

**EFFICACY OF PSYCHOLOGICAL INTERVENTION FOR FLOOD
AFFECTED PERSONS WITH PTSD AND DEPRESSION**

By

Fathima Shirin. K A

(17PAPOO5)

A Thesis Submitted to the

Avinashilingam Institute for Home Science and Higher Education for Women

Coimbatore-641043



In Partial fulfillment of the Requirement for the Degree of

Master of Science

In

Psychology

(2017-2019)

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ABSTRACT

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The present study examined the Efficacy of psychological intervention for flood affected person with PTSD and Depression. Fifty one (51) flood affected subjects were initially chosen for the study. They were assessed on PTSD Checklist Civilian Version by Blanchard (1996) and Beck Depression Inventory by Aroan Beck (1961). From this thirty one (31) flood affected subjects with severe level of PTSD and Depression were selected and trained Jacobson's Progressive Muscle Relaxation (JPMR), Eye Movement Desensitization Reprocessing (EMDR), Breathing exercise and counseled for the duration of 30-45 minutes every alternative day for a period of 2 weeks. After completion of 6 sessions, they were reassessed using the same tools. Significant difference was seen in pre & post treatment. Psychological intervention was found to be effective in reducing the level of PTSD and Depression.

Key words: PTSD, Depression, Jacobson's progressive muscle relaxation (JPMR), Eye Movement Desensitization and Reprocessing (EMDR)

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INTRODUCTION

CHAPTER I

INTRODUCTION

“A disaster is defined as a basic disturbance of the social context within which individuals and groups function” (Fritz, 1961). Floods are the most distressing and disturbing natural disasters which result in various physical and psychological effects on individual life in terms of personal and daily functioning. It results in a lot of personal and public harm in term of their possessions, properties, well-being, strength and loss of employment and income. All these contribute as a major risk factor for effecting the behavior, thoughts and overall well-being of people affected by it, and It caused by several emotional problems like increased nervousness, terror, anxiety, tension and miseries related with the disaster. Among these PTSD and depression are frequently reported among flood victims. After the disaster the rise in water level, lack of proper awareness and less time for safeguard and defensive measures may cause anxiety symptoms among the victims. Their coping strategies, flexibility, age, gender, type of family system and their socioeconomic status are the various factors that serve an important function in determining the nature and severity of the problem. The effect of the particular disaster depends on the coping mechanism used by the victim which makes them susceptible to stress disorder which further results in extreme psychological problem. (Quarantellie .L1998).

Due to unexpected high rainfall during the monsoon season., severe floods affected the south Indian state of Kerala since 9 August 2018. It was the highest flood in Kerala in nearly a century Over 483 people died, and 14 are missing. About a million people were shifted,mainlyfrom Chengannur, Pandanad,Edanad, Aranmula, Kozhencherry, Ayiroor, Ranni, Pandalam, Kuttanad, Malappuram, Aluva, Chalakudy, Thiruvalla, Eraviperoor, Vallamkulam, Paravur Vypin Island and Palakkad. All 14 districts of the state were in red alert. The Kerala government declined that one-sixth of the total population of Kerala had been directly affected by the floods. The Indian government had proclaimed it a Level 3 Calamity, or "calamity of a severe nature. It is the highest flood in Kerala after the great flood of 99 that took place in 1924. (Baynes &Chris 2018)

This was the first time in history, the thirty-five dams within the state were opened and at the same time five overflow gates of the Idukki Dam were opened, The 5 gates of the Malampuzha dam of Palakkad were opened in first time within 26 years. Heavy rains in Wayanad and Idukki have caused severe landslides and some hilly districts were isolated. The situation was regularly tracked by the Prime Minister, and the National Crisis Management Committee coordinated the rescue and relief operations. (Ragavan 2018).

The flood affected people had physical, social and psychological impairments. The psychosocial flood impacts suggest that they have significant effects on people's wellbeing, relationships and mental health. Flooding will create substantial social and welfare issues which will continue over expanded periods of time because of not only being flooded (the primary stressor), but also because of the secondary stressors (those stressors that are indirectly related to the initial extreme event, economic stress associated with re-building) that arise as people try to recover their lives, property and relationships. Flooding can challenge the psychosocial resilience of the hardest of people who are affected. Posttraumatic stress disorder and depression are the major psychological impairments.

POSTTRAUMATIC STRESS DISORDER

DEFENITION

PTSD is a state of mind that's triggered by a terrifying event-either experiencing it or witnessing it. It may include flashbacks, nightmares, and severe anxiety, disturbance in sleep and appetite, as well as uncontrollable thoughts about the event. (Arlington 2013)

Post-traumatic stress disorder can develop after any kind of a traumatic event, either a single isolated event or more chronic and recurring traumatic experiences. Emotional disturbances and symptoms are related with PTSD that cause clinically important distress or impairment in the person's social interactions, their ability to work, or other important areas of functioning. Post-traumatic Stress Disorder (PTSD) is a persistent and sometimes disabling condition precipitated by psychologically overwhelming experience. It develops in a significant proportion in individuals exposed to trauma, and untreated, can continue for years. Its symptoms can affect in physiological, psychological, occupational, and social. (APA -2013)

