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Psychological distress Management in Iranian emergency prehospital providers: A Qualitative study

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Abstract:

INTRODUCTION: Emergency prehospital providers (EPHP) who are constantly providing medical care in threatening conditions are more at risk of displaying psychological distress presentations in disaster situations. Problem-solving strategies are essential for effective and efficient management of event position. Therefore, the present study aimed to explore psychological distress promotion in Iranian EPHP.

MATERIALS AND METHODS: A qualitative content analysis study was conducted based on 24 semi-structured interviews. A purposeful sampling method was applied until reaching data saturation. Interviews were transcribed verbatim, and then, data condensing, labeling, coding, and defining categories were performed by the qualitative content analysis recommended by the Landman and Graneheim approach.

RESULTS: Based on the experience of study participants, two main themes with six categories developed. The main themes included emotion-based management and problem-based management when confronting with incidence scene.

CONCLUSION: The main problems of EPHP in confronting with incidence and disasters scenes are psychological distress which some rescuers have emotional reactions while some others who are more resilience and experience manage this problem in the form of problem-based approach. It is recommended these practical strategies to be taught to less experienced rescuers for avoiding emotional-based reactions and better management of disaster scene.

Keywords:

Emergency prehospital providers, psychological distress, qualitative study

Introduction

Natural and human hazard can cause many problems for the people and the government. In addition, they have devastating effect on health, social, and economic status.^[1] Since the situation is completely disrupted in disasters, not only every person in each event may experience a wide range of emotional reactions such as weakness, confusion, fear, extreme anxiety, numbness, and overwhelmed,^[2] However, also, emergency prehospital providers (EHPs) who are constantly

providing medical care in threatening conditions are also victims of the disastrous events.^[3] Providing relief under life and death circumstances while being monitored by relatives and bystanders, lack of adequate rest and time to solve multiple problems^[4,5] can cause stress-related symptoms and negative impacts on their health, such as mental and somatic problems, posttraumatic stress manifestations, and lack of control over the working environment.^[6,7] High-risk occupations such as EHPs are associated with significant levels of psychological and physical stress. Individuals are likely to encounter potentially traumatic events as

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part of their work, studies have documented the link between experiencing such incidents and mental health problems.^[8,9] EPHPs are often the first ones to face humans in life-threatening trauma and circumstances,^[10] Hence, they are more at risk of displaying stress symptoms and posttraumatic stress disorder than in hospital providers.^[11-14] They are exposed to a wide range of acute and chronic stressors such as occupational injuries, diseases, musculoskeletal disorders, violence, trauma, stress syndrome, burnout, and fatigue. Injured and fatal car accidents involving ambulances are the most serious risk factor.^[15] On the other hand, the adverse effect of one hazard creates another hazard and leads to exposure to combined hazards. For example, workers with PTSD experience sleep problems and fatigue.^[16] A review of the research background on EPHP's mental health showed that most studies have done on the prevalence of stress and its relations with psychological problems in staffs. For example, the findings of a study showed that 75.5% of EMS personnel suffer from moderate-to-severe stress and the organization has the highest stress production score^[17] and Shiraz emergency nurses have moderate upward job stress and average quality of life. Furthermore, the lower the job stress was associated with the higher the quality of work life.^[18] In addition, the result of a study showed there was a significant inverse correlation between burnout level and mental health in EPHP.^[19] Different studies also examined the factors influencing the stress of prehospital staff. The main issues related to tensions and dissatisfaction include personal, organizational, coordination, work-related, and society problems.^[17,20] Furthermore, factors influencing safety concerns include the lack of management support, poor communication with management, fatigue, interpersonal violence, and inadequate staff.^[21] Given that mental health and well-being of EPHP is crucial in providing services to patients and their families. As a result, the psychological preparation of EPHP is one of the requirements of this profession for better performance and reduce tensions.^[22] Therefore, the question here is what methods prehospital staff use to deal with and manage stress. We did not find any studies that showed how prehospital staff coped with stress at the scene and afterwards. In this professional group, it is urgently needed to recognize the strategies reducing job stress and increase the quality of patient care.^[17] Stress can be reduced by adopting coping strategies and increasing the level of resilience.^[23] Therefore, we designed a basic study that first identifies the behavior and how these employees deal with stress in real situations.

Materials and Methods

The present study was conducted based on qualitative research method and content analysis by Landman and Graneheim approach.

