The Effects of PTSD in Public Safety

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Abstract

Emergency responders regularly face stressful situations. There are very high expectations placed on the work they perform and they are usually able to cope with that, but sometimes they need help too. When emergency responders continually respond to dangerous situations, they have heightened stress levels and if they never allow themselves to decompress, they may face varying levels of mental illness. In the Fire Service, the culture code many follow is to toughen up or "just suck it up" (Fitch & Marshall, 2016, p.15), but these responders are human and have limitations, just like the general population. This literature review will evaluate several studies that have examined various mental illnesses, the consequences associated with these illnesses, and possible methods of training and emotional support that can reduce or eliminate the mental and emotional burden of many who work in this service.

PTSD and Other Mental Illnesses Plaguing Emergency Responders

There is a measure of comfort associated with safety, but for those that help deliver it, there is also be a large expense. Each and every day emergency workers (i.e. firefighters, police, and paramedics) voluntarily enter into situations others run from in order to provide protection and safety. These emergency responders, who witness or are actively involved in traumatic incidents, may have lingering thoughts of these occurrences and this can impact important facets of their life: mental, emotional and physical (Flannery, Jr., 2015; Patterson, Chung, & Swan, 2014). When ignored and left untreated, this haunting stress and anxiety can lead to extended mental illnesses, including Post-Traumatic Stress Disorder (PTSD) and Post-Traumatic Stress Symptomology (PTSS). PTSD is a diagnosable, psychological response that occurs after a person experiences a highly stressful event, commonly characterized by depression, flashbacks, recurrent nightmares, anxiety and sporadic reminders of the event (Schwarzer, Cone, Li, & Bowler, 2016). PTSS is the symptoms associated with PTSD. In the public safety field, the symptoms of PTSD are far more prevalent than the actual diagnoses of PTSD itself (Jahnke, Poston, Haddock, & Murphy, 2016). As more information becomes available as to what causes this disorder and its associated symptoms, and more pointedly, what can successfully combat them, those in position to help will be better able to assist.

Even though emergency responders have a basic understanding of what they may encounter each day, studies conducted in recent years show inexplicable increases in domestic terrorism and mass-casualty incidents. These unpredictable incidents add another layer of stress and uncertainty to an already stressful career (Pinto, Henriques, Jongenelen, Carvalho, & Maia, 2015). In the Fire service, over the past several decades, there has been a substantial decline in the number of actual calls to fires, with the National Fire Protection Agency (NFPA) reporting

that only 5% of calls were for actual fires in 2011 (Jahne et al., 2016). Firefighters are fighting less fires and more of their on duty time is spent in rescue operations, managing hazardous materials, responding to domestic violence calls and natural disasters, and providing emergency medical services (Jahnke et al., 2016). Although the training they are receiving has substantially adapted to the changes in the services provided, the added volatility in an already stressful situation diminishes their situational control and adds vulnerability that has not previously been measured (Patterson et al., 2014). More and more, emergency responders are finding themselves potential targets or victims of the same incidences they are responding to.

Although there is an abundance of research on PTSD as a whole, there are areas where additional research would be beneficial. Patterson et al. (2014) concluded that better identification and labeling of various stressors should be studied. The same article noted the impact of funding limitations, where less expensive choices, such as webinar trainings or general debriefing sessions, were implemented. These alternative options have minimal impact on the foundation of these illnesses and do not provide the necessary level of help or support to those that need it most. Future research should also look further into various types of support and sources available to those in need (Schwarzer et al., 2016). Research completed in these areas may help shed some additional light on the stressors that lead to PTSD, and also on the support systems that best aide in handling, and possibly even preventing, some of its symptoms. As the uncertainty and randomness of many emergency situations continue to impact those that respond, further research into these specific areas will be of great benefit.