Post-traumatic stress reactions have been recognized throughout history. PTSD described in classical Greek literature and in the early literature of scientific medicine, but it was first diagnostically defined in modern times in the 1980 American Psychiatric Association & Diagnostic and Statistical Manual. The surge of scientific and clinical interest within the condition over the past 20 years has been largely due to awareness of issue related with returning Vietnam combat veterans and advocacy by the feminist movement on behalf of rape victims. Posttraumatic stress disorder has not been documented in other groups including abused children, victims of crimes, accidents, and natural disasters. Not all trauma survivors develop PTSD. About 20% of crime victims, across type of crime, will meet diagnostic criteria. The rates are substantially higher for some crimes. For example, more than half of rape victims are afflicted. However, most crime victims do have some initial Posttraumatic stress disorder symptoms that subside over time. (Friedman 2013)

CAUSES

Post-traumatic stress disorder is a state of mind that is triggered once somebody witnesses a psychologically traumatic event like war, a natural disaster, or any situation that invokes feelings of helplessness or intense fear. While general people eventually adjust to the after effects of such events, some people find their symptoms obtaining worse with time. These worsening symptoms are the product of PTSD. (Graves 2011)

SYMPTOMS

Symptoms including fearful thoughts, flashbacks and bad dreams. These symptoms can become problematic in a person's life. The avoidance symptoms include difficulty remembering the traumatic event and avoiding reminders of the experience like places, people and objects. The Hyper arousal symptoms may also arise, such as feeling tense, being startled easily and having trouble sleeping. While it is traditional to experience number of these symptoms after a terrible event, symptoms lasting more than a few weeks may be signs of PTSD. (Zimmerman 2014)

Emotional Symptoms of PTSD

The emotional symptoms of PTSD are depression, anxiety, worry, intense guilt and feeling emotionally numb. Another symptom is anhedonia, which is characterized by a loss of interest in

previously enjoyable activities. The National Centre for Biotechnology Information (NCBI) states that anhedonia plays a part in predicting psychiatric comorbidity, or the presence of more than one psychiatric disorder.

Physical Symptoms of PTSD

The National Centre for biotechnology information has documented many physical complaints among PTSD sufferers. The physical problems included higher rates of neurological, respiratory, musculoskeletal and cardiovascular symptoms. Depression, guilt, tension, worry and difficulty sleeping may contribute to the physical symptoms.

EFFECTS OF PTSD

PTSD includes a range of symptoms that can affect family members. When someone has PTSD, their ability to function as a parent or partner can be impacted, and changes in their functioning can lead to unmet family needs and increased stress within the family. Here provides information about the effects of PTSD and trauma on families & children

- Effects of PTSD on families

PTSD can make somebody hard to live with. Living with somebody who is easily startled, has nightmares, and or avoids social situations can take a toll on the most caring relations. Research on Posttraumatic stress disorder has shown the harmful impact of PTSD on families.

- When a child's parent has PTSD

A parent's Posttraumatic stress disorder symptoms are directly joined to their child's responses. This section describes however caregiver's PTSD symptoms impact children and outlines some of the common problems experienced by children of Veterans or different adults with PTSD. (Wolfe 1989)

CHARACTERISTICS OF PTSD

Some of the common characteristics of post-traumatic disorder embody frequent recollections of the traumatic event, feelings of guilt, and problem maintaining healthy relationships. Additional characteristics of PTSD may include difficulty trusting others, inappropriate or exaggerated reactions, and chronic fear or anxiety. Insomnia, depression, and misplaced anger are common characteristics of PTSD patients. (Bisson 2015)

The primary characteristic of PTSD patients is a persistent feeling of reliving the traumatic event responsible for the development of post-traumatic stress disorder. A person with this condition repeatedly feels identical emotions experienced during this highly stressful period of life and mentally plays back the physical or emotional events over and over. Feelings of guilt are also common, and many people who suffer from this disorder feel somehow responsible for the events of the past.

Relationship issues are frequently seen among PTSD patients, and this is often caused by an inability to trust that anyone else could honestly have their best interests at heart. Suspicion and jealousy will become therefore severe that these patients inadvertently sabotage relationships, giving further credence to their inability to trust others. People experiencing post-traumatic stress are frequently unable to grasp the concept that these fears don't have a logical basis. (Powell-2013)

BIOLOGICAL CHARACTERISTICS

There is increasing evidence that Posttraumatic stress disorder is associated with biological alterations or abnormalities. Individuals with PTSD have an atypical stress response. Instead of producing increases in cortisol, a stress related hormone, the usual hypothalamic-pituitary axis mechanisms are disrupted and result in lower than expected levels of the hormone. It is possible to induce Posttraumatic stress disorder symptoms in diagnosed people with injection of relatively benign chemical stimuli. Decreased brain volume or volume of specific brain structures are documented in some adults and children with PTSD.

