

A Study of the Mental Health of Pre-Hospital First Responders and Its Associated Factors

Chao Li¹, Yuanyuan He¹ & Donghui Shen¹

¹ Shanghai Minhang Medical Emergency Center

Correspondence: Chao Li, Shanghai Minhang Medical Emergency Center.

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Abstract

Pre-hospital first aid is the medical treatment of patients with sudden and threatening emergencies, trauma, poisoning and disaster accidents, which is mainly divided into on-site treatment and nursing in the transfer process. It is of great significance for hospitals to carry out rapid and efficient rescue in the early stage to save patients' lives and reduce the mortality rate. Doctors, nurses, ambulance drivers, and stretcher bearers engaged in pre-hospital first aid work are collectively referred to as pre-hospital first responders. Because they are a special professional group, they work on the front line of rescuing sudden patients, critically ill patients and various trauma patients, which is difficult, complex and dangerous, and easy to cause serious mental health problems. Pre-hospital emergency is the first important part of the hospital emergency system, and the mental state of the first responders will directly affect the medical service level of emergency rescue, thus playing an important role in the follow-up treatment and psychological recovery of patients. However, the mental health work of first aid personnel has not received sufficient attention, and this paper reviews relevant literature at home and abroad, hoping to effectively protect and improve the mental health of first aid personnel in pre-hospital emergency work, and provide useful reference for further related work.

Keywords: pre-hospital first aid, mental health, protection

1. Introduction

The hospital's pre-hospital emergency services are an important indicator of the overall health situation in the region. The mental state of the first responder will be directly related to the effectiveness of the hospital's emergency treatment. The hospital's emergency department doctors are on duty 24 hours a day, rescuing critically ill patients in emergencies, bearing a huge physical and mental burden, and their mental health has an important impact on the quality of emergency services in hospitals. The emergency work of the hospital includes not only the hospital's routine medical services, but also medical rescue, medical security, etc., which has an unexpected and high sense of urgency. Their common characteristics are tight time, heavy tasks, long working hours, and if the huge mental pressure is not relieved, mental problems will occur, resulting in low work efficiency. Previous surveys have shown that the number of hospital emergency personnel is decreasing. According to a survey by Xiang Zhenjun and others, the hospital's emergency staff turnover rate is high, and 369 people have left emergency jobs in Beijing within three years, including 187 emergency doctors, 116 emergency nurses and 50 ambulance drivers. The turnover rate of first responders in Shenzhen is 25%, and the turnover rate of private medical institutions is 40%-50% higher, and 422 of Shanghai's 439 emergency doctors have left in 3 years. The rapid departure of emergency personnel in Beijing, Shenzhen and Shanghai is only the tip of the iceberg, and other provinces and cities in China are facing the same situation (LIN Lin, YI Qiaoyun & HE Guoping, 2007).

2. Mental Health Problems in Hospital Emergency Work

2.1 Post-Traumatic Stress Disorder

PTSD is a type of mental illness that is postponed or sustained by exposure to traumatic events beyond what the average human can tolerate, or after a person suffers from an abnormal, almost all people will feel obvious pain. It is characterized by the constant repetition of traumatic events, such as repeated nightmares; Excitement and emotional paralysis due to mental trauma; Frightened and overly vigilant. Post-traumatic stress disorder can occur in both natural and human disasters (XU Dongning, HONG Chuyun & TANG Jinhe, 2010). Studies on post-traumatic stress disorder at home and abroad show that the incidence of post-traumatic stress disorder in emergency rescue is high, and some pre-hospital emergency workers who have experienced disasters are high-risk groups for post-traumatic stress disorder.

2.2 Burnout

Job burnout, also known as psychosomatic failure syndrome (BS), is an overconsumption of mental energy due to excessive effort, which can lead to mental fatigue and emotional exhaustion.

A study conducted by Dutch researchers using the Work Fatigue Questionnaire (MBI) in 10 regions showed that the proportion of pre-hospital ambulance workers who were tired was 8.6%, more than the general population at 5.3%, while the emotional exhaustion score was 12%, on the basis of which 18% of respondents scored low. A study conducted by the Former Emergency Medical Services (MBI) of Scottish Hospitals showed that about one-third of participants had high levels of work fatigue, 26% had higher emotional exhaustion scores, 20% had higher scores and 36% had higher levels of self-satisfaction. According to a survey in South Africa, one-half of medical workers in 38 trauma treatment facilities were in a state of high work fatigue, 61% were emotionally exhausted, 50% were in a low-level state of mental exhaustion, and the other half were in a high state (DONG Yunqing, LOU Fenglan, CAO Fenglin, et al, 2008).