Every day the news reports of horrible and senseless tragedies. In recent years, the frequency of these atrocities has increased and is unfortunately becoming part of the fabric of American life, from Newtown, Connecticut to Aurora, Colorado. Even closer to home, these

senseless acts have recently touched Orlando with the mass shooting at Pulse Nightclub, the Las Vegas shooting and most recently the Parkland High School shooting. The June issue of Mental Health Weekly spoke of the tremendous support through debriefing and counseling that took place here in Orlando immediately following the Pulse incident (Enos, 2016). This article helps shed light on the notion that once emergency responders do their job and the incident is over, the emotional anxiety and guilt can begin to take hold of them. Typically, municipalities have some sort of debriefing structure in place and encouraging the responders to take part is essential (Pinto et al., 2015; Schwarzer et al., 2016).

Prior to 9/11, PTSD was generally associated with those who served in the military and experienced war or were otherwise victims of violent crimes, such as domestic abuse or abduction (DiGrande, Perrin, Thorpe, Thalji, Murphy, Wu, Farfel, & Brackbill, 2008; Yip, Zeig-Owens, Webber, Kablanian, Hall, Vossbrinck, Liu, Weakley, Schwartz, Kelly, & Prezant, 2016), More recently, PTSD and related symptoms are starting to have a more significant impact on those in the public sector who provide safety. Studies have shown that more than half of emergency workers have witnessed a traumatic event, with the higher end of the range up to 88% (Jahnke et al., 2016; Pinto et al., 2015). These high levels of exposure create a high-risk factor for PTSD development and helps strengthen the case for furthering the reach of mental health intervention.

Conversely, the same Pinto et al. (2015) article mentioned that a recent review, which looked into the works of 28 articles from 14 different countries, concluded that actual instances of PTSD in this field are essentially far lower, between 10-14%. At first glance 10-14% doesn't seem too alarming, but when thinking that at least one in every ten emergency workers may develop diagnosable PTSD, that is a far more disturbing thought. "The public safety, human

services, health, and relief workers who comprise the first wave of a response to natural or man-made disasters play a critical role in emergency preparedness. These first responders provide care and services in the immediate aftermath of emergencies and may remain in affected communities for weeks or months. They often work long hours under stressful conditions, witnessing the harm to fellow human, physical destruction, and psychological devastation that can accompany disasters" (Rutkow, Gable, & Links, 2011, p.57). It is essential that mental health protection be made available to these responders before, during, and after the emergencies they respond to.

Recognizing the symptoms and having earlier intervention may help to create a safer workplace for the afflicted and those working around them. It is essential that we address two main questions: first, when symptoms occur after a trauma, does the amount of time between identification and action impact the onset of PTSD and related mental illness?, and second, what impact does long term support and resources have on those suffering from PTSD?

Clarification of Terminology

Emergency Responders

Emergency responders is an umbrella term that includes police officers, firefighters, emergency medical service (EMS) personnel, and emergency room nurses. These are typically the first people on the scene when a traumatic event or disaster takes place.

Post-traumatic stress disorder (PTSD)

This disorder is diagnosed when symptoms, such as anxiety, sleeplessness or other sleep disorders, appetite changes, irritability, depression, fatigue and/or withdrawal from family and friends occurs, and persists, following a traumatic event. There are varying levels of stress that can lead to PTSD. When some or all of these symptoms are experienced for more than two days

after an event, but less than a month, the patient may be diagnosed with acute stress disorder. PTSD is diagnosed when these same symptoms continue for a month or longer (Fitch & Marshall, 2016; Flannery, Jr., 2016).

Post-traumatic stress symptomology (PTSS)

These are the individual symptoms associated with PTSD. In order for one to be diagnosed with PTSD, several of the PTSS symptoms would need to be noted and consistent for a 30 days or more. For this reason, there are far more occurrences of PTSS than PTSD.

Compassion fatigue or Secondary traumatic stress disorder (STSD)

Compassion fatigue, also referred to as burnout or secondary traumatic stress disorder (STSD), is similar to PTSD in that it is also generally caused by direct exposure to traumatic events, but it focuses on those affected by the trauma others may experience. Although this type of stress disorder is often associated with caregivers for populations like pediatric, veterans and cancer patients (Mazzotta, 2015), emergency responders are also at risk, depending on the traumas they respond to. Hunsaker, Chen, Maughan, and Heaston (2015) described compassion fatigue as an emotional, physical, and spiritual exhaustion resulting from witnessing and absorbing the problems and sufferings of others. One nurse stated, "On a daily basis, ED nurses witness devastating illness, suffering, and trauma; we often shut down our emotions in order to survive recurring feelings of helplessness, guilt, sadness, and anger. If we hope to continue working as nurses, we must be aware of the effects of compassion fatigue" (Mazzotta, 2015, p. 13).