DIAGNOSIS

The diagnosis of PTSD, as described in the DSM-V, requires the presence of definite traumatic experience and certain symptoms. A person must,

A1) Have been subjected to an experience that vulnerable loss of life or identity or serious injury

A2) Have reacted to that event with high emotion – horror, fear, or helplessness

B) Re-experience the event in dreams, flashbacks, vivid interrupting thoughts, or emotional and physiological reactions to reminders of the event

C) Show three or additional avoidant and/or numbing features related with the event

D) Exhibit symptoms of arousal

Additional diagnostic criteria are include that at least a month must have elapsed since the index event and that the person have some functional disability – inability to function normally at work, in their families, or within their social networks. The current DSM-V criteria rely heavily on items that require verbal descriptions of internal experiences and states. There is growing consensus that more developmentally sensitive criteria are needed for children due to their limited ability to express their subjective experiences. (DSM V)

POPULATION AT RISK

According to general population surveys conducted over the past five years, PTSD is among the most common psychiatric conditions in society. Younger adults and adolescents seem somewhat more susceptible than older adults. Less is known regarding the very young, who respond to trauma in less typical ways, but post-traumatic syndromes are believed to occur and to exert profound influences on development and later emotional health.

CLINICAL COURSE

Once established PTSD tends to persist. About half of those who develop PTSD spontaneously recover over the two years following the event. After that time symptoms could wax and wane in

intensity or totally different clusters may be more prominent at a particular time, but they usually do not dissipate entirely. Anniversaries and life crises may precipitate setbacks. (DSM –V)

CO-MORBIDITY

Adults people with PTSD usually suffer from other psychiatric conditions; nearly 80% of women and 90% of men with lifetime history of PTSD develop at least one other disorder. Depression accompanies PTSD almost half of the time. Substance abuse may develops frequently among men, whereas women are more prone to psychologically determined physical complaints. Anxiety disorders (i.e. generalized affective disorder, panic disorder, simple phobia, social phobia, agoraphobia) are common among both sexes. Co-morbidity with PTSD would be expected for some of these disorders due to the overlap in symptom criteria; for example, criteria C and D PTSD symptoms (e.g., irritability, hyper vigilance, exaggerated startle) overlap with symptoms that characterize generalized anxiety disorder and criterion B5 (physiological reactivity) could overlap with panic disorder, simple phobia, and/or social phobia. Children with PTSD also have fairly high rates of psychiatric co-morbidity. Depression and other anxiety disorders (e.g. agoraphobia, and generalized anxiety disorder) are quite common in children who have been traumatized. (Brady 2000)

DEPRESSION

DEFINITION

Depression is a mood disorder in which individual experience extreme unhappiness, lack of energy, and several related symptoms. (Kessler et al., 1994)

Depression is a state of mental illness. It is characterised by deep, long lasting feelings of sadness or despair. Depression can change an individual's thinking/feelings and also affects his/her social behaviour and sense of physical well-being. It can affect people of any age group, including young children and teens. It can run in families and usually starts between the ages of 15 and 30 years. Women and elderly people are more commonly affected than men.

TYPES OF DEPRESSION

Major depression; - it is a change in mood that lasts for weeks or months. It is one of the most common types of depression.

Dysthymia (chronic depression);-It is a less severe form of depression but usually lasts for several years.

Psychotic depression;-It is a severe form of depression associated with hallucinations and delusions (feelings that are untrue or unsupported)

Seasonal depression;-It occurring only at certain time of the year usually winter, also known as 'winter blues'. (Joseph Goldberg 2018)

CAUSES

An imbalance of certain brain chemicals called 'neurotransmitters' that carries signals in brain which the body uses to control mood, genetics (hereditary)factors, trauma , high levels of stress, mental illnesses such as schizophrenia and substance abuse, postpartum depression (women may develop depression after the birth of the baby), serious medical conditions such as heart disease, cancer and HIV, use of certain medications, alcohol and drug abuse, individuals with low self-esteem, high levels of stress due to financial problems, breakup of a relationship or loss of a loved one. (Hammen 2005)

SIGNS AND SYMPTOMS

The signs & symptoms included, feeling of sadness and loneliness, loss of interest in activities once found enjoyable, feeling of hopelessness, worthlessness or excessive guilt, fatigue or loss of energy, sleeping too little or too much, loss of appetite, restlessness and being easily annoyed.

Emotional symptoms of depression

It included withdrawal from socializing, loss of interest in in previously enjoyed hobbies, constant irritability or sadness, constant pessimism, feeling of inadequacy and self-loathing.

Physical symptoms of depression

Depression not only affect mind, but also affect body. Some of the physical effects embrace erratic sleep habits, loss of appetite, constant fatigue, muscle aches, headaches and back pain. (Joseph Goldberg 2018)

EFFECTS

In the short term, depression causes loss of appetite, weight loss, and other physical symptoms. In long term depression can experience malnutrition from not eating enough food or become obese from eating too much. And also experience a drop in short term memory, easy to forget things. Long term depression also leads to suicide. (Villinez 2018)

DIAGNOSIS

The doctor may diagnose depression based on the detailed history and sign and symptoms of the individual. Many a times the individual is asked a series of questions to help screen/check for depression symptoms. Specific examinations include physical examination of the individual such as height and weight measurement. Examination of the vital signs such as blood pressure, heart rate and temperature. Laboratory tests such as blood tests to screen for alcohol/drugs in blood. Psychological evaluation of the individual's thoughts, feelings and behaviour patterns. (DSM V)

TREATMENT

The most common treatments of depression are-

Counselling allows individuals to understand and accept the initial cause of depression. It can help address low self-esteem or relationship issues or persistent negative thinking. Psychotherapy is used for mild to moderate depression. Psychotherapy may be the best treatment option. There are 2 main types of psychotherapy usually used to treat depression.

