

DEPRESSION, ANXIETY AND STRESS AMONG FIREFIGHTERS AT ONE OF FIRE AND RESCUE DEPARTMENT IN NEGERI SEMBILAN: A CASE STUDY

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ABSTRACT

Depression, anxiety and stress is a global major risk factor to worker's health which leads to unmotivated and less productive worker. The objective of this study is to examine the prevalence of depression, anxiety and stress level at one of the Fire and Rescue Department in Negeri Sembilan. The research also explores the associated factor to depression, anxiety and stress and its coping strategy. Forty-two (42) firefighters was involved as the research subject. Six (6) firefighters have been selected for interview session. Qualitative and quantitative data was collected in this study. The prevalence of depression, anxiety and stress level has been measured using Depression, Anxiety and Stress Scale (DASS21). The result shows that the mean value for stress is 9.67, depression is 7.76 and anxiety is 8.11. The findings also shows that 18.4% (10 of the respondent) suffer from high level of depression, 31% (13 of the respondent) suffer from high anxiety while, 19% (8 of the respondent) had higher level of stress. This indicates that the firefighter involve in this study suffers depression, anxiety and stress. The data gained from interview sample reveals that amongst the contributing factor for stress, anxiety and depression are workload, negative community feedback and inconsistent order from the superiors. The respondents cope with stress through personal coping, spending time with family and friends, sharing with others and deploys Islamic approach. The findings from this study is useful for Fire and Rescue Department's higher management, Government and other stakeholders to implement a policy and guideline to eliminate, manage and provide support to firefighter facing psychological issues.

Keywords: Depression, Anxiety, Stress, Firefighter, Health

INTRODUCTION

Stress is common in today's life (Redhwan, Sami, Karim, Chan, & Zaleha, 2009) and can be related to high risk job. In fact, news on stress has been widely published lately. According to Kosmo online (2008), research conducted by Universiti Kebangsaan Malaysia Medical Center between 2007 and 2009 found that 53.7% from four hundred fifty three (453) police officers were under work stress. They also found that police officers stress level is highest followed by firefighters at 47.3%. From the various research conducted on stress, most of the findings shows that stress is the main contributing factor for depression and anxiety. Though stress, anxiety and depression brings negative impact towards human, many did not realize that these three elements are much related to mental illness. Due to this, a research was conducted on a group of firefighters at one of Fire and Rescue Department, Negeri Sembilan. This study focuses on the prevalence of depression, anxiety, stress and its associated factor together with the coping strategy.

Depression has been categorized as one of the mental illnesses. In 2013, Mohd Dahlan and Ida Shafinaz (2013) have studied the occupational stress among the emergency services while Nydegger, Basile & Nydegger (2011) have conducted a study on trauma faced by professional firefighters. World Health Organization (2011) states that depression will affect people across all age regardless geographic location, demographics or social position. It is projected that depression will be among the leading causes of worldwide disability by the year 2020. According to Figley (1995) (as cited by Milen (2009) firefighting personnel may experience physical and emotional problems after returning from an emergency call or returning home for 48 hours. The emotional distraction could be due to secondary trauma which described as the effects of stress experienced by public health workers involved with traumatized individuals.

Apart from depression and stress, Fogiel and Piscataway (1989) (as cited by Mundia, 2009) states that anxiety is a general state of uneasiness such as fear, tension, worry or apprehension where the cause related to this can be ambiguous. According to Shaffer (1999) (as cited by Mundia, 2009), anxiety is a bodily response to a perceived threat or danger whether real or imagined and it seems to be triggered by an individual's thoughts, beliefs and feelings. Depression, anxiety and stress have been recognized as important mental health outcomes in stressful work setting (Edimansyah, et al., 2008).

PROBLEM STATEMENT

Depression, stress and trauma is common in high risk work. Firefighters is one of the most stressful occupation due to their nature of work being exposed to a range of demands which impact upon their somatic and mental wellbeing (Beaton, Murphy, Pike, & Corneil, 1997; Norwood & Rascati, 2015). Norwood & Rascati (2013) states that firefighter stress and Post Traumatic Stress Disorder (PTSD) are real threats to the American fire service. On the other hand, Vivekanandan, et al., (2016) had conducted a research on stress perceived by a houseman in a hospital in northern Malaysia. His study shows that the houseman also experiences work stress. While research has been conducted to study the housemen stress, the number of research on stress level faced by firefighters are still limited. As life savior, firefighters put their own life at risk during the rescue operation.

