

# Stress and Social Support as Predictors of Quality of Life: A Case among Flood Victims in Malaysia

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**Abstract**—The purpose of this paper is to examine the effects and relationship of stress and social support towards the quality of life among flood victims in Malaysia. A total of 764 respondents took part in the survey via convenience sampling. The Depression, Anxiety and Stress scale (DASS) was utilized to measure stress while The Multidimensional Scale of Perceived Social Support was used to measure social support. To measure quality of life, the combination of WHO Quality of Life – BREF (WHOQOL-BREF) and The Impact of Event Scale – Revised (IES-R) were utilized. The findings of this study indicate that there were significant correlations between variables in the study. The findings showed a significant negative relation between stress and quality of life; and significant positive correlations between support from family as well as support from friends with quality of life. Stress and support from family were found to be significant predictors that influence the quality of life among flood victims.

**Keywords**—Stress, social support, quality of life, flood victims.

## I. INTRODUCTION

FLOOD occurrences can affect and leave great physical and mental impacts to the residents concerned. The amount of losses that has to be incurred by the residents or the government is also great. Victims of flood faced damage of properties, further affecting daily and economic activities, the widespread of diseases, deaths, emotional stress and trauma. Several low areas in Malaysia are easily exposed to flood every year [1]. This is due to the facts that Malaysia has 1,800 rivers covering 189 river systems and streams. The total length of rivers in Malaysia is 57,300 kilometers. Three categories of flood in Malaysia are flash flood, tropical storm flood and flood due to the monsoon season.

A study carried out by the California Institute of Technology has found that the main factor that influences rain in the Asian regions is the seasonal monsoon due to the differences of the continents and the seas [2]. A study has found that the majority of the flood victims have to suffer from loss and stress due to economic and psychological factors [3]. For these unfortunate people, the stress that they experience stems from the losses they have to bear. Furthermore, damage of properties need to be repaired following the flood and they even have to face situations where lives are lost too.

In facing the natural catastrophe, the needs to provide social support are imperative in helping victims who experience stress due to the catastrophe. Social support is seen to be the contributing factor to the enhancement of quality of life and

the wellbeing of flood victims [4]. The Malaysian government has given various forms of social support to the victims to ensure that all victims are safe and comfortable [5]. However, researchers from the Global Sustainability Study Center in Universiti Sains Malaysia found that the remote areas which experience serious flood are still lacking the assistance and support, although there is a sense of awareness towards the need to mitigate the psychological effects and emotions of victims [6], [7]. Social support serves to be the natural factor that is consistent in influencing the psychological aspect [8]. Moreover, social support contributes toward the enhancement of quality of life, wellbeing and psychological health [4]-[9].

This paper discusses the relationship between stress and social support dimensions with the quality of life of the flood victims in Malaysia. In addition, factors that may predict the quality of life are also examined.

## II. LITERATURE REVIEW

### A. Stress and Quality of Life

The decision to leave home and to move to the evacuation center is an unpleasant experience [10], [11]. Flood victims also face physical and psychological issues. Psychological issues have been identified to exist among the victims of natural disaster in developing countries. Stress is the main effect experienced by the victims, followed by anxiety and also depression. Victims of disaster often experience sleep deprivation, showing signs of stress, physical pain and injuries, the increased use of prohibited substances and often taking sick leave [12]. The work done by a group of researchers suggested that the psychological problems often faced by the victims of natural disasters are stress, anxiety and depression [13]. In facts, the post-traumatic disorder (PTSD) is considered a mental illness involving long-term effects if mental health issues are not overcome by flood victims [14].

A study had shown that 10 to 20 percent of people are exposed to PTSD [13]. Moreover, a study has found some psychological issues experienced after the flood occurrences in Khyber Phuktoonkhwa, Pakistan and they realised that natural disasters cause a long term effect to the victims concerned [10]. Among the effects experienced by the victims include stress, unpleasant memories, difficulty to sleep at night, having nightmares, easily agitated, restless, sad and losing concentration. The feelings of worry and agitated are also experienced when the rainy season arrives or when there is continual heavy rain. Flood victims will feel stress, anxiety and depression. The issues not only leave an impact to the persons involved, but in turn they leave an impact to the families and the community at large. Nevertheless, the

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psychological assistance and support in the form of the current psychological support in the evacuation center have helped the flood victims to deal with the situations.