Cognitive-behavioural therapy (CBT) helps change negative ways of thinking and behaving. Interpersonal therapy (IPT) helps people understand and work through troubled personal

relationships that may cause depression. Medications such as anti-depressants are given to help balance chemicals in the brain known as 'neurotransmitters'. Electroconvulsive therapy (ECT) is carried out in case the treatment with other therapies such as medications has failed. ECT is a procedure during which controlled amount of electricity is introduced into the brain in conjunction with anaesthesia and muscle relaxant medications. It helps restore the balance of neurotransmitters by causing the brain to produce a mild generalized seizure (lasting for about 30 seconds). (Neha pathak 2018)

In Ayurveda therapies, lifestyle adjustments and herbal preparations clear and strengthen the mind allowing to cope with life's challenges more effectively and also bring positivity to lives at all levels. Homeopathy can provide a safe and effective way of depression. Under the guidance of a skilled homeopath, find relief from feelings of unhappiness and hopelessness. In yoga practice, the combination of meditation and physical movement provide two important elements for relieving depression. Meditation helps bring a person into a present moment and allows clearing the minds. Physical movements help to strengthen the body mind connection. Breathing exercise is effective in reducing depressive symptoms. (Petter viksvveen 2018)

COMPLICATION

If left untreated, depression can lead to some severe complications such as emotional, behavioural, health and even legal/financial problems, relationship difficulties, social isolation and even suicide. Prevention: Preventive measures include regular exercise, healthy diet and stable relationships. They are helpful in keeping stress low and thereby reduce the chances of feeling depressed again. The outcome of depression is usually favourable. With prompt treatment, a depressed person can return to a happier lifestyle and more balanced outlook on life. (Richard 2014)

JACOBSON'S PROGRESSIVE MUSCLE RELAXATION (JPMR)

Jacobson's relaxation technique could be a quite medical care that focuses on tightening and relaxing specific muscle groups in sequence. It's also known as progressive relaxation therapy.

By concentrating on specific areas of body and tensing and then relaxing them, you can become more aware of your body and physical sensations.

Dr. Edmund Jacobson invented the technique in the 1920s as a way to help his patients deal with anxiety. Dr. Jacobson felt that relaxing the muscles may relax the mind as well. The technique involves tightening one muscle group while keeping the rest of the body relaxed, and then releasing the tension. (Jacobson, 1938)

EYE MOVEMENT DESENSITIZATION AND REPROCESSING (EMDR)

Eye Movement Desensitization and Reprocessing (EMDR) is a medical aid (Shapiro, 2001) was initially developed in 1987 for the treatment of posttraumatic stress disorder (PTSD) and is guided by the Adaptive Information Processing model (Shapiro 2007). EMDR is an individual therapy typically delivered one to two times per week for a total of 6-18 sessions, although some people benefit from fewer sessions. Sessions can be conducted on consecutive days. (Feske, Ulrike 1998)

The Adaptive Information Processing model considers symptoms of PTSD and other disorders (unless physically or chemically based) to result from past disturbing experiences that continue to cause distress because the memory was not adequately processed. These unprocessed memories are understood to contain the emotions, thoughts, beliefs and physical sensations that occurred at the time of the event. When the memories are triggered these stored disturbing elements are experienced and cause the symptoms of PTSD and/or other disorders.

Unlike other alternative treatments that target on directly altering the emotions, thoughts and responses resulting from traumatic experiences, EMDR therapy focuses directly on the memory, and is intended to change the way that the memory is stored in the brain, thus reducing and eliminating the problematic symptoms.(Shapiro 2007)

Need for the study

In the recent time, Kerala faced an unexpected tragedy due to the heavy rainfall, resulting in heavy floods throwing life overboard bringing in extreme social consequences for communities & individuals. Most people are caught unaware with an immediate impact of flooding which include loss of human life, damage to property, destruction of crops, loss of livestock and deterioration of health condition owing to waterborne diseases.

Damage to infrastructure also causes long term impacts. The infrastructure like power plants, roads and bridges are disrupted. People are forced to leave their home and normal life is disrupted, such as supplies of clean water, electricity, transport, communication, education and health care.

Flood can also traumatize victims and their families for long periods of time. The loss of loved ones has deep impact, especially on children. Displacement from one's home, loss of property and disruption to social affairs and business can cause continuing stress. For some people the psychological impact can be long lasting. Such as distress, anxiety, pain, depression, posttraumatic stress disorder and social dysfunction.

Many people who had lost their health and wealth, found themselves suffering from many kind of psychological problems like posttraumatic stress disorder and depression, hence they have a disturbed mind that prevents them from having food sleep & appetite. Due to the heavy floods the people of Kerala went through a traumatic phase disrupting their normal life.

In order to help the affected individuals an effort was undertaken to impart intervention on a small group of subjects to alleviate trauma and hardship. The JPMR can help to relieve the level of depression, It involves lying down and focusing on a group of muscles, first consciously relaxing them for a while and completely relaxing them again. While doing EMDR therapy session people can relieve traumatic or triggering experience while the therapist directs the eye movements. And also people can recall distressing events that is often less emotionally upsetting when the attention is diverted.