For data gathering, semi-structured interviews used in qualitative studies. Twenty-four participants were selected based on the purposive sampling method. Participants were selected through purposive sampling method from emergency medical centers. The inclusion criteria for participants were as follows: EPHP who had experience in providing relief in at least one national disaster or more than three mass casualty incidences.

Data collection continued until data saturation, when adding further data does not offer any new information and new properties for each category. In the present study, the research setting included tehran prehospital emergency center, national prehospital emergency center, Gorgan, Agh Qala and Gomishe Tapeh prehospital emergency center (for emergency responders as flood-prone areas), in addition, other relevant prehospital emergency centers.

The time and location of all interviews were conducted by participant's agreement. Interview lengths varied between 25 and 45 min were digitally audio files (MP3) recorded and transcribed verbatim. The MAXQDA V 10.0 (VERBI Company; Berlin, Germany) was used for data analyzing. This study was conducted from July 2018 to May 2020. In general, principal investigator performed 24 interviews. Face-to-face interviews were conducted at the workplace with their consent. Furthermore, the objectives and reasons for the study were stated for the participants.

Data were gathered through the semi-structured interviews. First, interviewer was asked to negotiate one of their recent experiences in emergencies and disasters.

To design the interview questions, we used the texts related to psychological distress. Interviews with participants began with an explanation of the concept of psychological distress, and according to the interview guidelines, general open-ended questions were asked: "would you please talk about one of your recent experiences in disasters and how do you manage the disaster scene stress?" Then, depending on the context of the responses, the interviewer continued with exploratory questions "Can you please give an example?" or "Could you explain more?" to clarify concepts for the researcher and participants. Finally, by adding, "Would you like to add anything else, the possibility of having experiences or cases beyond the author's imagination was examined.

According to the approach of this study, after each interview, audio files were listened several times for getting a complete understanding of the participants' accounts; then, the meaning units was summarized. Finally, similar codes were sorted into subcategories and

categories which were compared based on differences and similarities.

Rigor

The credibility of the data was established by (a) Prolonged engagement of researchers with data as data gathering lasted about 1 year, (b) Peer check which data and interpretation of data were checked by two Ph.D. students who had previous experience of prehospital care, and (c) Member checking: Data rechecked by interested participants to determine whether our interpretations were confirmed by their experiences. In addition, triangulation strategy for data collection such as interview, observation, focus group, and field notes was used to increase the dependability of data.

The researcher simultaneously recorded her findings and perceptions from her presence on the scene and observations.

Ethical considerations

This article is a part of a doctoral dissertation approved with Ethics Code: IR.SSU.SPH.REC.1400.050 please correct it number ethic code. The ethical committee of Shahid Sadoughi University of Medical Sciences, Yazd, Iran, approved the proposal of the study. All participants provided informed verbal consent to participate. Participants were aware that the conversations would be recorded, knowing that they could request to withdraw from the study at any time and to delete or destroy their taped interviews. The research team had an extensive background in mental health.

Results

The participants of the study were 24 participants, 1 woman and 14 men. The participants ranged in age from 22 to 50 years, including 20 prehospital emergency nurses or prehospital emergency technicians, 3 prehospital managers and one physician who was operational manager and well experienced in providing relief in disasters [Table 1].

One of the main problems of PHP at the emergencies is the formation and progression of psychological distress. In the face of this critical situation, some PHP are overcome by emotions and manage the scene of the accident based on emotional based. However, the response of some rescuers after dealing with psychological distress is problematic-based approach.

Based on the experience of study participants, two main themes with six categories and 19 subcategories were developed [Table 2].

Table 1: Demographic information of the Emergency prehospital providers

	Frequency (%)
Education	
Associate	8 (33.33)
Bachelor of Science	9 (37.5)
Master of Science	3 (12.5)
PhD	4 (16.66)
Service location	
Ministry of health	2 (8.33)
Emergency base	22 (91.66)
Occupation	
Politician	1 (4.16)
Technician	17 (70.83)
Nurse	5 (20.83)
Physician	1 (4.16)
Type of service	
Operational	19 (79.16)
Emergency administrator	4 (16.66)
Education administrator	1 (4.16)

Table 2: Coding of Iranian prehospital personnel's strategies to manage psychological distress