Victims who do not have support from others and who suffer from health complications are associated with the post-traumatic disorder and this will affect their quality of life [48]. Stress can be mitigated if victims are given early treatment in the form of physical and emotional support [15]. The level of physical health, quality of life and wellbeing can also be elevated. A study has found that tsunami victims who received the attention and assistance from the government have been showing better quality of life [16].

If victims are given early treatment physically and emotionally, it will help in reducing the anxiety, stress and depression faced by these victims [15]. The level of physical health, quality of life and wellbeing may also be improved. An outcome of a study has showed that the psychological issue experienced has left an impact and has become the predictor to the quality of life that one can benefit from [17]. Quality of life will tend to deteriorate when one faces psychological problems. Quality of life also depends on how the individual controls the assumption and understands the needs in his or her life. The psychological issues are able to influence the quality of life that they have enjoyed. This depends on how long they face the problems and the victims' own background. Nonetheless, the acceptance and the willingness to accept assistance among the victims demonstrate that the psychological problems can be reduced, simultaneously improving one's quality of life.

### *B. Social Support and Quality of Life*

Previous literature has shown that the main factor that needs to be emphasized is how one's belief overcomes the psychological effects one faces and it serves as a more important factor than ways of overcoming the effects. This belief can be referred as self-efficacy factors such as dominance, dignity, hope and positive confidence. Social support is also seen as factor that may overcome the long-term effects experienced by victims [12]. In other studies, it was found that the social support from family is the buffer to the issue of stress [18]. When they are given unfair treatment, families are seen as the best providers of emotional support when it comes to reducing the psychological stress. However, support from friends is not perceived as the buffer of stress.

Individuals who have to face high financial stress and lack of social support, tend to have low psychological wellbeing [19]. Nevertheless, individuals with this kind of stress but received good social support, have the tendency to acquire better psychological wellbeing. On this note, social support has a strong impact on the financial stress as well as able to prevent various diseases, and subsequently prepares individuals for a better psychological wellbeing.

The importance of the association between social support and wellbeing has been widely explained [20]. Social support is regarded as a delivery of information which makes one feel cared for and loved, respected and feel that they are part of the community members who form a network of collective

responsibility. The significance of this information delivery is to fulfil the social requirements and to protect victims from being pressurised. Social support may also provide physical and psychological comfort to individuals, as can be seen through the influence of events and impact from emergency situations. It is proposed that in theory, social support can reduce the problems faced [21]. When disaster happens, interactions with other people can change the perception of the individual on the circumstances and there is a possibility that emergency psychological cases can be reduced.

Social support may reduce the negative impact towards enhancing the quality of life. It can also be seen as a predictor for wellbeing and quality of life. Studies have also proven that there is a significant relationship between social support, mental health and depression [22]. The acceptance of social support has been identified to have been able to reduce stress and enhance the quality of life of an individual. The support received from family, friends and the community members also helps in enhancing the psychological wellbeing and reducing stress.

Several studies have provided proof that social support from partners, friends and family members will reduce the psychological impact towards an individual [23]-[28]. Floods leave a great impact on the human psychosocial needs and mental health. The welfare factor provides a good impact in terms of the victims' physical and psychosocial factors if proper attention is given. The impact from any disasters can be cushioned with the support from the family, friends and other people. Flood is capable of challenging their psychosocial endurance [29]. This opinion is supported from a study done in China whereby strong social support leaves a good impact to one's quality of life [30]. Beside social support, other factors such as profile of victims, the surrounding and the role of the community and the government can also determine one's quality of life [31], [32].

## III. OPERATIONAL DEFINITIONS

### *A. Stress*

In this study, stress refers to the definition based on the measurement of the Depression Anxiety Stress Scale (DASS) [33]. Stress is the feeling of strain that makes flood victims easily offended, angry, lose concentration on the work they are doing and will further affect their health.

### *B. Social Support*

Social support is referred based on the measurement of The Multidimensional Scale of Perceived Social Support encompassing three types or dimensions of social support namely support from family, support from members, and support from others [34].