According to Chief Director of Fire and Rescue Department (JBPM), firefighters' responsibility has become more challenging today (Utusan Online, 2015). They face wider job scope as they are not only expected to put out the fire but also to rescue the public. The recent development in social media and the unexpected number of natural disasters such as flood and landslide adds to the challenges faced by them.

Apart from the wider job scope, firefighters today do face risky diseases such as heart attack, hypertension and diabetes (Utusan Online, 2010). Amongst the contributing factors to these diseases are the risky nature of their work itself and the need to act fast during the rescue operation.

Previous researches and reports have highlighted that high risk work is exposing the worker with stress. In view of this, the researcher would like to study the existence of depression, anxiety and stress among the firefighters. In addition, this research will also explore stress contributing factors and its coping strategies.

The findings from this study will benefit the firefighters and Fire and Rescue Department, authorities, community, family and counselor. Through this study, the participating firefighter will be able to realize their depression, anxiety and stress level as well as its impact. The findings will help the employers and authorities to take the necessary action and measures in managing firefighter's wellbeing. It is also good for the community for them to be aware of the prevalence of stress, anxiety and depression in firefighters for them to be more appreciative than disparaging. The findings from this study are important for the family as they are the first supporting line to the firefighters. Lastly, for the counselors, the findings from this study will help them to better understand the issue faced by the firefighters and thus work with the relevant authorities in preventing stress occurrence.

RESEARCH OBJECTIVES

Based on previous outcomes on mental and physical health impact towards firefighters (Willing, 2019; Brough, 2004; Brunson, Woodward, & Regel, 2003; Saijo, Ueno, & Hashimoto, 2008; Prati G., Pietrantonio, & Cicognani, 2011; Smith, Folkard, & Fuller, 2003) this research was conducted with the following objectives:

1. To examine the level of depression, anxiety and stress in firefighters.
2. To investigate the stress factor for firefighters.
3. To explore firefighters' stress coping strategy.

RESEARCH QUESTIONS

Previous literature has shown that firefighters are exposed to incident-related and organizational stress factors (Bos, Mol, Visser, & Frings-Dresen, 2004; Murphy, Bond, Beaton, Johnson, & Murphy, 2002; Willing, 2019; Brough, 2004). Therefore, this research will focus on the following research question:

1. What is the level of depression, anxiety and stress among firefighters?
2. What is the stress factor for firefighters?
3. What is the stress coping strategy for firefighters?

LITERATURE REVIEW

Depression is a mood disorder that manifests itself in various ways (Mundia, 2009). According to the National Institute of Mental Health (2015), depression will interfere with individual's daily routines and normal functioning. Sometimes, the feeling of hopelessness, worthlessness and those related to the depression symptoms which last for a short period of time called as a passing case will be likely to be a depressive disorder if it lasts for more than two weeks and interferes with regular daily activities.

Anxiety is the word commonly used to describe feelings of unease, worry and fear (Marsh, 2015). It incorporates both the emotions and the physical sensations people might experience when they are worried or nervous about something.

According to Hussein and Hussein (as cited by Ahmad M. & Lama M., (2012)), stress is a situation whereby the individual suffers from physical and psychological hypertension resulting from factors that cannot be handled and exceeds human ability to cope with.

Apart from depression, stress and anxiety defined from the Western perspective as above, the following paragraph will describe the definition of these concepts from an Islamic perspective.

According to Baloch (2003), depression is characterized by hopelessness, loss of meaning in life, self-worthlessness and feeling of sadness without being able to identify the cause of the gloominess in life. Depression could happen when a human does not follow Allah's guidance and teaching (Naziha, Norzarina, & Yasmin, 2014). Allah s.w.t cited this in al-Quran through the following verses:

And whoever turns away from My remembrance – indeed he will have a depressed life and we will gather him on the day of Resurrection blind.
(al-Quran 20:124)

And we send not the Messengers except as bringers of good tidings and warners. So whoever believes and reforms – there will be no fear concerning them, nor will they grieve.
(al-Quran 6:48)

From the above verses Muslim have to understand that those not following Allah's guidance, may feel sorrow and will lead to depression. Depression could happen due to idleness, laziness, anger, sinning and deviation from God. Amongst depression symptoms are the feeling of sadness or unhappiness, irritability or frustration even over a small matter, loss of interest or pleasure in normal activities, reduced sex drive, insomnia or excessive sleeping and changes in appetite (Bhowmik, Sampath Kumar, Shweta, Shraavan, & Amit Sankar, 2012).