Methodology

Numerous search procedures were used to identify and references. Ultimately, source material were chosen if they met the following criteria: written in or after 2006, provided relevant data pertaining to the mental health of emergency responders, and/or if a research study was completed and provided empirical data. Few articles selected did not provide empirical data, but were included in this review because they added value and substance through their narrative or provided additional historical perspective.

Results

Findings

The efforts extended by first responders during emergencies can make them subject to the development of mental health disorders (Rutkow et al., 2011). If left untreated, both PTSD and STSD can have a drastic impact on the responder, for varying time periods (Hunsaker et al., 2015). This includes the possibility of dealing with chronic fatigue and anxiety throughout their lives. These stress disorders also put vulnerable responders at an increased risk of depression, blood pressure issues, heart disease, and premature death (Swayze & Cornelius, 2015). Finding ways to prevent, or at least minimize, the impact of such a far reaching illness is critical to the responders and the public they serve.

Signs and Symptoms

Physiological Impact. The physiological effects of stress are best understood when considering the body's response to stress. The body of a normal, healthy person is typically in a state of homeostasis, where all internal systems are functioning and balanced. When a person is faced with danger, the body responds and changes happen in the brain, nervous system, and endocrine system. The body releases endorphins to help deal with the pain, heart rate and blood

pressure increase, digestion slows down, sweating increases to cool down the body, and all senses are heightened in order to help identify threats and further possibility of danger (Yip et al., 2016). When a person's stress level is elevated on a more consistent basis, symptoms like insomnia, fatigue, eating disorders and various digestive issues, along with headaches and hormonal imbalances can take place. (Rutkow et al., 2011; Berg, Harshbarger, Ahlers-Schmidt, & Lippoldt, 2016). "Emergency responders dealing with on the job stress can also trigger the release of cortisol and other stress hormones. This stress response is normal — and helpful — but when it occurs too frequently without adequate rebalancing, it ups the risk for chronic stress response, which can lead to physical and mental disorders" (Fitch & Marshall, 2016, p. 16). Studies have established that, after taking part in disaster responses, emergency responders may experience increased depression, various stress related disorders, and PTSD for months, even years, following the event (Rutkow et al., 2011).

Psychological Impact. The psychological impact of stress can also plague the minds of emergency responders, as they face higher levels of stress exposure on a more consistent basis, compared to those of the general public. Anxiety, fear, depression, anger, sadness, lack of self-confidence, extreme feelings of failure, and professional and personal detachment are all psychological issues that may stem from over exposure to stress (Berg et al., 2016). Emergency nurses, as well as other emergency responders often have distressing dreams, feelings, hallucinations, flashbacks, and psychological distress (Mazzotta, 2015). Certain symptoms, such as feelings of worthlessness and disturbing thoughts or memories may lead firefighters or EMS personnel to attempt to find relief any way they can, even in alcohol abuse or suicide attempts (Jahnke et al., 2016; Martin, Tran & Buser, 2016). Firefighters who also respond to EMS calls

are six times more likely to have made a suicide attempt at some point in their careers (Martin et al., 2016; Mazzotta, 2015).

Suicide is a very real and tangible response to continued stress. This is especially prevalent in the public safety sector. Martin et al. (2016) relates research that within the general population, the lifetime prevalence rates of suicidal thoughts ranges from 5.6-14.3%, suicidal plans at 3.9%, suicide attempts at 1.9–8.7%, and non-suicidal self-injury at 5.9% These percentages are substantially lower than the rates found within the firefighter population, where the research showed 46.8% of firefighters have had suicidal thoughts, 19.2% have had plans to commit suicide, 15.5% have attempted suicide, and 16.4% have committed non-suicidal self-injury (Martin et al., 2016). These rates are alarmingly higher than that of the general population and are directly attributable to the high-risk nature of this occupation. Berg et al. (2016) found that participants in several studies reported a variety of symptoms related to stress including nightmares, sudden, dramatic memories of troubling cases that ended badly, and second-guessing clinical decisions, sometimes ending in loss of life. Additionally, several participants had an increased risk perception of serious injury to their own children or family members (Berg et al., 2016).

