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A Study on Psychological Aspects of Disaster: Stress, Anxiety and Depression

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ABSTRACT

The emotional response traumatic event has involved with intense fear, helplessness, or horror. In children, the response may take the form of disorganized or agitated behavior [4] Epidemiological studies show that PTSD often remains chronic, with a significant number of people remaining symptomatic several years after the initial event. In support of this view the epidemiological data that shows, recovery frequently does not occur [18]. The aim of the present study is to evaluate the various Psychological aspects related to Post Traumatic Stress Disorder (PTSD) in the areas of Stress, Anxiety and Depression and to compare between the Male and Female subjects.The subjects comprising of 10 females and 10 males were taken in to study, who faced the floods in Badrinath (Uttarakandh state June,2015), followed by landslides. The sampling method was purposive sampling. The DASS (Depression, Anxiety and Stress Scale) scale was used for assessment. The collected data was analysed with SPSS 16.0 version. To find the significance in categorical data Chi-Square test was used. The *probability value .05* is considered as significant level. In both Male and Female 40% has moderate stress, 35% has severe Stress, and 25% has extremely severe Stress, 20% of them were having moderate anxiety, 30% of them have severe and 50% of them were in severe anxiety, 30% were found to be in Mild depression. 40% of them are having moderate depression and 10% were in severe depression. With regard to Stress Anxiety and Depression there is no significant difference between Male and Female. The literature clearly mentions that the Psychological Interventions will help the victims to improve the quality of life and also to prevent Psychiatric disorders.

Keywords: Post Traumatic Stress Disorder, Stress, Depression, Anxiety,

INTRODUCTION

Natural response for any unexpected situation is fight or flight. It's a healthy reaction to avoid or protect self from harm. Disaster is a sudden accident or a natural catastrophe that causes loss of life or great damage. The person exposed to events like natural disasters; terrorist incidents; military combat exposure; serious accidents; childhood physical, sexual, or emotional abuse; adult physical and sexual assault and domestic violence, goes through a psychological turmoil which is known as Post Traumatic Stress Disorder (PTSD). The emotional response to this traumatic event has involved with intense fear, helplessness, or horror. In children, the response may take the form of disorganized or agitated behavior [4]. Epidemiological studies show that PTSD often remains chronic, with a significant number of people remaining symptomatic several years after the initial event. In support of this view the epidemiological data that shows, recovery frequently does not occur [18]. Community-based studies have documented a lifetime prevalence rate for PTSD of approximately 6.8–8.0% of the adult population [19, 20]. General population female-to-male lifetime prevalence ratio is 2:1 [17].

The clinical literature describes the complexity of PTSD and the fact that PTSD is unlikely to occur in isolation. Psychiatric co morbidity is the rule rather than the exception, and a number of studies have demonstrated this in both clinical and epidemiological populations [11, 12, and 19]. In these studies, a wide range of disorders is likely to occur at an increased probability. These include major depressive disorder, all of the anxiety disorders, alcohol and other substance use disorders, somatization disorder, and forms of disorder. A few studies have documented the course of co morbid conditions. A study has shown that major depressive disorder co-occurs with PTSD, but can take a separate course [2]. Several researchers have provided evidence that co morbid substance abuse tends to be a consequence rather than a precursor of PTSD [10, 17].

Objective of the study

- The aim of the present study is to evaluate the various Psychological aspects related to Post Traumatic Stress Disorder (PTSD) in the areas of Stress, Anxiety and Depression.
- To compare the Stress, Anxiety and Depression between the Male and Female subjects.

Materials and Methods:

The psychological impact of disaster was assessed on a sample of 10 families who are travelling in the bus belonging to 2 states of Andhra Pradesh and Telangana. The subjects comprising of 10 females and 10 males were taken in to study, who faced the floods in Badrinath (Uttarakandh state June,2015), followed by landslides. The sampling method was purposive sampling. After obtaining prior permission from the concerned subjects, they were explained about the nature of the study, the written informed consent form was obtained from them.

The DASS (Depression, Anxiety and Stress Scale) scale was used for assessment. DASS [21] is a 21-item instrument measuring current symptoms of depression, anxiety and stress. Each of the three scales consists of 6 items in which the respondents are expected to rate each of the statement on a four point scale ranging from 0 to 3 in which 0 indicates '*did not apply to me at all'* and 3 indicates *'applied to me very much or most of the time'*. The scoring was done by adding the sum of each item belonging to depression, anxiety and stress and multiplying summed scores by 2 and converting into categories of normal, mild, moderate and severe.