Al-Ghazali, a renown Islamic scholar described anxiety as a disease that is developed by the heart (Che Haslina, Hairul Nizam, Nor Shafrin, & Wan Syakira, 2012). It grows from an unhealthy soul of humans. It is similar to the other diseases such as anger, hatred, envy, sadness and others. He characterized anxiety as a fear towards certain things which lead to restlessness and frustration. An anxiety disorder is due to unstable emotion and mental feelings resulting from a person's prolonged stress (Che Haslina, Hairul Nizam, Nor Shafrin, & Wan Syakira, 2012). The symptoms of anxiety includes rapid heartbeat and breathing, sweating, nausea and stomach upset, feeling dizziness and lightheaded, tight or painful chest, numbness and tingling sensations (Anxiety BC).

Islam views human stress is part of life that each and every individual have to face as the nature of being human. According to Imam Al-Ghazali, human beings consist of metaphysical heart (*qalbs*), soul (*nafs*), spirit (*ruh*) and mind (*aql*) that will influence their thought process. Heart consists of three important elements which is softness (*latifah*), divinity (*rabbaniyah*), and spiritual (*ruhaniyyah*) (Nor Azah, 2011). In Islam, stress does not only comes from mental health but also from confusion and weakness of the heart (*qalb*), soul (*nafs*), mind (*aql*) and spirit (*ruh*). Those who has weak heart, soul, cognitive and spirit is most likely due to poor relationship with Allah s.w.t. This leads them to think that there is no solution to the problems and will easily get stressed. Islam also describe stress as a test from Allah s.w.t (Mohd Juraimy & Ahmad Azan, 2014). Allah s.w.t. will test every human and the most important thing to do is to rely on Allah. Among stress symptoms are memory problems, indecisiveness, inability to concentrate, having difficulty to think clearly, poor judgment, seeing only the negative, anxious or racing thoughts, constant worrying, loss of objectivity, fearful anticipation (University at Buffalo, 2009).

Stress experienced by firefighters had concerned many countries around the world that employs them and has been a topic of academic study in several countries including Japan, the United Kingdom, Malaysia, the United States of America and Canada (Malek, Mearns, & Flin, 2010; Murphy, Bond, Beaton, Johnson, & Murphy, 2002; Saijo, Ueno, & Hashimoto, 2008; Sommerfeld, Wagner, Harder, & Schmidt, 2017).

According to Bos et al. (2004) and Murphy et al. (2002) there are a number of incident related stressors faced by firefighters that can affect their mental and physical health such as time pressure, lack of sleep, fatigue, high risk decision making, risk of injury to self or death and exposure to other people's trauma. In addition to incident related factor, there are a number of organizational stressors which impacted the firefighters negatively such as shift patterns, overtime, excessive workload, departmental politics, harassment, poor organizational climate, poor communication, lack of training, and conflicts with co-workers and supervisors (Willing, 2019; Brough, 2004; Brunnsden, Woodward, & Regel, 2003; Saijo, Ueno, & Hashimoto, 2008).

The unattended stress faced by firefighters could lead to long term psychological and behavioral effect on the health of firefighters such as anxiety and depression (Brough, 2004), burnout (Prati G., Pietrantonio, & Cicognani, 2011), emotional exhaustion (Smith, Folkard, & Fuller, 2003), depersonalization (Alexander & Klein, 2001) and post-traumatic disorder (McFarlane & Bryant, 2007).

Although previous study indicated that there's connection between workplace stressors and poor psychological health with samples of firefighters there is also potential that such relationship can be mediated by other positive factors. Factors such as social support, self-efficacy, coping strategies, maintaining a work – life balance, mindfulness training and resilience have all been identified as potential mediators of chronic and complex stressors in the workplace (Carpenter, et al., 2015; Cowman, Ferrari, & Liao-Troth, 2004; Halbesleben, 2009; Khoury, et al., 2013; Lee, Ahn, Jeong, & Choi, 2014; Regher, Hill, Knott, & Sault, 2003).