Behavioral Impact. Many who struggle with stress related illnesses may experience decreased functionality in both work and personal settings and have lower levels of personal interest (Berg et al., 2016). Some of the more common responses to traumatic events include apprehension, petulance, various sleep disorders and fatigue, appetite changes, and withdrawal from friends and family (Fitch & Marshall, 2016). These symptoms are generally concerning when our family or friends are trying to deal with them, but they are even more upsetting and dangerous when those we depend on in emergency situations are trying to manage.

Impact on Job Performance

Unlike a physical illness or disability, mental health conditions may go unnoticed because they can be tough to analyze and diagnose, but their presence can have a considerable effect on the functional abilities of first responders (Rutkow et al., 2011). In general, emergency protection workers, including police officers, firefighters, and EMS personnel have among the highest rates of suicide in the workplace (Martin et al., 2016). In an attempt to address these increasing issues, it is extremely important that early warning signs be monitored and investigated as needed, and when the need arises, intervention must occur. Compassion fatigue and burnout can also affect retention, patient safety, and patient satisfaction (Hunsaker et al., 2015). Each of these issues pose a serious threat to the emergency industry and the care provided to those in need.

In addition to the emotional stress that occurs when someone is trying to navigate through feelings of withdrawal or personal frustration, many also attempt to hide their symptoms and carry on as normal as possible, especially in the work place. This can be extremely difficult for those in emergency response positions. Nurses, along with other emergency workers, are often reluctant to share symptoms they may be dealing with to colleagues or supervisors, or to seek out assistance (Hunsaker et al., 2015). This is detrimental as emergency responders need supportive, emotionally open work environments that foster a safe and secure culture as they attempt to use various tools and coping mechanisms to address feelings that stem from on the job incidents. (Fitch & Marshall, 2016).

Impact on Patient Care

As emergency responders attempt to deal with their own anxieties and mental ailments, these stress related consequences have a lasting, negative impact on patient care. High levels of

burnout are linked to patient dissatisfaction (Hunsaker et al., 2015). When EMS personnel, firefighters, and law enforcement personnel are under greater stress levels, their job performance may be negatively impacted. They can make errors while responding to emergencies or make errors when caring for patients (Fitch & Marshall, 2016). Each of these potential occurrences present a danger to the public in general and to the wellbeing of the patients being treated.

Impact on Personal Life

Alcohol is often the drug of choice in the emergency service and is one of the most well-known connections to suicide in both the general population and those in the protective services (Jahnke et al., 2016). This is a particularly significant association in the fire service/EMS population because of the increased risk for alcohol use and binge drinking amongst those who recurrently make emergency response calls (Gardner, Baker, & Hagelgans, 2016). Firefighters may consume alcohol in an attempt to numb their mental pain and try to avoid intrusive thoughts or memories of incidences they have responded to (Martin et al., 2016). Many afflicted emergency responders seem to make attempts at self-medication to try to make it through the day or through their next shift.

Stress management interventions

Research conducted by Fitch and Marshall (2016) shows that thirty-seven percent of EMS workers reported contemplating suicide, which is close to ten times higher than the overall rate among adults nationwide. Additionally, 6.6 percent of those surveyed had attempted suicide, compared to half a percent of American adults (Fitch & Marshall, 2016). These numbers show that emergency workers may be struggling with the ramifications of the crises they face and that help is needed as quickly and thoroughly as possible. Overlooking the stresses they face and not

giving concern to potential avenues of treatment is a disservice to these workers and to the public they serve.