2.3 Melancholia

A survey of 617 pre-hospital emergency workers in the UK on hospital anxiety and depression showed anxiety and depression accounting for 23% and 9% respectively. The other was conducted by 350 emergency physicians using the Symptom Self-Assessment Scale (SCL-D). The results showed that 63 (18%) had developed depression and 34 (10%) had had suicidal tendencies, while women scored higher SCL-D scores than men. In China, Tao Ling et al. used SDS and SAS to conduct a questionnaire study on the mental health of emergency medical workers, and the results showed that among 55 emergency medical workers, 17 were anxiety patients, and the positive detection rate was 30.9%. There were 19 people suffering from depression, 7.73% with mild depression, 9 with moderate blues and 3 with severe depression. Li Qun et al. used 90 symptom self-evaluation scale (SCL-90) to conduct a questionnaire survey, and found that 32.29%~86.46% of nursing staff had different degrees of discomfort, with interpersonal sensitivity, somatization, anxiety, obsessiveness and hostility being the most obvious (Wang Shaoping, 2005). Pang Aihua used the SCL-90 questionnaire to conduct a questionnaire survey, and the results showed that the emergency nursing staff in the hospital all had certain mental problems, especially physical discomfort, interpersonal relationship disorders, fear, obsessive-compulsion, anxiety, depression, etc.

3. Analysis of the Causes of Mental Health Problems Among Hospital Emergency Medical Workers

3.1 Working Pressure

Pre-hospital emergency work in hospitals is a particularly stressful job, with acute and chronic stressors at work triggering a range of mental health problems.

3.1.1 Emergencies

Acute stress is a number of emotional reactions triggered by exposure to trauma that are difficult to understand and manage, and if this emotional response continues, mental disorders such as post-traumatic stress disorder and depression can develop, which can adversely affect the body and work.

Duckworth believes emergency response is better in emergencies, but after trauma, first responders are likely to develop a serious and long-lasting mental illness. Paton et al. point out that after experiencing traumatic situations, healthcare workers develop symptoms similar to those of disasters that are often ignored. Research by Alexander et al. has shown that regular exposure to traumatic trauma can cause a variety of psychological problems, and patients who have suffered trauma in the last 6 months show more mental problems. A survey by Vander et al. showed that in the last five years, 85 percent of pre-hospital emergency workers had one or more traumatic injuries, and 66 percent of patients had traumatized within a year. Such accidents can be grouped into six categories: 25 per cent child mortality; (23%) emergencies in emergency departments; (21%) were injured in serious accidents; (13%) there was violence; 10% committed suicide; (8%) organizational problems, such as lack of leadership support after a traumatic accident, or incorrect information about the person seeking help and where the treatment was received. In an emergency, the three main elements of emergency relief work are:

facing a dying child, a desperate patient, and facing a child who is sexually assaulted. Several other investigations have agreed on the impact of traumatic events on the nature of emergencies, frequency of exposure, and recovery time (JIANG Haifeng, 2011).

3.1.2 Long-Term Sources of Stress

Emergency department physicians in hospitals face many pressures on a daily basis, such as workload, role conflicts, lack of communication, tight schedules, and rotating shifts. Investigations by Marmar et al. suggest that the source of this tension is as present as the traumatic event. Ben-nent points out that sources of stress are more likely to cause anxiety and depression than things related to trauma because they are more satisfied with dealing with trauma and are easier to deal with. Tennant believes that work stress has an impact on an individual's productivity and satisfaction, physical and mental health, and personal potential.

Vander et al. point out that the sources of chronic stress are lack of communication and insufficient social support. James and Wright note that in emergency department work in hospitals, such as tight duty hours are the cause of poor PTSD. In his research, long-term sources of stress such as work and family conflicts, tension between colleagues, and uncertainty about first aid work were the biggest predictors. Studies carried out in China have shown that the nature of emergency work, role conflicts, excessive work intensity and workload, low welfare benefits, and limited development of business level are all unfavorable factors to emergency work.