Therefore, in the present study, the researcher attempts to take up the psychological issues faced by the flood experienced individuals. The JPMR & EMDR helps to decline the PTSD & Depression in their daily life.

REVIEW OF LITERATURE

CHAPTER II

REVIEW OF LITERATURE

The literature pertaining to “**Efficacy of Psychological intervention for flood affected persons with PTSD and Depression**” has been reviewed and presented under the following categories.

- Posttraumatic stress disorder
- Depression
- intervention

POSTTRAUMATIC STRESS DISORDER

Wani, Sankar and Raksha (2016) conducted a study on PTSD among flood victims in Kashmir valley. The purpose of study is to investigate the level of PTSD among flood affected people. The PTSD checklist civilian version was used to measure the study. The total 300 subjects equally divided into two groups on the basis of gender. The result was female and adolescents have high level of PTSD than male and adult subject. Gender and age showed significant negative correlation with PTSD.

Dai, Chen, Tan, Wang, etal (2016) explored a study on Association between social support and recovery from PTSD after flood; A thirteen fourteen year follow up study in Hunan –China. The aim of the study is to understand the prevalence rate of Posttraumatic stress disorder and the association between social support and recovery from Posttraumatic stress disorder. Chinese version of Social Support Rating Scale (SSRS), including objective support, subjective support and support utilization was used the tools. Data collection was face-to-face interviews using a structured questionnaire. The result shows prevalence rate of current Posttraumatic stress disorder indicating that natural disasters, such as floods, may affect the mental health of victims for a long time. Social support was significantly associated with the recovery from prior Posttraumatic stress disorder, especially subjective support and support utilization.

Fam, long Zheny (2015) conducted a study on longitudinal trajectories of Posttraumatic stress disorder symptoms among adolescents after the Wenchuan earthquake in China. This study examines the patterns and predictors of post-traumatic stress disorder (PTSD). Participants completed the Posttraumatic Stress Disorder Self-Rating Scale (PTSD-SS), Adolescent Self-Rating Life Events Checklist, Social Support Rate Scale, and the Simplified Coping Style Questionnaire. The result showed five PTSD symptom trajectories were observed: resistance, recovery, relapsing/remitting), delayed dysfunction and chronic dysfunction. Female gender and senior grade were related to higher risk of developing PTSD symptoms.

Kim, Schneider, Kravitz, Burge (2015) conducted a study on Mind body practices for Posttraumatic stress disorder. This is a literature review using the effects of mind-body intervention modalities, such as yoga, tai chi, qigong, mindfulness-based stress reduction, meditation, and deep breathing, as interventions for PTSD .Result shows that Mind-body practices are increasingly used in the treatment of PTSD and are associated with positive impacts on stress-induced illnesses such as depression and PTSD.

Cenet and Derivois (2014) conducted a study on Assessment of prevalence and determinants of PTSD and depression symptoms in adult survivors of earthquake in Haithi after thirty month, this study aims to investigate the traumatic consequences of the earthquake among adults related to degree of exposure, Peri traumatic distress, depressive symptoms and socio demographic factors two and a half years after. A total 1355 adults (660 women) were assessed by the traumatic exposure questionnaire, the Life Events Checklist subscale, the Peri traumatic Distress Inventory (PDI), the Impact of Event Scale (IES-R) and the Beck Depression Inventory (BDI). The result shows the risk factors for PTSD and depressive symptoms were high in young, old age, female gender, unemployed status and low level of education.

Fathima and Maqbool (2014) conducted a study on prevalence of post-traumatic stress disorder and depression among flood affected individuals of Kashmir after six month of flood. The objective of the study is to assess PTSD and depression among the affected population after flood in Kashmir. Screening was done using a questionnaire to assess the level of depression and PTSD. The data was collected from 500 samples .The results indicated that a large number of people are affected by PTSD and suffered severe depression.

Asalm, and Kamal (2014) investigated on frequency of post-traumatic stress disorder traumatic event and the subsequent onset of Posttraumatic stress disorder in the population exposed to floods in Pakistan. The result showed that the trauma had a positive relation with objective flood exposures.

Derivois , Merisier, Cenet & Caselot (2013) had undertaken a study on Symptoms of Post-traumatic stress disorder and social support among children and adolescents after the 2010 Haithan earthquake .The aim of the study was explore the prevalence of PTSD symptoms related to social support received by the children and adolescents who survived the earthquake. A strategy of stratified sampling was used, and 540 children and teenagers were questioned. Questionnaires based on the PTSD Checklist, the Impact of Event Scale-Revised, and the Peritraumatic Distress Inventory was used. The results showed high rates of complete and partial PTSD symptoms, with higher rates among females, and indicated the need for reinforcing social support as a resilience factor for youth.

Sana& Khattak (2013) conducted a study about Prevalence of PTSD in flood affected population of Banda Sheikh Ismail district Nowshers. The objective of the study was to assess the psychological status of flood affected population and the level of mental health with PTSD measures and to investigate the level of PTSD on gender basis. Methodology used a cross-sectional survey of flood affected people. The respondents were asked about their experience of the disaster, how they perceive it. Their mental health was assessed by using seventeen items PTSD Scale. Result was 90.8% respondents were reported to have moderate level Posttraumatic stress disorder and 9.2% had severe level of posttraumatic stress disorder. Age, gender and education level did not have any correlation with PTSD development.