The theories referred to in this study are Cognitive Behavioral Theory (CBT) and Rational Emotive Behavior Therapy (REBT). CBT is based on the idea that how a person thinks (cognition), feels (emotion) and how they act (behavior) all interact together. In other words, our thoughts determine our feelings and behavior. Therefore, negative and unrealistic thoughts will cause stress, depression and anxiety to a person. REBT, describe that almost all human emotions and behaviors are the result of what they think, assume or believe about themselves, other people, and the world in general. It is what people believe about situations they face not the situations itself that determines how they feel and behave. Thus, CBT and REBT are much related to depression, anxiety and stress as it involve touches on the aspect of thought that can cause people's behavior.

METHODOLOGY

Survey research design was chosen in this study. The respondents are forty two (42) firefighters from Fire and Rescue Department, Negeri Sembilan. Both qualitative and quantitative data has been collected in this study. Depression, Anxiety and

Stress Scale (DASS21) questionnaire was given to the respondents in order to obtain the quantitative data. DASS21 instrument was chosen to measure the prevalence of depression, anxiety and stress among the firefighters. The interpretation of DASS21 has been divided into five dimensions which is normal, mild, moderate, severe and extremely severe. Statistical Package for Social Science (SPSS) version 23 was employed to analyze the quantitative data

In addition to DASS21 questionnaire, six (6) firefighters was randomly selected as the interviewee for the purpose of qualitative data collection. A semi-structured interview method was employed similar to study conducted by Duran, Woodhams, & Bishopp (2018). The respondents were required to answer three (3) direct questions related to stress. The interview question focuses on stress factor in connection to DASS21 result which shows higher level of stress as compared to depression and anxiety. Interview data was categorized according to themes developed from the data gained. Interview findings were summarized in a chart according to the themes.

FINDINGS

The finding collected from DASS21 questionnaire is tabulated in Table 1 to Table 4.

Table 1: Respondents’ Depression Level

Depression Level	No. of Respondents	Percentage (%)
Mild	12	28.6%
Normal	12	28.6%
Moderate	8	19%
Severe	7	16.7%
Extremely Severe	3	7.1%
Total	42	100%

The findings for Depression level shows that 10 (23.8%) respondents were under severe and extremely severe depression. Meanwhile, the remaining 32 (76.2%) respondents are categorized as moderate to mildly depress.

Table 2: Respondents’ Anxiety Level

Anxiety Level	No. of Respondents	Percentage (%)
Mild	11	26.2%
Normal	10	23.8%
Moderate	8	19%
Severe	7	16.7%
Extremely Severe	6	14.3%
Total	42	100%

Table 2 above shows the result of respondents’ anxiety level. The data gathered shows that 13 (31%) respondents were under severe and extremely severe anxiety. 29 (69%) respondents on the other hand are under moderate to mild anxiety level.

Table 3: Respondents’ Stress Level

Stress Level	No. of Respondents	Percentage (%)
Mild	10	23.8%
Normal	11	26.2%
Moderate	13	31%
Severe	5	11.9%
Extremely Severe	3	7.1%
Total	42	100%

The analysis performed for stress level shows that 8 (19%) of the respondents are under severe and extremely severe stress. Whereas 34 (81%) respondents showed that they are under moderate to mild stress.

Table 4: Respondents' Depression, Anxiety and Stress Mean Value

Item	N	Mean Value
Depression	42	7.76
Anxiety	42	8.11
Stress	42	9.67

Based on the mean value analysis, the result shows that the respondents stress level is the highest at mean value of 9.76. This is followed by anxiety level at 8.11 mean value and depression level at 7.76 mean value.

Based on the high stress mean value tabulated in Table 4, the researcher had selected six (6) respondents for an interview session. The interview session focuses on the stress factor and their coping strategy. Three (3) themes which is workload, community and superior's instruction was chosen in identifying the stress factor.

Table 5: Stress Factors

No.	Primary Theme	Basic Themes
1.	Workload	<ul style="list-style-type: none"> i) Faces continuous emergency cases ii) Continuous working hours iii) Requires to work fast during operation iv) Requires immediate respond even during meal break up to the extent that the firefighters have to stop eating to attend the emergency case v) Expected to work efficiently vi) Risky job vii) Wide job scope, seems have to attend all scope.
2.	Community	<ul style="list-style-type: none"> i) Stress with community that always push them ii) Social punishment iii) Judgement from community iv) Exposed to be criticized publicly in social media
3.	Superior's Instruction	<ul style="list-style-type: none"> i) Employer gave different orders from what they want to do ii) Required to take to 2 - 3 instructions from employers at the same time.