Identifying major stressors. When an emergency responder experiences intense feelings of danger, fear, or helplessness while responding to a call where someone has experienced a serious injury or death, that responder has been exposed to a traumatic event (Fitch & Marshall, 2016). In the recent past, this thought did not get the attention it is currently receiving because the emotional impact on those responding to emergencies was not considered in the same vein as those actually involved in the emergency (Maguen, Metzler, McCaslin, Inslicht, Henn-Hasse, Neylan, & Marmar, 2009). Depression, anxiety disorders and substance abuse can be just as prevalent in EMS providers as in the general population, but there are higher expectations in the public safety sector in that through training or coping strategies these workers will have a greater immunity to the effects (Swayze & Cornelius, 2015). Interestingly enough, it has been asserted that the grouping of traumatic events firefighters experience can result in a negative psychological impact (McKenna, Furness, Oakes, & Brown, 2015), that although it doesn't meet the diagnosis guidelines to be considered PTSD, it can still have a large, limiting impact on the personal and professional lives of the responders who are being plagued mentally.

One central, and seemingly obvious example in the field of clinical science is the relationship between repeated traumatic exposure and increased PTSD symptoms. Surprisingly, the empirical studies on first responders to trauma fail to find a consistent link between these two factors (Levy-Gigi, Bonnano, Shapiro, Richter-Levin, Keri & Sheppes, 2015). One possibility for this outcome is the differentiation between the symptoms associated with PTSD (PTSS) and the actual diagnosis of PTSD (Jahnke et al., 2016). An emergency responder can have many of the symptoms associated with PTSD, but not be diagnosed because 30 days haven't passed or

because the responder might have several different symptoms attributable to various incidences, instead of one main incident.

Compassion fatigue is a consequence of working with patients who have had involvement in traumatic events. Naturally, humans are wired to be empathetic, and because of that, caregiving can take both an emotional and physical toll (Newmeyer, Keyes, Palmer, Kent, Spong, Stephen, & Troy, 2016). The stress resulting from helping a traumatized or suffering person may result in compassion fatigue, which is a self-protection measure (Hunsaker et al., 2015). When someone is continually dealing with this fatigue, it can negatively, and severely impact their life and cause other issues like anxiety and depression. Compassion fatigue, similar to PTSD, can have lingering effects and cause problems in one's personal and professional interactions.

There are yet other stressors not directly related to emergency responses that include organizational dysfunction or issues related to the processes responders are expected to follow (Berg et al., 2016). Participants in various studies also noted the added pressure to complete paperwork and perform other administrative duties, and cited that conflict with co-workers also added a large degree of stress to their daily stress levels (Berg et al., 2016; Hunsaker et al., 2015). These added stressors can in effect, be the "straw that breaks the camel's back" (Levi-Gigi et al., 2015, p. 28) in that they are often the part of these positions that finally push the emergency responder over the edge, ultimately to professional burnout (Mazzotta, 2015; Swayze & Cornelius, 2015). Burnout can also be related to environmental factors, including high patient awareness, overloading, and difficulties with administration. Burnout is often associated with feelings of hopelessness and an inability to perform job duties effectively (Hunsaker et al., 2015). Many responders pride themselves on being able to help others in their most desperate

moments, but it is when they have to deal with some of the more monotonous or trivial issues, they have a harder time functioning and getting through them.

Preventative Training. Those on the front lines, risking their lives for others, need abundant access to stress management trainings. These trainings should be evidence-based treatments for stress-related conditions (Fitch & Marshall, 2016). Local leaders in the community and the media have a responsibility to help support the well-being of emergency responders through research, intervention, policy, and training. Although there is a monetary cost associated with providing these trainings, there is also a substantial cost to not providing appropriate prevention measures. If the responders are made aware of the signs on the front end, and know there are places to turn for help, they might be more willing to proactively receive the help they need. Although much of the training should be shouldered by the municipality or the organization the responder serves, there is a personal responsibility that falls to the responder too. Hunsaker et al. (2015) noted that nurses must identify and increase their personal coping mechanisms in order to use them when needed. The research went on to say that these mechanisms may include humor, refining friendships, partaking in spiritual practices, exercising, expressive writing, and many other tools that can be used to target stress relief. If prayer or meditation is identified as an effective coping mechanism, it may behoove the organization to provide a space and for practice during the shifts (Hunsaker et al., 2015; Newmeyer et al., 2016).