The collected data was analysed with SPSS 16.0 version. To describe about the data, descriptive statistics frequency analysis was used for categorical variables. To find the significance in categorical data Chi-Square test was used.

Used Formula:

$$\chi^2 = \sum_{i=1}^{n} \frac{(O_i - E_i)^2}{E_i} = N \sum_{i=1}^{n} p_i \left(\frac{O_i/N - p_i}{p_i} \right)^2$$

Where

χ^2 = Pearson's cumulative test statistic, which asymptotically approaches a χ^2 distribution.

O_i = the number of observations of type *i*.

N = total number of observations

$E_i = Np_i$ = the expected (theoretical) frequency of type *i*, asserted by the null hypothesis that the fraction of type *i* in the population is p_i

n = the number of cells in the table.

In the above statistical tool the *probability value .05* is considered as significant level.

Results and Discussion

Table 1 shows the percentage of Male and Female on three variables Stress, Anxiety and Depression.

Category	Stress	Anxiety	Depression
Normal	0%	0%	20%
Mild	0%	0%	30%
Moderate	40%	20%	40%
Severe	35%	30%	10%
Extreme severe	25%	50%	0%

Table one: Shows the distribution of three variables; Stress, Anxiety and Depression in Male and Female.

Stress: In both Male and Female groups 40% has moderate stress, 35% has severe Stress, and 25% has extremely severe Stress.

Anxiety: In Male and Female groups 20% of them were having moderate anxiety, 30% of them have severe and 50% of them were in severe anxiety.

Depression: In Male and Female 20% of them are normal 30% were found to be in Mild depression. 40% of them are having moderate depression and 10% were in severe depression.

Figure1 shows the Frequency Distribution of Male and Female subjects in three variables on DASS scale

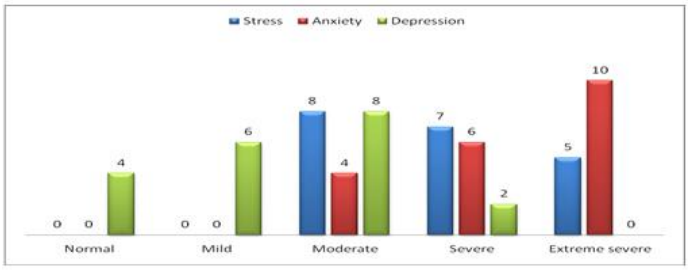


Table 2 shows Significance difference between the Male and Female subjects on DASS Scale:

Variable	Pearson Chi-Square	Value	Degrees of Freedom	Probability Value
Stress	Pearson Chi-Square	2.443	2	.295
Anxiety	Pearson Chi-Square	4.067	2	.131
Depression	Pearson Chi-Square	4.167	3	.244

* Significant

The above table shows the differences between Male and Female in Stress, Anxiety and Depression.

Stress: The Chi-Square value of stress is 2.443 and the p value is .295 indicating there is no significant difference between Male and Female. Getting upset and impatient easily, over reacting to the situations, nervous and difficult to relax are some of the symptoms expressed by the subjects. The Theory of Stressful Live Events says that the occurrence of specific events in life can have an impact on individual physical and mental health. The relationship between experienced events and stress affect the victims indirectly [23, 24]. Although sometimes the disaster can be predicted and detected several days before the incident, it still gives shock and pressure to the victims and alters the function of the victim's daily routines [22]. The victims dealing with the stress and ongoing trauma will affect the victims' quality of life [15]. The results shows that after exposure to severe trauma, either an earthquake or violence, adults are at high risk of developing severe and chronic posttraumatic stress reactions that are associated with chronic anxiety and depressive reactions [13]. Forty-four percent of the

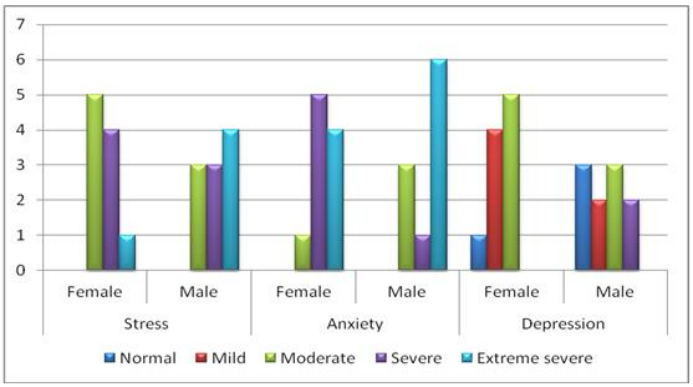
adults reported one or more substantial symptoms of stress; 90 percent had one or more symptoms to at least some degree [1].