Table 6: Stress Coping Strategies

No.	Primary Themes	Basic Themes
1.	Personal coping	<ul style="list-style-type: none"> i) Take leave ii) Go back to hometown iii) Keep calm and take a deep breath iv) Think positive v) Always wear complete uniform when executing the job vi) Do the work rightfully to prevent community judgement vii) Love the career viii) Have hobby
2.	Spending time with family and friends	<ul style="list-style-type: none"> i) Ask for support from friends and family ii) Laughing iii) Playing sport with cliques iv) Share problem with friends v) Establish teamwork with co-workers at work place
3.	Sharing with others	<ul style="list-style-type: none"> i) Sharing issues faced during Friday meeting ii) Explore the problem occurred iii) Communicate with other
4.	Islamic approach	<ul style="list-style-type: none"> i) Zikr' ii) Perform ablution (<i>wudhuk</i>) iii) Praying (<i>solat</i>) iv) Always remember that work as <i>ibadah</i>

No.	Primary Themes	Basic Themes
		v) Get back to Allah.

The interview session revealed that there are four (4) stress coping strategies adopted by the respondents. As and when they will opt between personal coping to spending time with family and friends or sharing with other party. The respondent also adopted Islamic approach in coping with their stress as detailed in Table 6.

DISCUSSION AND CONCLUSION

Research Objective 1: To examine the level of depression, anxiety and stress among firefighters.

The data gathered and analyzed shows that respondents have moderate level of depression, anxiety and stress. However, amongst the three (3) construct, the result showed a higher level of stress as compared to depression and anxiety. The mean for level of stress is 9.69, depression is 7.76 and anxiety is 8.11. The findings concluded that the respondents faces stress at their workplace. This finding is similar with the study by Mundia (2009) and (Husni, Lilie Zahara, Farhaniza, Sapora, & Khatijah, 2013)) where they found that the level of stress is higher than depression and anxiety.

The high prevalence of stress was due to the workload and some other stressors that make the firefighters feel stressed. This is further supported by the Chief Director of Fire and Rescue Department (JBPM) in Utusan Online (2015), that firefighter responsibility will be more challenging in the future which could be the underlying reason for the respondents' high level of stress, anxiety and depression. The result shows that preventive and supportive steps should be taken to address the stress, anxiety and depression faced by the firefighters to maintain their efficiency in providing full service. The firefighters' service is important as their task will usually involve with the victim's life. A depressive, stressful or anxious firefighters will impact their competency during emergency rescue. This is in line with Herman (2000) (as cited by Shantz (2002) which states that higher levels of stress will interfere with the person's ability to perform, is rarely pleasurable and will lead to emotional and physical problems.

The firefighters seems to show the symptoms of mental illness since some of them were under extremely severe depression, anxiety and stress. It is highly recommended for the firefighters to consult a counselor on the issue faced.

Research Objective 2: To investigate the factor of stress among firefighters

Stress is part of any job, and firefighters may have more than their share (Willing, 2019). The findings shows workload as the most concerning factor faced by the respondent. Workload has been the common stress factor faced by workers. Based on the interview, the respondents highlighted that they are instructed to perform other task in addition to fire rescue. This additional task had put them under stress. This finding is similar to the study conducted by Vivekanandan, et al., 2016; Brough, 2004; Brunsdan, Woodward, & Regel, 2003; Saijo, Ueno, & Hashimoto, 2008) where excessive workload and organizational factor contributes to stress.

The next stress factor comes from the community. Based on the interviews, some of the respondents mentioned that negative perception and judgment from the public is stressful to them. To make things worse, the public that criticizes them did not know exactly how firefighters work. This finding however is in contrast to the study conducted by (Murphy, 2014). In his study, Murphy (2014) found out that the perception from civilian towards the firefighters' rescue service is positive at 51% and only 10% have poor perception towards the firefighter service. This could be due to lack of understanding on the firefighter's task.

The third stress factor among for firefighters was related to orders given by their superior. Given with too many instruction during operation leads to their confusion on the order need to be followed. Thus, it is important for the employees to be given with clear instruction to enhance their job satisfaction as this will motivate them to increase the job performance (Rusli, Hii, & Sopian, 2014).

Research Objective 3: To explore the coping strategies for stress among firefighters.