Cairo, Dutta, Navaz &Hashmi (2013) studied the prevalence of PTSD among adult earth quick survivors in Peru. The aim of the study is to estimate the prevalence of PTSD and to assess the relationships between PTSD and demographic and disaster-related factors. The study conducted a cross-sectional study using demographic questions, the PTSD Checklist, and a translated version of the Harvard Trauma Questionnaire. The result shows PTSD was significantly associated with female sex, food and water shortages immediately after the earthquake, joblessness, injuries, loss of a relative or friend, lack of clean drinking water or appropriate

sleeping conditions 5 months after the earthquake, and low levels of perceived support from family and friends.

Huang, Tan Chen et al (2012) explored a study on Prediction of Posttraumatic stress disorder among adult in flood districts. This study aimed to initiate a prediction model for the occurrence of Posttraumatic stress disorder among adults in flood districts. A cross-sectional survey was executed in two thousand among individuals who were affected by the 1998 floods in Hunan, China. Multi-stage sampling was used to select subjects from the flood-affected areas. Face-to-face interviews used to collect data. The result showed 7 independent predictive factors age, gender, education, type of flood, severity of flood, flood experience, and the mental status before flood were identified as key variables in the risk score.

Pietrzak, Southwick, Tracy & Norris (2012) conducted a study on PTSD, depression and perceived needs for psychological care in older person affected by Hurricane IKE. The aim of the study is to examine the prevalence and correlates of disaster-related PTSD, depression, and needs for psychological care in older persons affected by Hurricane Ike. The total 193 adults aged 60 older were interviewed 2–5 months in Hurricane Ike. Pre-, peri-, and post-disaster variables hypothesized to be related to Posttraumatic stress disorder and depressive symptoms, and perceived needs for psychological care were asses. The result shows Risk factors for depressive symptoms were predominantly pre-disaster in nature, with being married/living with partner associated negatively, and prior disaster exposure and pre-disaster Posttraumatic stress disorder or depression associated positively with these symptoms.

Xiong, Harville, mattisson, Hirasch & Pridjian (2012) conducted a study on Hurricane Kathrina experience & the risk of post-traumatic stress disorder &depression among pregnant women. The aim of this study was to inspect the effect of exposure to Hurricane Katrina on mental health in pregnant women. Women who were pregnant during Hurricane Katrina or became pregnant immediately after the hurricane were the samples. The result showed the frequency of posttraumatic stress disorder was higher in women with high hurricane exposure than women without high hurricane exposure .The frequency of depression was higher in women with high hurricane exposure than women without high hurricane exposure, the risk of Posttraumatic stress disorder and depression increased with an increasing number of severe

experiences of the hurricane. The Pregnant women had severe hurricane experiences were at a significantly increased risk for Posttraumatic stress disorder and depression.

Zhao, ZhibinWu, & Xu, (2012) explored a study on the association between Posttraumatic stress disorder symptoms and the quality of life among Wenchuan earthquake survivors. The aim of the study is to examine the role of the three types of social support as possible moderating factors between post-traumatic stress disorder and its relationship to two domains of the quality of life. A cross-sectional survey was done in a local area near the epicentre of the severe earthquake in Wenchuan. Result was survivors one-year after the Wenchuan earthquake, being a woman having a lower level of education, having a lower level of income , having a worse housing status and having a higher level of exposure were risk factors for a poorer .

Lai, Julia, Thampson, Gill, &Kelley (2012) conducted a study on Posttraumatic stress disorder symptoms trajectories in Hurricane Kathrina affected youth. This study examined trajectories of PTSD symptoms. Total 426 youth were the samples & completed assessments at 4 time points post-disaster. Measures included Hurricane impact variables, history of family and community violence exposure, parent and peer social support, and post-disaster posttraumatic stress symptoms. Results showed Latent class growth analysis demonstrated that there were three distinct trajectories of posttraumatic stress disorder symptoms identified for this sample of youth (resilient, recovering, and chronic, respectively)

Liu & Wang etal (2011) undertaken a study on Risk indicators for PTSD in adolescents exposed to the 5.12 Wenchuan earthquakes in China. The aim of the study is to assess the cognitive status and their social supports, to evaluate the prevalence and the predictor's variables of post-traumatic stress disorder (PTSD) after the Wenchuan earthquake. Children's Revised Impact of Event Scale (CRIES) as the screening tool, and Post-traumatic Cognitions Inventory (PTCI) and the Social Support Rating Scale (SSRS) was used for the study. The result showed Individuals with better social support had significantly lower scores on the CRIES. There were significant differences in cognitive style between individuals at low risk for PTSD and those at high risk for PTSD.

