentage of the subjects of this study concerned students who had suffered illness and death. Seeing a deceased patient and experiencing pain and suffering were intense events that emotionally affected the students. This study found that paramedic students used a range of methods and techniques during field practice to cope with emotional challenges.

### Implication for Practice

During the periods of EMS field training practice, teachers and education institutions have additional responsibility for knowledge and guidance. The guidance implies engagement in preparatory and teaching sessions aimed at mitigating the effect on paramedic students of emotional stress.

### CONFLICT OF INTEREST

The authors declared that present study was performed in absence of any conflict of interest.

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### AUTHOR CONTRIBUTIONS

DA and MS wrote the manuscript. SP, SS, and HS performed data analysis. DA and MS reviewed the manuscript. All authors read and approved the final version.

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