Result showed that the first coping strategies is personal coping. The respondents shared that they will take leave while under stress and unable to focus on their work. During these time, they will release their tension by going back to the hometown or travelling. Other than that, the respondents will usually take positive self-coping action by instilling positive thoughts to cope with the stress. This way of coping is similar to the findings on study conducted by Kabunga & Kihoro (2014) where the workers used positive thinking to cope with their stress.

The second stress coping strategy is by spending time with family and friends. Most of the respondents shared that they will spend time with family and friends if they were under stressed and unable to resolve the issue. Some respondent states that laughing with his friends will reduce the stress. This finding is similar to the study by Harvey (1999), who found that people are returning to their family and friends in order to reduce stress.

The third stress coping strategy is by sharing with others. The respondent states that, they will share the problem or stress encountered with other people. The firefighters also informed that they will gather every Friday for a meeting. During the meeting they will express and share the dissatisfaction felt. This finding is similar to the study by Kabunga & Kihoro (2014) which found that one of the coping strategy is by getting social support from other people.

Based on the result, most of the respondents used Islamic coping strategies when they were having stress. The result showed that the respondents performed 'solat', taking 'wudhuk', pray to Allah, get back to Allah and remember Allah by 'zikr'. Since all of the respondents are Muslim, they practices Islamic approach to reduce stress. According to Arnetz et al. (2013) (as cited by Syed Mahnaz, Usman, & Syed Salman (2015), employees that practices their spiritual or religious values in the workplace will help themselves to promote good psychological well-being and will be able to avoid workplace stress. Islamic practices will help spiritually in a situation where people feel psychological, physiological and other major physical stress.

SUGGESTION AND RECOMMENDATION

Firefighting was crowned most-stressful job (Willing, 2019). The findings from this study shows that they are exposed to stress, depression and anxiety. In order to address this issue, the necessary measure and policy has to be in placed to eliminate and manages the psychological impact of firefighters' duty. Other than the firefighter themselves, the Fire and Rescue Department's Human Resource, the Public Service Department, Government, media and public should be included in addressing this issue.

Firefighters should take this issue seriously as it is feared that prolonged stress, depression and anxiety will lead to mental and physical health including time pressure, lack of sleep, fatigue, risk of injury to self or death, exposure to other people's trauma, burnout, emotional exhaustion, anxiety and depression (Bos, Mol, Visser, & Frings-Dresen, 2004; Murphy, Bond, Beaton, Johnson, & Murphy, 2002; Brough, 2004; Prati G., Pietranton, & Cicognani, 2011; Alexander & Klein, 2001). Thus, they need to always be aware on their well-being and to consult a counselor if they start to have depression, anxiety and stress symptoms. Self-coping skill could be exercised provided proper training programme was given to the firefighter. Further there are also other ways to cope with depression, anxiety and stress including having healthy life styles, spending time with family, travelling as well as adopting Islamic approach.

Family and friends also plays an important role in this case. They need to give support, encouragement and motivation to the firefighters. Community on the other end has to play their role in reducing the level of depression, anxiety and stress among firefighters where the interview session reveals that negative perceptions from the community is among the contributing stressor.

The government in playing their role to reduce depression, anxiety and stress among workers can consider organizing program and activity focuses on healthy lifestyles which covers stress, depression and anxiety coping strategy. Peer support group programme to provide support and be the shoulder to lean on could be beneficial to implement (Norwood & Rascati, 2013). The Government and media should also highlight to the public the importance and contribution made by the firefighters to increase the community's appreciation hence reduce negative criticism towards firefighters.

BIBLIOGRAPHY

- Ahmad M., T., & Lama M., Q. (2012). Assessing Stress among University Students. *American International Journal of Contemporary Research*, 110-116.
- Alexander, D., & Klein, S. (2001). Ambulance personnel and critical incidents. Impact of Accident and Emergency Work on Mental Health and Emotional Well-being. *The British Journal of Psychiatry*, 76-81.
- al-Quran*. (n.d.).
- Anxiety BC*. (n.d.). Retrieved from https://www.anxietybc.com/sites/default/files/What_is_Anxiety.pdf
- Baloch, S. O. (2003). *Furqan Institute of Quranic Healing*. Retrieved from <http://www.fiqh.org/resources/depression/>
- Beaton, R., Murphy, S., Pike, K., & Corneil, W. (1997). Social support and network conflict in firefighters and paramedics. *Western Journal of Nursing Research*, 297-313.
- Bhowmik, D., Sampath Kumar, K., Shweta, S., Shravan, P., & Amit Sankar, D. (2012). Depression - Symptoms, Causes, Medications and Therapies. *The Pharma Innovation*, 37-51.
- Bos, J., Mol, E., Visser, B., & Frings-Dresen, M. (2004). Risk of health complaints and disabilities among Dutch firefighters. *International Archives of Occupational and Environmental Health*, 373-382.
- Brough, P. (2004). Comparing the influence of traumatic and organizational stressors on the psychological health of police, fire, and ambulance officers. *International Journal of Stress Management*, 227-244.
- Brunsdan, V., Woodward, L., & Regal, S. (2003). Occupational stress and posttraumatic reactions in fire-fighters and control room staff. *Fire Safety, Technology and Management*, 11-14.