Rutkow et al. (2011) asserted that although emergency response training is critical to the job function, those without disaster response training face a greater risk of receiving a PTSD diagnosis once the response concludes; however, trained responders are still at risk of the same diagnosis because training cannot completely duplicate the impact of a disaster. It was also observed that most trainings offered do not clearly contain adequate content regarding the need

and availability of psychological self-help (Rutkow et al., 2011). The Accelerated Recovery Program is a five-session protocol that focuses on helping trauma workers deal with and resolve symptoms of compassion fatigue (Hunsaker et al., 2015). This and other focused support systems are essential to the wellbeing of those afflicted by mental issues stemming from trauma exposure. Fitch and Marshall (2016) also provided a listing of trainings that may be considered beneficial to those responding to emergency calls. That listing included stress management training, on-site educational material, use of an EAP (Employee Assistance Program), identifying local therapists who specialize in stress management, and peer support programs.

Policies and Procedures

Strategic policies and procedures must be created by local leaders and officials in order to support the mental wellness of emergency service personnel and inform these leaders about the work-related stress risks and the potential implications they carry (Fitch & Marshall, 2016). In 2011, Rutkow et al. asserted that States and local level municipalities may want to consider using the U.S. military's mental health screening model, which has three stages: (1) before recruits are deployed; (2) while they are in the field; and (3) when they return. In the emergency responder realm, this translates to before, during, and after an emergency event. When suitable care is not provided to emergency responders, there are far-reaching implications. An agency that has not yet addressed employees' stress-related conditions will struggle with lower morale, higher leave use, and more turnover (Fitch & Marshall, 2016). When taking into consideration the time and cost of hiring and training new personnel, it is well worth the investment into stress management initiatives and other programs that support public safety personnel.

These professionals put their lives in danger and personal welfare repeatedly, including their mental health, in an effort to aide others. Fitch and Marshall (2016) established that it is the

responsibility of elected officials, local administrators, and public-safety leaders to support and fund plans that train managers and supervisors in methods that protect their employees. This support should teach responders to better manage their stress levels and to help individual employees and crews recognize dangerous warning signs they might experience directly. The study notes that information gathered from the Firefighter Behavioral Health Alliance shows that at least 759 firefighters have committed suicide since 2012 (Fitch & Marshall, 2016). These numbers should not be overlooked; not only by those within the public safety community, but also by county and city officials, and organization leaders who work with these professionals. Protective measures must be taken to care for the mental health of first responders (Rutkow et al., 2011).

Swayze & Cornelius (2015) identified systematic strategies for workplace protection. These strategies include implementing policies that protect the workforce. Some of the suggestions brought out in this research were to establish professional boundaries, use a team approach, offer counseling services, and provide resiliency training. Rutkow et al. (2011) noted several suggestions where managers could help their EMTs, paramedics and EMS personnel by implementing safety policies for their programs. The National Institute for Occupational Safety and Health (NIOSH) has developed guidance for pre-deployment screening of disaster relief workers, which may be useful to states that elect to use emergency powers to offer mental health screening to first responders. This article also noted that permanent legal solutions are necessary to ensure that first responders can easily access mental health services before, during, and after emergencies (Rutkow et al., 2011). The expectation of behind these strategies is a large benefit to the responders by helping them cope with the stresses they encounter, and also reduce or eliminate the overwhelming weight of the stresses they carry.

Implementing a culture shift. Saving lives and ensuring the emotional health of professionals in the emergency service must begin with a culture shift. This shift should be guided by local community leaders who champion encouraging a healthier emotional code of conduct. Many first responders share an emotional code, which is a belief toward how they should handle their feelings (Fitch & Marshall, 2016). Historically, emergency responders have not had a full understanding of how to cope with the stress they face. As emergency responders have been predominantly male through the ages, there is often a belief that seeking professional assistance to work through job-related stress is considered a personal weakness. The default mechanism for many who are unable to cope or deal with their stress is to "suck it up" (Fitch & Marshall, 2016, p. 15). This emotional code, or professional quasi-expectation is still prevalent today. It prevents those in need from seeking help and can dramatically increase the risk of PTSS, PTSD and other stress related symptoms, including depression and suicide (Fitch & Marshall, 2016).