### *C. Quality of Life*

The quality of life is a combination of the concept of quality of life from WHO Quality of Life – BREF (WHOQOL-BREF) (1996) and The Impact of Event Scale – Revised (IES-R) measurement [35]-[46]. It refers to the perceptions of the flood victims on the function, state and position in their daily lives

having confronted with flood disaster. The concept of quality of life used covers the aspect of the psychological state, physical health, an attachment with the surrounding, level of freedom, social relationship, and personal belief. Quality of life is also an assessment regarding the perceptions of flood victims towards their psychosocial level, life satisfaction, mental state, lifestyle and other aspects encompassing physical health and life prosperity.

#### IV. METHODOLOGY

##### A. Design of Study

This study employs a quantitative approach via cross-sectional survey where questionnaire were distributed to flood victims to get their perceptions on stress, social support and the quality of life. Data from the questionnaire collected were analyzed using the Statistical Packages for the Social Sciences (SPSS).

##### B. Sample and Location

This study involves several flood-torn areas in Malaysia that occurred in 2013 namely in Kemaman, Terengganu and Kuantan, Pahang, the two states situated in the east coast of Malaysia. A convenience sampling technique was adopted. A total of 764 respondents had answered the questionnaire for this study.

##### C. Instrument

The measurement used to measure stress was the 12 items from the Depression Anxiety Stress Scale (DASS) [33] whereas 21 items in the measurement of The Multidimensional Scale of Perceived Social Support [34] were used to measure social support. To measure quality of life, the combination of measurement of WHO Quality of Life – BREF (WHOQOL-BREF) (1996) and The Impact of Event Scale – Revised (IES-R) (1997) involving 44 items was adopted [35]-[46]. The Likert scale ranging from 1 = strongly disagree to 5 = strongly agree were used. The internal validity value (Cronbach Alpha) for each measurement was 0.92 for stress, 0.93 for social support and 0.84 for quality of life.

#### V. RESULTS

##### A. The Relationship Between Stress, Social Support Dimensions and Quality of Life

Results found that there was a relationship between stress and quality of life enjoyed by the flood victims ( $r = -.324$ ,  $p < .05$ ). The relationship obtained is negative where the higher the stress the lower the quality of life of the victims. In turn, the lower the stress experienced, the higher the quality of life. In addition, there was a positive relationship between the social support accepted from family ( $r = .150$ ,  $p < .05$ ) and friends ( $r = .084$ ,  $p < .05$ ). This demonstrates that the higher the support, the better the quality of life. By contrast, the lesser the support received from family and friends, the lower the quality of life.

TABLE I  
 CORRELATION BETWEEN STRESS, SOCIAL SUPPORT DIMENSIONS AND QUALITY OF LIFE

| Variable             |   | Quality of life |
|----------------------|---|-----------------|
| Stress               | r | -.324(**)       |
|                      | p | .000            |
|                      | N | 744             |
| Support from family  | r | .150(**)        |
|                      | p | .000            |
|                      | N | 755             |
| Support from friends | r | .084(*)         |
|                      | p | .021            |
|                      | N | 758             |
| Support from others  | r | -.013           |
|                      | p | .719            |
|                      | N | 756             |

##### B. Predictor for Quality of Life

The linear regression test was carried out to test the influence of stress and social support on quality of life. The outcome of the analysis established that stress and support from family influenced the quality of life of the flood victims. The two variables contributed 13.9 percent on the quality of life of the victims. The F value of 39.331 was significant at the confidence level of  $p < .001$ . Based on Table II, it showed that stress ( $t = -9.807$ ,  $p < .001$ ) and family support ( $t = 4.087$ ,  $p < .001$ ) had a significant influenced on the level of quality of life of the victims. Based on the beta value, analysis showed that family support ( $\beta = .602$ ) was the strongest predictor towards quality of life among the respondents compared to stress ( $\beta = -.533$ ).

TABLE II  
 LINEAR REGRESSION ON QUALITY OF LIFE

| Variable             | $\beta$ | Beta  | t      | p    |
|----------------------|---------|-------|--------|------|
| Stress               | -.533   | -.388 | -9.807 | .000 |
| Support from family  | .602    | .199  | 4.087  | .000 |
| Support from friends | -.088   | -.028 | -.567  | .571 |
| Support from others  | -.133   | -.045 | -1.026 | .305 |

$R^2 = .139$ , Adjusted  $R^2 = .136$ ,  $F = 39.331$ ,  $p < .001$ .