- Carpenter, G., Carpenter, T., Kimbrel, N., Flynn, E., Cammarata, C., Zimering, R., & Kamholz, B. (2015). Social support, stress, and suicidal ideation in professional firefighters. *American Journal of Health Behavior*, 191-196.
- Che Haslina, A., Hairul Nizam, I., Nor Shafrin, A., & Wan Syakira, M. H. (2012). Generalized Anxiety Disorder (GAD) from Islamic and Western Perspectives. *World Journal of Islamic History and Civilization*, 44-52.
- Cowman, S., Ferrari, J., & Liao-Troth, M. (2004). Mediating effects of social support on firefighters sense of community and perceptions of care. *Journal of Community Psychology*, 121-126.
- Duran, F., Woodhams, J., & Bishopp, D. (2018). An Interview Study of the Experiences of Firefighters Regard to Psychological Contract and Stressors. *Employee Responsibilities and Rights Journal*.
- Edimansyah, A., Rusli, N., Naing, L., Muhammad Rusli, A., Winn, T., & Tengku Mohamed Ariff, R. (2008). Self-perceived Depression, Anxiety, Stress and Their Relationships with Psychosocial Job Factors in Male Automotive Assembly Workers. *Industrial Health*, 90-100.
- Halbesleben, J. (2009). The role of work-family conflict and social support. *International Journal of Workplace Health Management*, 115-130.
- Harvey, R. (1999). Under Stress: The Concerns and Coping Strategies of Teacher Education Students. *Colloquium in Field Base Education* (pp. 2-15). Adelaide: Flinders University.
- Husni, M., Lilie Zahara, R., Farhaniza, G., Sapora, S., & Khatijah, O. (2013). Religious and Spiritual Coping Used by Student in Dealing with Stress and Anxiety. *International Journal of Asian Social Science*, 314-319.
- Kabunga, A., & Kihoro, M. (2014). Work Stress And Coping Strategies Among Social Workers: A Case Of Northern Uganda. *International Journal of Liberal Arts and Social Science*, 33-38.
- Khoury, L., Fortin, G., Masse, M., Therien, P., Bouchard, V., Cahpleau, M., . . . Hofman, S. (2013). Mindfulness-based therapy: A comprehensive meta-analysis. *Clinical Psychology Review*, 763-771.
- Lee, J., Ahn, Y., Jeong, K., & Choi, K. (2014). Resilience buffers the impact of traumatic events on the development of PTSD symptoms in firefighters. *Journal of Affective Disorders*, 128-133.
- Malek, M., Mearns, K., & Flin, R. (2010). Stress and psychological well-being in UK and Malaysian firefighters. *Cross Cultural Management: An International Journal*, 50-61.
- Marsh, L. (2015). *Understanding Anxiety and Panic Attacks*. London: MIND (National Association for Mental Health).
- Mc Farlene, A., & Bryant, R. (2007). Post-traumatic stress disorder in occupational settings: Anticipating and managing the risk. *Occupational Medicine*, 404-410.
- Milen, D. (2009). The Ability of Firefighting Personnel to Cope With Stress. *Journal of Social Change*, 38-56.
- Mohd Dahlan, A., & Ida Shafinaz, M. (2013). The Moderating Effect of Work Motivation and Coping Strategies on Job Satisfaction and Psychological Well Being among Fire Fighters. *The Asian Conference on Psychology & the Behavioral Sciences*, (pp. 249-262). Osaka, Japan.
- Mohd Juraimy, K., & Ahmad Azan, R. (2014). Strategi Menguruskan Tekanan Dari Perspektif Islam. *Jurnal Hadhari*, 27-41.
- Mundia, L. (2009). The Prevalence of Depression, Anxiety and Stress in Brunei Preservice Student Teachers. *The Internet Journal of Mental Health*, 1-7.
- Murphy, A. (2014). *The public's perception of the modern day Fire and Rescue Service*. Lancaster: Lancaster University.
- Murphy, S., Bond, G., Beaton, R., Johnson, L., & Murphy, J. (2002). Lifestyle practices and occupational stressors as predictors of health outcomes in urban firefighters. *International Journal of Stress Management*, 311-327.
- Naziha, A., Norzarina, Z., & Yasmin, M. (2014). Examine Islamic Perspective of Depression Causes among Libyan Muslims Adult. *International Proceedings of Economics Development and Research*, 51-56.
- Nor Azah, A. (2011). Kaedah Menangani Stres Dengan Solat. *Journal of Islamic and Arabic Education*, 1-10.
- Norwood, P., & Rascati, J. (2013). *Recognizing and Combating Firefighter Stress*. Retrieved from <https://www.fireengineering.com/content/dam/fe/online-articles/documents/FEU/FEU-NorwoodDec12.pdf>
- Norwood, P., & Rascati, J. (2015). *Suicide is a reality in the fire service*. Retrieved from <http://www.fireengineering.com/articles/2015/12/fire-service-suicide.html>.
- Nydegger, R., Basile, F., & Nydegger, L. (2011). Post-Traumatic Stress Disorder And Coping Among Career Professional Firefighters. *American Journal of Health Sciences*, 11-20.