Support Systems. Support systems are essential to those who are expected to suppress normal feeling and emotion as they work through the emergencies they are deployed to. If they are not encouraged and assisted with the decompression that must occur after these incidences, they are at great risk of overwhelming mental pressure. Berg et al. (2016) provided recommendations that included the acknowledgement and acceptance of the fact that compassion fatigue and burnout syndrome are an expected outcome of trauma-related professions. The study also asserted that educating the team on how to self-recognize symptoms could have both long term and short term benefits. Other recommendations were to make social support a priority, engage in team discussions and to stress the positive impacts of patient care (Patterson et al,

2014; Swayze & Cornelius, 2015). Support is essential for these who are expected to suppress otherwise normal feeling and emotion while they assist in emergencies and traumatic events.

Future Research

Improvement in standardized instruments. Future research should focus on use of standardized tools in order to better analyze and compared relevant data. Berg et al. (2016) noted that self-reporting underestimates the number of occurrences where compassion fatigue has taken place. When research participants are asked to report based on assessments of their own thoughts or concerns, they tend to overlook symptoms that may actually be very telling and helpful in providing a glimpse into what they may actually be dealing with. Martin et al. (2016) also found the nature of self-report limiting because both experienced and early-career firefighter/EMS personnel seem to be reluctant to admit the impact their professional experiences has on their mental health. Having other evaluation tools available to more accurately capture the thoughts and concerns of the participants will lead to more accurate and dependable data collected.

Various types of support and available resources. Levy-Gigi and Richter-Levin (2014) found that an inconsistent link between repeated exposure and PTSD was found and suggests that important factors may be involved. It is important to understand the impelling influences, history, and personality variables that can make applicants to the fire service more resistant or more susceptible once they have been deployed in the field and experience traumatic events. Future research should attempt to evaluate proven methods of treatment for combat and other trauma-related reactions (e.g. PTSD and depression) to the specific needs of firefighters and EMS personnel, especially since this population is known to avoid treatment (Martin et al., 2016). As there is a large discrepancy between the diagnosis of PTSD and the vast array of

symptoms associated with PTSD that go undiagnosed, it would be beneficial to have additional research conducted in this area as well.

The firefighting profession is among the most dangerous and stressful occupations, yet the existing literature base lacks empirical evidence examining the effects of stress in both firefighter and emergency medical services (EMS) populations (Martin et al., 2016). The high prevalence of mental health concerns and increased exposure to trauma in this population warrants a closer empirical examination. The mixed findings regarding the influence of years of service suggest the need for closer examination and additional research**.** There is a critical need for further research on correlates of suicidality in a firefighter/EMS sample, given the unique stressors of this occupation. The rate at which firefighter/EMS personnel attempt and/or commit suicide is very concerning, and further investigation in this area may help inform mental health and administrative interventions. Surprisingly, only three studies to date have examined suicidal ideation and attempts in this population, necessitating more research in this area. Future studies of suicidality among firefighters should include standardized measures of suicidality to improve the assessment reliability and validity (Martin et al., 2016).

Implications

Increase the support of mental health professionals. Enos (2016) noted the impact of aftercare and counseling for emergency responders following the Pulse incident that took place in Orlando. Compassion fatigue can be managed with personal coping strategies, social support and professional counseling. While EMS providers tend to be heroically tolerant in the midst of traumatic events, those attributes cannot be allowed to further enable a culture of silence around compassion fatigue. Swayze & Cornelius (2015) noted that compassion fatigue may be the cost of caring, but that it is not something that must be dealt with alone. As emergency responders

begin to believe that they have a strong support system in place and have paths available to them to seek out help, they may start to feel less isolated and more positive about the opportunities available.