Telles, Singh, Joshi & Balakrishna (2010) carried out a study on Posttraumatic stress disorder symptoms and heart rate variability in Bihar flood survivors following yoga: a randomized controlled study. Study showed that a week of yoga practice was effective in stress management after a natural calamity. Twenty-two volunteers were randomly assigned to two groups, yoga and a non-yoga wait-list control group. Both groups' heart rate variability, breath rate, and four symptoms of emotional distress using visual analog scales, were analyzed on the first and eighth day of the programme. The result showed there was a significant decrease in sadness in the yoga group and an increase in anxiety in the control group. A week of yoga can reduce feelings of sadness and possibly reduce anxiety in flood survivors a month after the calamity.

Xinhua Li, Huang, Tan and Zhou (2010) in A study on relationship between PTSD in flood victim parents and children in Hunan China, Used the method of multistage cluster random sampling, conducted a retrospective investigation on 3,698 families in Hunan, Investigators held face-to-face interviews with the parents and children of the families. The diagnosis of Posttraumatic stress disorder was made according to the criteria of the *DSM*, fourth edition. The result showed the rate of PTSD in 7–14-year-old children is 4.7% in areas in Hunan, China, who suffered from flooding in 1998. The possibility for children to develop PTSD is increased in families with PTSD parents.

Wang, Zhang & Zhou (2010) conducted study on Symptoms of Post-traumatic stress disorder among healthcare workers in earthquake affected areas in Southwest China. The aim of the study is to assess symptoms of posttraumatic stress disorder and associated risk factors were investigated among health care workers. The total 343 health care workers completed the Chinese version of the Impact of Event Scale after the Wenchuan Earthquake. The result showed that significant risk factors for PTSD severity included being female, being bereaved, being injured, and higher intensity of initial fear. The findings suggest that PTSD is a common mental health problem among health care workers in earthquake-affected areas.

Neria and Gross (2010) had undertaken a study on Long term course of probable PTSD after the 9/11 attacks; A study in urban primary care. This study examines the course of probable posttraumatic stress disorder (PTSD), its predictors and clinical consequences in a cohort of 455 primary care patients in New York City, The samples were 455 primary care patients in New York City, interviewed approximately 1 and 4 years after 9/11. Result showed late-PTSD was

associated with major depressive and anxiety disorders, and PTSD regardless of timing was associated with impaired functioning.

Yueh ,sai, Frank , Chou, etal (2010) Conducted a study on A three year follow up study of the psycho social predictors of delayed and unresolved posttraumatic stress disorder in Taiwan Chi-Chi earthquake survivors .The aim of the study is predict the longitudinal course of post-traumatic stress disorder (PTSD) in survivors three years following a catastrophic earthquake. Trained assistants and psychiatrists used the Disaster-related Psychological Screening Test to interview earthquake survivors. The result showed a total of 38 of the original 418 PTSD subjects and 40 of the original 1338 non-PTSD subjects were identified as having PTSD at the 3-year post-earthquake follow up. Younger age, significant financial loss, and memory attention impairment were predictive factors of unresolved PTSD and delayed PTSD.

DEPRESSION

Zhen, Quan, Zhou (2018) conducted a study to assess the effect social support relive depression among flood victims. The purpose of this study was to examine the multiple mediating effects of social support on depression via feelings of safety, disclosure, and negative cognition .Method was used by One hundred and eighty-seven flood victims in Wuhu City, an area affected most severely by a flood during July 2016, and completed a self-report questionnaire package. The results indicated that Social support has four indirect negative effects on depression, including a one-step indirect path to self-disclosure, two-step paths from feelings of safety to self-disclosure, and from self-disclosure to negative cognition about self, and a three-step indirect path from feelings of life safety via self-disclosure to negative self-cognition.

Sankar, Wani & Amin (2016) conducted a study on Anxiety, stress & depression among flood affected people in Kashmir valley. This research paper is an attempt to find out the level of anxiety, stress and depression among flood affected people in Kashmir valley. The total 100 subjects divided into two equal groups (male and female) selected through simple random sampling. The scales of anxiety, depression (ADSSBSPSA) were used to measure the level of anxiety, stress and depression. Mean, S.D, SED and t-test were applied for data analysis. The

results showed that the significant difference was found between the male and female subjects in respect to anxiety, stress and depression scores. Significant difference was found at 0.05 and 0.01 levels respectively.

Lamond, Joseph, & Proverbs (2015) were done a study on an exploration of factors affecting the long term psychological impact and determination of mental health in flooded households. The aim of this study was to explore the characteristics associated with psychological distress and mental health deterioration over the longer term. The research investigated responses from a postal survey of households flooded during the 2007 flood event across England. The results showed that household income, depth of flooding; having to move out during reinstatement and mitigating actions are related to the prevalence of psycho-social symptoms in previously flooded households.

Tang, Liu, Yuhua Liu (2014) had undertaken a study on A meta-analysis of risk factors for depression in adult and children after natural disasters. The aim of this study was to discover risk factors for depression in both children and adults who have survived natural disasters. Four electronic data bases are used to search for observational studies. There were twenty adult participants and eleven child participants .The result found that a number of risk factors for depression affect exposure to natural disasters.