- Prati G., Pietrantonio, L., & Cicognani, E. (2011). Coping strategies and collective efficacy as mediators between stress appraisal and quality of life among rescue workers. *International Journal of Stress Management*, 181–195.
- Redhwan, A., Sami, A., Karim, A., Chan, R., & Zaleha, M. (2009). Stress and Coping Strategies among Management and Science University Students: A Qualitative Study. *The International Medical Journal*, 11-15.
- Regher, C., Hill, J., Knott, T., & Sault, B. (2003). Social support, self-efficacy and trauma in new recruits and experienced firefighters. *Stress and Health*, 189–193.
- Rusli, A., Hii, E., & Sopian, B. (2014). Relationship Between Selected Factors of Job Satisfaction and Job Performance Among Workers at Palm Oil Industries. *International Review of Management and Business Research*, 1751-1766.
- Saijo, Y., Ueno, T., & Hashimoto, Y. (2008). Twenty-four-hour shift work, depressive symptoms, and job dissatisfaction among Japanese firefighters. *American Journal of Industrial Medicine*, 380–391.
- Shantz, M. C. (2002). *Effect of Work Related Stress on Firefighter*. Paramedic.
- Smith, C., Folkard, S., & Fuller, J. (2003). Shiftwork and working hours. In J. Quick, & L. Tetrick, *Handbook of occupational Health Psychology* (pp. 163–184). Washington, DC: American Psychological Association.
- Sommerfeld, A., Wagner, S., Harder, H., & Schmidt, G. (2017). Behavioral health and firefighters: An intervention and interviews with Canadian firefighters. *Journal of Loss and Trauma*, 307–324.
- Syed Mahnaz, H., Usman, R., & Syed Salman, H. (2015). Spirituality and Workplace Stress Management. *Al-Adwa*, 47-56.
- University at Buffalo. (2009, January). Retrieved from <https://socialwork.buffalo.edu/content/dam/socialwork/home/self-care-kit/stress-warning-signs-and-symptoms.pdf>
- Utusan Online. (2010, November 16). Retrieved from Anggota bomba hadapi risiko penyakit bahaya: http://ww1.utusan.com.my/utusan/info.asp?y=2010&dt=1116&pub=Utusan_Malaysia&sec=Dalam_Negeri&pg=dn_14.htm
- Utusan Online. (2015, May 5). Retrieved from Tugas bomba Kian Mencabar: <http://www.utusan.com.my/rencana/tugas-bomba-8232-kian-mencabar-1.87977>
- Vivekanandan, G., Thirupathy, U., Muhammad Affan, Adam, A., Kamal Ariffin, Anwar Asraff, & Sugnathan, S. (2016). Stress perceived by houseman in a hospital in northern Malaysia. *Medical Journal Malaysia*, 8-11.
- Willing, L. (2019, June 27). *9 Sources of Firefighter Stress*. Retrieved from <https://www.firerescue1.com/exclusives-1/articles/2100834-9-sources-of-firefighter-stress/>

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