Destigmatize PTSD and other mental illnesses. Individuals with mental health conditions are often wary of the stigma associated with diagnosis and treatment (Enos, 2016; Rutkow et al., 2011). First responders may be especially concerned about how managers and colleagues will perceive their fitness to perform within a stressful environment, for fear of discrimination. Therefore, first responders may be reluctant to pursue mental health screenings and care at mental health sites. Instead, care should be offered consistently in general health care settings. Likewise, first responders may benefit from explanations of the various steps that are taken through the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule, through the emergency legal protections that are offered, and through state mental health privacy laws that guarantee their mental health records will be protected and only made available to the providers directly involved in their care (Rutkow et al., 2011). As these emergency responders continue to see the benefits or reaching out and accepting the assistance available to them they will be in a better position to care for themselves.

The strongest links of both lifetime suicidal thoughts and attempts were depression and severe PTSD symptoms, over and above any other links. By increasing available treatment for depression and PTSD, fire departments and other public safety organizations will be better able to focus on the factors that lead to suicidal thoughts (Martin et al., 2016). Interestingly, studies with first responders who are routinely exposed to traumatic events, have not found consistent links between duty-related traumatic exposure and PTSD (Flannery, Jr., 2015; Gardner et al., 2016). Although several studies found a positive connection between traumatic exposure and

posttraumatic stress symptoms, other studies did not find such direct effects (Maguen et al., 2009). This may be due to the vast prevalence of symptoms which on their own are not diagnosable, but when grouped together, or reviewed over a period of time are diagnosed as PTSD.

States and localities that confront the looming mental health issues faced by their emergency response teams with a goal of establishing permanent legal protection to enable them to access necessary mental health services, may better safeguard their first responders. In doing this, they will also be strengthening the emergency preparedness systems they heavily depend on. Developing laws and policies at the federal, state and local levels provide several opportunities to implement standardized mental health defenses for the first responders who need it most. In some cases, legal opportunities may benefit from the guidance given through consideration of pertinent ethical concerns (Rutkow et al., 2011). In summary, if first responders are expected to do their job, the municipalities that employ them should expect to protect them in the execution of those duties.

Like other members of the general population, first responders may have pre-existing mental health conditions that are exacerbated by emergencies or they may develop new mental health conditions as a result of responding to emergencies. Yet, the emergence or aggravation of mental health conditions may occur at higher rates for first responders as compared to the general population because the stresses associated with first response duties. If first responders have access to mental health screenings before during and after a disaster response, they may be more likely to receive timely diagnoses and treatment; therefore, mental health screening for first responders should ideally be offered before, during, and after emergencies (Fitch & Marshall, 2016; Rutkow, et al. 2011).

Limitations on present research

Levi-Gigi et al. (2015) noted limitations in their research related to the interpretation of the traumatic exposure guide used for years of service. Although this measurement has been used in several other studies, additional efforts were made in the present study to validate the relation to repeated duty-related traumatic exposure. A limitation due to the limited sample size in the present study was also noted as a possible factor since there was no detection made between IQ and PTSD which had been observed in previous studies. Additional research is warranted in this area as the limitations noted may have impacted the reliability and range of the study.

Summary

Emergency responders face stressful situations regularly and are usually very capable of suppressing their feelings and emotions while on the scene. The question is not whether they can handle these emergencies, but how they handle the after effects of them. Through the research conducted in the various studies selected for this paper, it was largely understood that emergency responders fare better when their mental health is a priority of those who employee them. Healthy, safe work environments that include manager support, shared decision making, and recognize the contributions of those who give of themselves can lead to increased responder retention, reduced staff turnover, and increased job satisfaction (Hunsaker et al., 2015). It is the responsibility of not only the responders themselves, but also the organizations and communities they serve to identify opportunities where much needed stress management training and debriefing sessions can be provided following emergency responses. Although no two responders will adjust to the aftermath of traumatic events in the same way, having mechanisms in place to provide support in their time of need, and focusing on the elimination of the stigmas that are associated with mental illness, will definitely have a positive impact on this industry and

those who depend on it. As this trend of domestic terrorism and unpredictable, heinous acts continues, it is in the best interest of those employing first responders to further invest in their employees and make sure their mental health needs are addressed and cared for as proactively as possible.

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