The mental health level of pre-hospital emergency personnel is poor, which is affected by factors such as gender, age, job position, length of service, marriage, title, educational background, job satisfaction, job burnout, and coping style. In-hospital emergency care workers have significant anxiety and depression, and the incidence of depression is high, requiring different psychological treatment options for different patients.

3.2 Personality Traits

Personality is a combination of an individual's unique and stable psychological state and psychological characteristics, and is the main medium of stress. A study conducted by researchers in Scotland using the Resilience Test (HS) showed that people with strong personalities were less likely to experience anxiety, depression and post-traumatic stress. A survey conducted by the Emergency Medical System in the North of England showed that Category A controllers were prone to negative emotions of mental stress. Other experiments have shown a correlation between personality orientation and the degree of stability of PTSD.

3.3 Job Satisfaction

The number of women with high job satisfaction is lower than that of men, and the number of women with burnout is higher than that of men. Mainly because: (1) from the perspective of the role division of the family, most women spend more energy to take care of their children, the emergency department of the hospital is 24-hour work, when the mother can not accompany her child, resulting in parent-child relationship alienation, resulting in separation anxiety; (2) The workplace is affected by abuse, attacks, irregular diet, poor sleep quality, etc., which will cause reduced work enthusiasm, reduced job satisfaction, physical fatigue, and work fatigue. Misra M et al. believe that frequent night shifts and frequent serious illnesses lead to lower efficiency and poor quality of hospital emergency nursing staff. Many of the hospital's emergency care staff are women, so more psychiatric intervention is needed. (3) When I was in the emergency department of the hospital, I often encountered social problems such as alcohol and drug abuse. Especially at night, this is more common and women are more likely to be verbally abused. Zhao Xin and others believe that hospital emergency work is a very dangerous, high-intensity and high-physical work, and there are many uncertainties. The results of Pu J et al. showed that women scored higher on emotional exhaustion than men, and women at work were less satisfied with their work than men, while their level of work fatigue was higher than that of men (LAI Xiaofan, WU Landi & MAO Junxiao, 2004).

Overall satisfaction, extrinsic satisfaction, and intrinsic satisfaction scores all showed a decreasing trend. Among them, children under the age of 34 (64, 19.94%) had the highest satisfaction, and this age group was relatively low due to family life and financial stress, and some parents could give some degree of help when parents were still young. People between the ages of 35 and 45 bear a huge burden of marriage, childbirth, supporting the elderly, buying a house, and going to school for their children. 21.24% of people over 45 years old (63) experienced an increase in job satisfaction as their work experience and problem-solving skills improved. Compared with the survey results of Wang Li and others, people with the age < 25 are more satisfied with their jobs than those in 25-44.

The level of work fatigue showed a clear decreasing trend with age and was directly proportional to the level of burnout. The negative coping score is gradually increasing, and the reasons are related to the inability to change working conditions, the room for improvement of vocational skills and changes in physical fitness. Medical staff in hospitals will take appropriate measures according to their age, such as changing jobs and changing night shifts, but emergency personnel and hospital medical staff are different, and they cannot make appropriate

changes according to their own situation. The incidence of depression (47.49~12.01), depression score (30.2%), depression score (52.68~11.09) and depression incidence ratio (54.0%) in all age groups aged 45 and later are the highest, which may be related to the need to support the elderly and children's education expenditure at this stage, and the income increase is not as good as the increase in expenditure (DAI Qin, FENG Zhengzhi & XIE Gangmin, 2002).

3.4 Employment Status

The satisfaction level of emergency work is the driver, nurse and doctor in descending order, for the following reasons: (1) The hospital emergency physician is the head of the medical team and is the person who best responds to various external pressures. In an emergency, the degree of urgency should be assessed, the injury should be evaluated, and the relationship between medical treatment and the patient should be properly handled. All this makes work less satisfying. That's probably why, for a doctor, job satisfaction is the lowest. Physicians showed more severe fatigue and showed higher scores due to the above factors compared to paramedics and drivers.