Subcategories	Categories	Main theme
A1. Extreme emotions	A. Emotional reactions	Emotion-based management
A2. Somatization		
A3. Shock		
B1. Functional impairment	B. Emotional behavior	
B2. Conflict and challenge		
B3. Extreme behavior		
C1. Feeling of helplessness	C. Intrusive thoughts	
C2. Generalization of events		
C3. Catastrophization		
D1. Psychological support	D. Supportive strategies	Problem-based management
D2. Equipment support		
D3. Social support		
E1. Deviation of thought	E. On-stage strategies	
E2. Use of knowledge and experience		
E3. Adherence to moral religious principles		
F1. Psychological arrangements	F. Reconstruction strategies	
F2. Social support		
F3. Self-soothing skills		
F4. Reassessment		

Emotion-based management

If stress overwhelms the rescuer at the scene of the accident, emotional reactions, emotional behavior, and emotional thoughts will manifest under the heading of emotion-based management that explains the reactions of rescuers about psychological distress.

Emotional reactions

This category consisted of concepts like extreme and shock that the rescuer shows after facing the stressful scene of the accident.

Extreme emotions

Excessive sadness, extreme anger, decreased tolerance threshold, sorrow at the incidence scene, and emotional conflict are the components that describe extreme emotions.

In the case of extreme emotions, one of the participants (p2) who was present at the crash of the Ukrainian plane says about the sorrow at incidence scene:

"When I looked at my co-workers faces in the plane crash, most of the technicians had tears in their eyes"

Or another participant (p6) stated " Extreme emotions" in this way:

"When we enter the house and see a 37-year-old male, suddenly has a heart attack, His little girl is crying and begs me to help his dad. These conditions cause mood decline"

Somatization and somatic complaints

Physical fatigue, pass out, shaking of hands and feet, palpitation, freezing hands and feet, body burning are the rescuers reactions to the incidence scenes psychological distress. In this regard, the participant (p17) who was present at the crash of the Ukrainian plane says:

"When we arrived in the scene and saw those some of dead bodies, which was dramatic all my body was shaking".

Shock

Stress at the scene of an accident sometimes manifests itself like "inability to react," "momentary loss of speech or staring at the scene"

In the case of "Shock", participants (p2) stated:" I went to an accident that had ten injured, I was in shock for exactly 5 min. I could not talk to anyone at all. I couldn't do anything."

Emotional behavior

The incidence scene sometimes effect on rescuers behavior, which includes functional impairment, conflict and challenge, and extreme behavior

Functional impairment

Disruption of decision-making, failure of mission, and disruption of the care process are the "functional impairment" components. The EPHP (p23) who was at the Sar-e Pol-e Zahab earthquake described impaired performance as follows:

"Sometimes in triage, you may make wrong decisions due to the stress of an accident. You do not know what to do and all of a sudden, you hit everyone with a red label, just to get out of your sight sooner"

Conflict and challenge

This concept describes EPHP Conflict with the patient's family and their colleagues. In this regard, participant (p8) described conflict and challenge with these statements:

"EPHP at the scene of the accident get into tension and conflict with each other, especially in traffic accidents, due to the stress caused by the accident; they may behave aggressively and may even have challenge with the patient's family"

Extreme and chaotic behavior

Intense crying, restlessness, and shouting are the examples of behavioral disturbance of EPHP at the scene.

"Behavioral disturbance "was described by (p17):

"In the Bam earthquake, when one of the inexperienced rescuers entered the city of Bam and saw all the corpses on the side of the road, he suddenly started shouting and saying, "Everyone is dying. God, everyone is dying." Then he started crying loudly".

Emotional thoughts

Emotional thoughts include feelings of helplessness, generalization of events, and. Catastrophizing.

Feelings of helplessness

Related statements were stated by (p3) who was in air relief

"I saw an accident in which the bride's head was completely torn off and thrown into the back seat. I felt very helpless when I saw this scene.I mean, I have no power, I was too weak to help my patient, I could do nothing."

Events generalization

Explains the context in which the EPHP generalizes every event to himself and his family. An EPHP (p20) who was in the Bam earthquake described this concept in this way:

"In the Bam earthquake, when I saw a half-dead body of a boy in a blanket. I immediately remembered my own child and visualized my own child's face."

Catastrophization

Means that the most ordinary situation is interpreted as a terrible catastrophe. In this regard, an experienced EPHP mentioned (P4):

"I remember once my wife called my cell phone and said my daughter had an accident, I immediately had the worst possible situation in my mind that she had been beheaded. If nothing bad had happened."

Problem-based management

An experienced EPHP uses his or her logic like supportive, on-stage reconstruction strategies when

dealing with psychological distress, which called problem-based management.

Psychological, social and equipment support are the examples of supportive strategies, which EPHP uses in the problem-based approach.