#### VI. DISCUSSION

##### A. Relationship Between Stress, Social Support and Quality of Life

Stress will directly affect quality of life and wellbeing. Quality of life will deteriorate if the victims experience stress due to the incident and do not handle it well, and, if there is no government or aid-agency assisting them. The difference in acceptance towards the disaster will lead to the difference in the level of quality of life. Social support obtained from family and friends contributes to the quality of life they enjoy as a whole. Quality of life of the victims can be improved or enhanced if the individuals concerned can adapt to the disaster and get used to the situation and the circumstances within their scope of life.

The psychological wellbeing and the quality of life depend on the emotions they have [47]. Sometimes, victims of natural disaster do not realize that they actually have psychological problems. This also shows that the role of the government and

the agency involved in flood management is important, where the flood victims need to be given continuous support in various aspects. Other than that, education on disaster management must also be given to individuals and the community exposed to the possibility of such disaster.

This study is at par with previous studies whereby the psychological impact on the victims of natural disaster can dent their lives' quality and wellbeing [15]-[17], [36]-[40], [48]. Prolonged stress may deteriorate the quality of life. However, it was found that tsunami victims who received the attention and assistance from the government exhibit a better quality of life [16]. They were able to endure longer psychological effect and thus, could increase the quality of life [30].

Quality of life relates with the act of giving up. One who is stressed will have difficulties in enhancing his or her quality of life. However, their perception on the quality of life that they had in the past will not affect them [39]. Social support may be able to help improve one's quality of life. Thus, the early assistance received becomes one of the factors that reduce stress and worries, and subsequently enhances the wellbeing and the quality of life of the victims [15]. The lesser the symptoms of the psychological problems, the better the quality of life enjoyed by the victims involved [36].

#### B. Predictor for Quality of Life

Through the regression analysis carried out, one of the predictor that influences the quality of life of flood victims is stress. Findings also reveal that if one faces with a stress-inducing situation, the quality of life will be more or less affected. According to The Stress Life Event theory, stress is an action of adapting towards an event or its surrounding. The event or situation would happen recurrently, leading to worsening stress. The incidence experienced by the victims can be regarded as personal, as it can lead to residential damage, loss of lives and properties [41]. Every time an event or an incident happens, the body loses its balance and it seeks to perform an adaptation process. Through this adaptation process, a lot of energy is used and this will burdensome the individual.

When the rainy season comes, there will be a sense of worry and anxiety in case flood will recur. They start to lose interest in other activities, and in turn will only focus on the consequences of flood. The recovery processes will cause stress to the victims involved [42]. Social support received during the recovery process is seen as an important factor that helps to relieve the stress suffered by the victims. Meanwhile, the social effects to the victims involve the personal relationship either at home or at the workplace, problems with employers, and the lack of support from relevant agencies.

Support from family was also found to be predicting the quality of life. Flood gives a great impact to the human psychosocial needs and mental health [29]. These feelings can be overcome and addressed by developing self-dominance efficacy, control, dignity, hope and positive confidence provide by family members [12]. The element of self-control can protect one's restlessness when experiencing flood

disasters [43]. Social support offered by family plays a role in enhancing quality of life [44]. Good, satisfactory social support can protect the victims from various physical and psychological symptoms [20].

Individual would also feel that should flood happen again, and if they are not able to mitigate the impact and the loss experienced, they will become sad and demotivate. Based on Zhan's conceptual model [45], the stress factor is seen as one of the factors able to affect quality of life one's enjoys. Life is anything interpreted by individual through his or her life experiences. Quality of life relates with the perception, value system, aim, expectation, standard, hope and anxiety he or she has gone through. Quality of life revolves around how one interacts with his or her surroundings. It is also influenced by one's background, health and situation.

## VII. CONCLUSION

The elements of stress and social support are seen to be able to give significant effects to the whole quality of life of flood victims. In addition, the element of stress experienced is able to leave a great impact to one's life. Thus, effective social support should exist to help these victims carry on with their normal life. All parties need to learn from the disaster that has taken place so that the quality of life of the victims is not reduced significantly.

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