Hu Yunjie concluded: "Nursing staff often work overtime, 57.63%; 81.36% were unable to leave work on time; 86.40% wanted to change jobs. 59% of staff are under stress". Women's willingness to resign is related to psychological tolerance. Unlike emergency physicians, emergency caregivers are not required to inform patients of their condition, and only need to cooperate with the physician at the time of their visit. The driver does not need to explain the situation to the patient, reducing contact with the patient and reducing the possibility of conflict. This is probably why drivers have the highest level of satisfaction with their attitude to work and the lowest level of boredom with their work. Compared with the normal work of the hospital, the emergency department is basically "floating" in the hospital, it is difficult to communicate with other departments in the hospital, and the public is not very satisfied with their work, so the happiness of work will continue to decrease. Xie Shenhong pointed out that there is a conflict between people's high expectations for pre-hospital emergency care and "low reality" (high work risk, low income, low society, etc.).

3.5 Working Hours

Job satisfaction decreases first and then increases slightly with the increase of working age. Employees who have worked for 1 to 5 years have the greatest job satisfaction, during this period of work experience, short working hours, new employment, from no job to work, and have their own income, it is easier to obtain psychological satisfaction, so job satisfaction is also relatively high. After 5 years of work, the vast majority of first responders have families and children, and their families are beginning to suffer from the pressure of "old people and children". As the working hours go on, the psychological state will get worse and the job satisfaction will get worse and worse (ZHANG Yanli, 2013). After ten years of employment, as their work experience and vocational skills improve, their financial returns will increase, and they will be able to get used to the work well, and their job satisfaction will increase.

The detection rate of anxiety disorders (45.38~11.91) after 10 years of work was 19.8%, respectively. After ten years of work, you can thoroughly understand the job. The high-intensity work of hospital emergency departments adversely affects the health of first responders. Worries about work and the future can become more severe over time. That's why people of this age have such high levels of nervousness.

3.6 Marital Relationship

Single people are happier than married people. This is closely related to the economic benefits, in large part because single people do not have family burdens. Married people are paid for their work to support their families. Due to the particularity of the hospital's emergency work, the work is heavy, and he is still exhausted after returning home. From the perspective of the impact of marital factors on job satisfaction and job burnout, single women have higher job satisfaction and low job burnout. This is consistent with the relationship between job fatigue and job satisfaction revealed by Myhren H et al.

3.7 Areas of Expertise

From low to high positions, job satisfaction shows a trend of first declining and then rising. Grassroots first aid personnel are relatively lacking in technology and work experience, so when conducting inspections, first aid personnel follow established procedures, and it is difficult to make effective improvements. The higher the doctor, the deeper his medical skills and experience, the more respected, the higher the status, the higher the salary, the more he can increase his economic income, and the higher his job satisfaction. Wang Haiyang and others believe that as their level increases, their work ability and work experience will become richer. Wang Li et al. found that people aged 25-45 > were more satisfied with their jobs than people aged 25-44. It is consistent with the conclusion reached by Guo Wei and others: the higher the position, the higher the happiness.

3.8 Educational Level

Job satisfaction is positively correlated with the level of literacy they accept. Students with a college degree or higher rate themselves higher. However, pre-hospital first aid work pressure, high skills and ability requirements, salary and other various treatment does not reflect the work ability of high IQ people, the superiority of education can not be brought into play, job satisfaction will be reduced, bachelor degree or above pre-hospital first aid personnel do not have a high evaluation of themselves, often think that finding a fixed job can be.

3.9 Traditional Concepts

Due to cultural factors, the traditional Chinese concept believes that rescue is closely related to disease and disaster, which is an unfortunate phenomenon. The hospital emergency room resembles a dumpster in this conceptual context, and although it is not high-level, it covers a wide range. The work that needs to be dealt with is almost always unlucky. In addition, people are rescued in the emergency room every day. Chinese is most afraid of death, so we have never carried out propaganda and guidance on death, which also reflects the traditional Chinese society's escape from "death". Among the psychological effects of life activities on people, life activities have the greatest effect on people. It can be seen that emergency medicine is the closest profession to life, and anxiety and depression are the result of ambivalent emotional compromise (ZHANG Lu, LV Yan, DU Xiaoqin, et al, 2020).

4. Take Targeted Measures According to Different Mental Health Conditions

Under the interaction of stress response, social support, coping styles and personality traits are all coping resources. Multiple trials have shown a clear association between social support and mental health problems in pre-hospital emergency work, especially the lack of emotional support from superiors and colleagues. Only half of first responders are assisted by colleagues in emergencies, and 73% of emergencies are caused by their superiors not paying enough attention to the mental health of their staff. In the emergency rescue system, if staff members are fully respected and recognized, actively participate in stress adaptation training, and provide psychotherapy for post-traumatic stress disorder, their mental health will be further improved.