Supportive strategies

Mental exposure, gradual entry into the scene, acceptance, and prior preparation define psychological support. Related statements were stated by (P3):

"When we want to go on a mission, along the way, we imagine what scenes we might encounter at the accident scene."

In addition, participant (p13) said about "Gradual entry into the scene" in this way:

"The police had already zoned the scene and we had to walk a long distance to catch the plane. I was constantly had self-talking to myself along: Calm down, there is no problem, you came to help, in fact not entrance to the scene at once, made our minds became ready for looking those lots of corpse"

Another component that explains Supportive strategies was "Acceptance" which according to that participant (p19) stated: "As I like my job, I accepted all its problems and difficulties".

Previous psychological training, (p21) said:

"Since we passed the mental health unit in nursing, we could calm the flood victims, comforted them and gave them psychological aid".

Equipment support

Adequacy and safety of equipment are the examples of equipment support. The participants (p5) who were in Plasco fire described "Equipment support" as follows:

"Since we were equipped, and sure about the safety of our equipment, we were not worried, and we were very calm about it"

Social support

Colleagues, people, media, and cyberspace support under the heading of social support is another support strategies which the rescuer uses them to manage the crisis.

In this regard, participants (p8), noted:

"We went on a mission where I was alone. Once I got very stress and embracement, but when I saw the police, the firefighters came. I could control myself. I felt better. The presence of other relief teams gave me power"

In addition, participants (p12), said about media and cyberspace support in this way:

"Appreciating and thanking the aid workers and showing their sacrifice in the media motivated us to serve".

On-stage strategies

Another strategy that PHP use for logical and problem-based management in the scene of an accident is on-stage strategies, which include deviation of thought, use of knowledge and experience, and adherence to moral-religious principles.

Deviation of thought

Problem-oriented rescuers at the incident scene of the accident with methods such as personal relaxation, mental relaxation and behavioral relaxation divert their attention from stressful issues and prevent stress from overcoming their logic.

In this case, participants (p2) mentioned

"Sometimes when I have bad feeling, I talk to myself at the scene of an accident. I tell myself that now I just have to help the patient. If I lose my control, who wants to help them?"

In addition, participants (p10) noted:

"My own technique is to stay away from the scene for a short time. I turn my back on the scene. I go back. I look somewhere else for a moment. I concentrate my mind and back to the scene again. In this way, I recycle myself"

Physical activity on stage was another behavioral relaxation strategy, which was explained by (P2) as follows:

"We were active constantly active, add keep on actively, we forgot intrusive thought".

Use of knowledge and experience

Interaction with experienced colleagues, prior experiences and focus on scientific principles were related components. In this regard, (P9) said:

"One of the customs in the emergency is that the newcomer rescuer puts a periodic time next to an experienced one."

Adherence to moral-religious principles

Responsibility, Focus on saving lives, Commitment to duty, altruism and Reminder of moral-spiritual principles are examples of adherence to moral-religious principles:

In this regard, (P11) noted as follows:

"I gathered the children together and related the subject to God, the Prophet, by divine destiny. I said we are not

responsible for it, but we are responsible for the lives of people who need us"

Reconstruction strategies

Another problem-based management strategy is include "Reconstruction strategies" that include psychological arrangements, social support, Self-soothing skills and reassessment that rescuers use theme after leaving the scene to rebuild their spirits and prepare for the next mission.

Psychological arrangements

Consulting, follow up, Night briefing and role-playing are examples of the psychological arrangements used by rescuers.

In this regard, (P17) mentioned:

"EPHP who collected the corpse of the crashed plane. We asked them to talk about their discomfort so that they could empty themselves psychologically."

Social support

Another method of psychological reconstruction is social support, including peer, family and organizational support.

In the case of Social support, one of the participants (p2) said:

"When I am with my family after the mission and I talk to my wife, I feel calmer"

Alternatively, participants (p6) in this regard said:

"I try to explain my colleagues what happened at the accident scene so; my suffering is decline with better feeling".

Self-soothing skills

Self-soothing skills that EPHP use to rehabilitate themselves include humor, relaxation, identifying culprits, and rotation of tasks.

In this regard, (P14) noted:

"An interesting topic that we experienced together at night sitting, that talking and laughing about some parts of tragic event caused stress reduction."

Leisure and travel, regular exercise, proper sleep and eating favorite foods are relaxation methods that EPHP use to rehabilitate themselves after the mission"

In this regard, (p13) said:

"When we return from a difficult mission, eating my favorite food and sleeping for two full hours are usually the first thing I do."