Anxiety: The Chi-Square value of Anxiety is 4.067 and the p-value is .131 indicating there is no significant difference between Male and Female. Disaster cause unpleasant feelings of anxiety and lack of sense of security. Palpitations, dryness of mouth epigastric discomfort feelings of Fainting are the few symptoms expressed by the subjects. Some flood victims in Malaysia experience anxiety every time there is heavy rain. This is due to the experience of the past, the disaster which destroyed crops and livestock, damage to property, loss of a financial equity and also resulted in the loss of life of family members. Their daily lives are always in a state of alert [9]. The prevalence of anxiety disorders and affective disorders were examined in the study was 23% with a co morbidly of depression. Adversity experienced after disaster influenced the onset of both anxiety and affective disorders [16].Post-disaster presentation in adolescents was major depressive disorder and generalized anxiety disorder were 17.6% and 12.0% respectively. Adolescents from middle socioeconomic status were more affected. There were gender differences in the presentation of the symptoms rather than on the prevalence of diagnoses. Prolonged periods of helplessness and lack of adequate post-disaster psychological support were perceived as probable influencing factors, as well as the severity of the disaster [14].

Depression: The Chi-Square value of Depression is 4.167 and the p-value is .295 indicating there is no significant difference between Male and Female. Stress and anxiety experienced by the victims can finally create the symptoms of depression. Lack of positive feelings, sadness, lack of interest and crying spells are the few symptoms expressed by the subjects. Depressed attitude is likely to be long-lasting and permanent if not controlled. Depression will cause a drop in the positive emotions of a person and can lead to more serious mental health problems and other diseases [6]. They will be in a state of worry and concern and this will affect the quality of life of those involved [3]. Co morbid depression occurred in 44.5% of PTSD patients at 1 month and in 43.2% at 4 months and was associated with greater symptom severity and lower levels of functioning [26]. Major depression and PTSD are independent squeal of traumatic events, have similar prognoses, and interact to increase distress and dysfunction

How ever some of the studies have not supported our study. Gender differences have been extensively studied in adult trauma populations, with the preponderance of evidence suggesting that men are more likely to be exposed to trauma but women are significantly more likely to develop PTSD from trauma exposure and to have a longer persistence of symptoms [17]. Meta-analyses of studies yielding sex-specific risk of posttraumatic stress disorder (PTSD) indicated that female participants were more likely than male participants to meet criteria for PTSD, although they were less likely to experience Potentially Traumatic Events [5].

Figure 2 showing the differences in Male and Female on DASS scale



Summary and Conclusions:

The present study was carried out to find the Depression, Anxiety and Stress among Male and Female subjects. The sample for the present study comprised of 20 subjects (10 male and10 female) who are travelling to Badrinath. They were assessed by using the, Depression Anxiety and Stress Questionnaire (DASS-21). In both Male and Female 40% has moderate stress, 35% has severe Stress, and 25% has extremely severe Stress, 20% of them were having moderate anxiety, 30% of them have severe and 50% of them were in severe anxiety, 30% were found to be in Mild depression. 40% of them are having moderate depression and 10% were in severe depression. With regard to Stress Anxiety and Depression there is no significant difference between Male and Female. Two females were suffering with severe PTSD symptoms were given one session of intervention to calm down.

Limitations of the present study:

- The present study is confined with the subjects belonging to only two states.
- Local residents were not taken into study which may affect the results.
- The subjects are pilgrims and away from home which makes them more stressful and can affect the results

Implications of the Study.

Two females were suffering with severe PTSD symptoms were given one session of intervention to calm down (in present study). Cognitive Behavioral Therapy (CBT) is the evidence-based treatment modality for PTSD [8].Trauma – focused CBT and EMDR tend to be equally efficacious [7]. The candidates experience an improvement in their emotional state when NLP is used which is statistically significant for overall score averages and also for each of the three DASS categories (Depression, Anxiety and Stress) [25] All the Psychological problems should be targeted by early treatment and interventions [26] *The literature clearly mentions that the Psychological Interventions will help the victims to improve the quality of life and also to prevent Psychiatric disorders.*

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