4.1 Recommended Measures

4.1.1 Strengthen Administrative Functions

It is necessary to make full use of the functions of administrative organs, improve the working mechanism, strengthen the allocation of human resources, update medical facilities in a timely manner, strive for the support of national policies, and create a good work, rest and logistics service for employees.

4.1.2 Humanized Service

Improve office environment and rest conditions. Gao Weiye and others put forward the idea of strengthening "people-oriented" management, and actively paid attention to and guided, eliminated and mitigated the impact of adverse factors on medical staff. Wu Xiaoying and others advocate: establish a convenient and efficient working environment, communicate with employees, and timely correct employees' bad psychology.

4.1.3 Establish Positive Psychology Research Centers

Emphasis should be placed on mental health promotion. Strengthen students' psychological adjustment. Hua Ruihong believes: "It is necessary to properly handle the tension of work". Healthcare workers need to be able to maintain mental state and respond to their own stress.

4.1.4 Improve Medical Conditions

Zheng Lidong and others believe that improving medical conditions and raising wages can make the work of medical workers more meaningful. Improve the performance evaluation system of the hospital, optimize the hospital's charging standard, and establish and improve the hospital management system.

4.1.5 Increase Professional and Technical Training

It is very necessary to strengthen the training of first aid knowledge and first aid skills. Enhance self-help and mutual rescue capabilities, and win opportunities for patients to save treatment. First aid training can make people in emergency situations, improve people's emergency awareness, improve emergency response ability and their social status. Xie Yongxiang, Tao Pinyue and others believe that in an emergency, on-site rescue is an important part of rescue, and a witness or family member must have the skills in an emergency and rescue the patient before the arrival of medical personnel.

4.1.6 Enhance Public Awareness

Publish emergency medical knowledge. Promoting universal "death education" through the broadcast of emergency videos, promotion of public accounts, online questions, etc., there are courses on "death" in the United Kingdom, Germany and the United States.

4.2 Eliminate Mental Health Barriers

4.2.1 Strengthen Mental Health Education for Emergency Medical Workers

Pajonk believes that first responders in emergencies should also provide emotional assistance. All emergency medical workers must undergo psychological training. It is necessary to do a good job in popularizing mental health education. Make emergency handling and psychological stress familiar with the way you deal with it. Pay attention to common mental problems in emergency work, provide psychological counseling and relief.

4.2.2 Strengthen Teamwork

The basic principle of emergency department work is to volunteer and receive counseling from a team of senior psychiatrists. Group members jointly deal with spiritual problems, provide an open, accepting, respectful, empathetic environment, group members support each other, reasonable catharsis, raise awareness, and grow together.

4.2.3 Open up a Professional Development Path for Pre-Hospital First Responders

Pre-hospital emergency is a physically demanding job, and the strain and adaptability of medical staff are high, and it is difficult for elderly hospital emergency staff. To this end, a mechanism for the transfer of pre-hospital emergency personnel in medical institutions should be established to guide the relocation of emergency physicians in hospitals to alleviate problems arising from age. Hospital emergency physicians under the age of 45 and women under the age of 40 can be set up to work here, which can not only alleviate the shortage of medical resources, but also allow them to work in the hospital. This initiative can also extend the emergency network to residents, such as the participation of community doctors in pre-hospital emergency care in a county in Beijing, where community doctors are mainly responsible for disease prevention and health education, and the first aid work is entrusted to pre-hospital emergency professionals in community health service centers.

In addition, the human resources and social security departments can issue appropriate policies, and within the 25-30 years of clinical work, they can apply for early retirement and enjoy withdrawal benefits. Strengthen policy orientation and management for emergency staff in middle-aged and elderly hospitals.

5. Conclusion

In recent years, a large number of researchers have conducted preliminary discussions on the current situation of mental health of hospital emergency workers and found many problems. However, in our country, the number of investigations in this area is small, the content is relatively scarce, and the investigation methods are relatively single, which needs further improvement. The pressure of pre-hospital emergency work is greater, resulting in some problems in the mental health of emergency staff, based on the mental state of first aid personnel has a great impact on the quality of medical services in hospitals, so it is necessary to strengthen the investigation of their mental health, and carry out timely optimization and guidance after discovering problems to promote the continuous improvement of first aid level.

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