Reassessment

Scientific and practical evaluation, planning, Share experiences and Positive evaluation are described as reassessment, which noted by (P13) as follows:

"After the Bam earthquake, an attempt was made to examine the performance of each organization and to express the lessons learned. This helped a lot in planning for the next disasters."

Discussion

The purpose of this study is to explore Psychological Distress Promotion in Iranian Prehospital personnel. Based on the findings of the current study, The main problems of EPHP in confronting with incidence scenes and disasters is psychological distress which rescuers deal with that problem with two ways emotional-based management and problem-based approach. In addition, three categories and 19 sub categories were developed. The main components of each category discussed below.

According to many participants, in some prehospital personnel, stress overwhelms at the scene of the disaster, so emotional reactions including Extreme emotions, emotional behavior and emotional thoughts will manifest under the heading of emotion-based management.

Many aspects of these findings are similar to previous studies, which explored the experience of disaster relief work in Haiti after the 2010 included periods of fear and uncertainty, times of shock and feelings of posttraumatic stress, fatigue and conflict among relief workers.^[24] Also, negative emotions which generated by a variety of affective workplace events, can have a significant impact on their performance, behavior, physiological and psychological health.^[25,26] In this regard another study stated, rescuers that may confront scenes that bring physical revulsion, even vomiting; transient physical, behavioral and emotional, feeling helpless, over involvement, sense of omnipotence, cognitive impairment, disturbed interpersonal relationships as well as increased arousal, irritability, and loss of interest or withdrawal excessive drinking.^[27]

This is in accordance with the findings from a study which explored extreme or even shocking experiences involving severe psychological strain among nurses who exposed to a specific situation and displayed their own lack of strategies and competence on how to deal with these situations.^[28] To resolve these concerns, debriefing and exchanging stories, follow-up or organizational support is needed to help participants to cope with their many emotions, and avoid burnout.^[24]

Also, adequate training is a protective factor against developing adverse psychiatric outcomes in medical responders across all types of disasters.^[29-31]

On the other hand, some other rescuers who has problem-based management: Uses supportive strategies, on-stage strategies and reconstruction strategies when confronting stressful scenes.

Psychological support, equipment support, and social support are the examples of supportive strategies. The main components of each category discussed as follows:

Based on these study findings, mental exposure, gradual entry into the scene, acceptance, and prior preparation describe psychological support. According to experience of many participants, gradual entry into the incidence scene is one of the psychological supports, which rescuers use to decrease psychological distress. In this regard, many studies showed those who arrived early at the site of disaster and stayed longer have greater adverse psychiatric.^[29,32-35]

In this regard, another study stated the health care workers felt helplessness, extreme vulnerability, uncertainty, threat to life, and greater stress at work during initial phase of the disease outbreaks.^[35] Conversely, several studies found no significant associations between arrival time and psychological distress postdisaster.^[36,37] Many studies do not control for training, preparation, equipment, or severity of disaster exposure: It is likely that those first on the scene will be less prepared, the evolving situation may be more ambiguous and they may be less well equipped and going into a more dangerous environment than those arriving later. It can be considered an explanatory session for know about psychological hazards due to certain mission contents and equipped preparation before involvement. Therefore, this plan can decline concerns.^[38] Furthermore, coping strategies such as presufficient training and preparedness mitigate adverse impacts of incidence stress.^[39]

Other components of supportive strategies in the present study are social support which are in the same line with several other studies which mentioned the importance the team colleague that have a positive effect on rescuers personal competence.^[28,40]

According to many participants, another strategy that rescuers use is on-stage strategies, which include deviation of thought, use of knowledge and experience, and adherence to moral-religious principles.

Some strategies like water drinking, self-talking, taking a short break named personal relaxation, take short distance from the scene and getting used to the scene named mental relaxation and physical activity on stage and make a sudden shock as named behavioral relaxation were strategies for thought distraction that

identified by the present study. In this regard, a study found that confronted coping, distancing, and planned problem-solving reduced the effect of direct rescue effort involvement on general psychiatric morbidity significantly.^[41]

The use of knowledge and experience in disaster scene was another on-stage strategies which mentioned by participants, the results of different studies revealed the potential positive impact of experience on managing the emergencies and disasters which cause workers to feel they have benefited both personally and professionally.^[42,43] While other studies found that feelings of personal efficacy and satisfaction with their efforts which caused by prior experiences was associated with higher levels of resilience and lower levels of secondary trauma and burnout,^[44,45] in other words, one key aspect of how competence was used in practice seems to be connected to experience-based knowledge which actually leads to increased knowledge of the area.^[15,28]

Furthermore, the guidelines were described as a structural support tool for the RNs, strengthening their competence in stressful, life-threatening, and fast-action situations^[28] as mentioned by current participants too.

Adherence to moral-religious principles was another strategy mentioned by many participants to cope with psychological distress that rescuers used as on-stage strategies, in line with present study, as some previous studies, main causes for help others were social responsibility and commitment to duty.^[24,46] In this regard, other study explored autonomous goal setting, turning obstacles into positive experiences, adherence to spiritual principles, and personal strength as proactive coping behaviors.^[47]

Another problem-based management strategy is include reconstruction strategies that include psychological arrangements, social support, self-soothing skills, and reassessment that rescuers use theme after leaving the scene to rebuild their spirits and prepare themselves for the next mission.

According to many participants, consulting, follow up, night briefing and role-playing are found as psychological arrangements. Many aspects of these findings are similar to previous studies that considered briefing with colleagues and consulting as an important solution in stabilizing responders' emotional state before, during, and after a traumatic event.^[48]

Social support including peer support, family support, and organizational support was the another component of reconstruction strategies, as mentioned by most

participants. In this regard, several studies pointed out preferred psychosocial self-care practices included spending time with family and friends, participating in peer-support programs and online support forums, and routinely seeing a mental health professional^[48] also, informal discussions with colleagues like drinking a cup of coffee together as stress reducing, especially immediately after a stressful event is important to support stress reducing actions like defusing.^[49,50] Another study emphasized informal stress defusing conversations, collegial feedback, collegial debriefing, shared crisis, rituals of security, and the advantage of teamwork as techniques to prevent and handle stress.^[49,51] These methods are supported by Zohar *et al.*^[52]

Regular feedback on professional outcome is of high value in developing rescuers competence after a professionally challenging effort.^[28] That has been highlighted in this study.

According to many participants, humor, relaxation, identifying culprits, and rotation of tasks were self-soothing skills that rescuers use to rehabilitate themselves after challenging missions. Which is consistent with previous studies that mentioned physical self-care practices included exercise, good nutrition, getting enough sleep, and sticking to routine in addition access to cooking classes and subsidized gym memberships as a protective factor against depression and overall psychological problems.^[48,53]

In this regard, the result of a study recommend a reasonable rotation of tasks for disaster rescuers they mentioned emergency medical technicians should avoid over commitment in certain field tasks for a long period of time.^[39] Another study stated giving the ambulance team time off directly after a stressful case can prevent stressful reactions and may reduce sick leave in the long run.^[54] Furthermore, awareness of and pride in one's duties and humor after missions is recommended to prevent traumatic stress.^[55]

Scientific and practical evaluation, planning, share experiences, and positive evaluation are described as reassessment, according to many participants. Many aspects of these findings are similar to previous studies, which emphasized another arrangement to prevent stress is to arrange scheduled sessions to assess experience with similar tasks and previous training by simulation where complicated and stressful cases can be discussed regularly. These two suggestions should be subject to more extensive research.^[49,56]

Conclusion

Based on the findings of the current study, the main problems of rescuers in confronting with scenes of

incidence and disasters are psychological distress which some rescuers have emotional reactions while some others who are more resilient and experience manage this problem in the form of problem-based approach.

Moreover, focusing and training the dimensions of problem-based management strategies which involves supportive strategies, on-stage strategies, and reconstruction strategies is recommended for less experienced rescuers to avoid emotional based reactions in disaster scene for better management of the incidence. The use of these dimensions leads to practical coping strategies with stress, adopting significant implications for rescue education, practice, research, and health policy. Workshops could be organized to improve coping strategies of rescue workers. Additional studies should be conducted to explore the long-term impact of rescuers psychological distress in disasters. Considering the fact that the process of providing prehospital service in disasters is not well established other qualitative approaches such as grounded theory method is recommended for further studies.

Limitations

One of the limitations of this study was the problems of coordination and obtaining permission to conduct interviews with prehospital staff, especially in flooded areas. In some cases, we had to interview in the ambulance and during the mission. In addition, interviews with female paramedics, as their number was very limited, was another problem in this study. This caused the interviewer to plan for several sessions in different places to interview with some of them.

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Conflicts of interest

There are no conflicts of interest.

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