Cerda, Packzkowshi, Nemethy & Pean (2012) undertaken a study on Psychopathology in the aftermath of the Haiti earthquake; a population based study of PTSD and major depression. The aim of the study is to understand the earthquake-related experiences associated with risk for posttraumatic stress disorder and major depressive disorder. Population-based survey was conducted of 1,323 survivors randomly selected from the general non displaced community, internally displaced persons camps, and a community clinic. The result showed that respondents reported at least one relative close friend injured/killed. The prevalence of PTSD and MDD was high. History of violent trauma was related with risk of PTSD and MDD. Low social support increased risk of PTSD and MDD among women. Suffering damage to the home increased risk of MDD in male.

Feiffer, Elbert (2011) explored a study on Posttraumatic stress disorder ,depression and anxiety among former abductees in Northern Uganda .The methods used structured interviews, and assessed severity of PTSD , depression and anxiety in 72 former abducted adults, 62 of them being former child soldiers. The result showed retrospective reports of exposure to traumatic stress increased, anxiety and Posttraumatic stress disorder occurrence increased. 49% of respondents were diagnosed with PTSD, 70% presented with symptoms of depression, and 59% with those of anxiety.

Mason, Andrews & Upton (2010) explored study on the psychological impact of exposure to floods. The aim of this study was to investigate the psychological impact of flooding in the UK. A cross-sectional survey was used to scrutinize the psychological symptoms related with the aftermath of the flood amongst adults living within the affected communities. A questionnaire battery including the Harvard Trauma Questionnaire, Hopkins Symptom Checklist, Coping Strategies Questionnaire and a range of questions addressing socio demographic characteristics and factors relating to the flood was administered. 444 samples completed questionnaires were returned. The result showed 27.9% of participants met criteria for symptoms associated with PTSD, 24.5% for anxiety and 35.1% for depression. Females had higher mean scores on PTSD, anxiety and depression than males.

Qasi, Alam, Piracha, Shahzad, and Muneer (2010) conducted a study on the prevalence of major depression in a rural flood affected area of Pakistan. Aim of the study is to find out the prevalence of major depression in rural flood affected area of Pakistan. Cross-sectional survey was used. The study comprises of 52 subjects from medical camps of Mohsin Wala and Umer Sheikh near Kot Addu, Dist. Muzaffargarh, and Punjab. Sampling technique was non-probability, convenience sampling. The interviews were conducted in complete privacy. The data was collected and compiled in the computer and analysed using SPSS version 17. Results were stratified on the basis of gender which showed that males were more affected than females. (P-value 0.030). Data of diagnosed cases was divided into two groups on gender basis and then stratified according to age. The population pyramid showed that significant number of both males and females diagnosed with depression were below 40 years of age. The Conclusion was Psychiatric services should be incorporated with rest of the Health services in order to provide relief to victims of disaster.

INTERVENTION

Korn (2019) had undertaken a study on EMDR as the treatment of complex PTSD; a review. This article examines the body of literature on the treatment of complex Posttraumatic stress disorder and chronically traumatized populations, with an attention on EMDR treatment and research. Despite a still restricted range of irregular controlled studies of any treatment for complex PTSD, trauma treatment experts have come to a general consensus that work with survivors of childhood abuse and alternative types of chronic traumatization should be phase-oriented, multimodal, and titrated. The result reflected on the strengths and unique advantages of EMDR in treating complex PTSD are offered along with suggestions for future investigations.

Faretta & Leeds (2017) conducted a study on EMDR therapy of panic disorder and agoraphobia; a review of the existing literature. This article examines the state of the research on EMDR therapy of Panic disorder and Agoraphobia. The qualitative analysis was used. The result was EMDR therapy is effective in eliminating symptoms of panic and agoraphobia. EMDR sessions can be effective to accomplish a full recovery from panic disorder and agoraphobia.

Jeffries and Davis (2013) conducted a study on The Role EMDR for Post-Traumatic Stress Disorder (PTSD)? A Review .The Aim of the study is to investigate first whether eye movement bilateral stimulation is an essential component of EMDR and, second, the current status of its theoretical basis. The Method was a systematic search for relevant articles was conducted in databases using standard methodology. Result found that Clinical research evidence is contradictory as to how essential EMs is in PTSD treatment. More positive support is provided by analogue studies. With regards to potential theoretical support, some proof was found suggesting bilateral stimulation first increases access to episodic memories; and second that it may act on parts of working memory that makes focusing on the traumatic recollections less unpleasant and thereby improves access to these recollections.

Seidler and Wagner (2006) conducted a study on Comparing the efficacy of Eye Movement Desensitization & Reprocessing & trauma focused cognitive behavioral therapy in the treatment of PTSD; A Meta analytic study. This study wanted to work out whether there was any proof that one treatment was superior to the other. Method Was performed a scientific review of the literature dating from 1989 to 2005 and known eight publications describing treatment outcomes

of EMDR and CBT in active–active comparisons. Seven of these studies were investigated meta-analytically. The results were the superiority of one treatment over the other could not be demonstrated. Trauma targeted CBT and EMDR tend to be equally efficacious.

Prameelarani, Valsaraj, and Shalini, (2014) studied on Jacobson's progressive muscle relaxation (JPMR) training to reduce anxiety and depression among people living with HIV. The aim of the study was to assess the anxiety and depression among people living with HIV as measured by HADS (Hospital Anxiety and Depression Scale), to determine the effectiveness of JPMR in terms of reduction in the mean posttest anxiety and depression scores, to find the association of anxiety and depression among people living with HIV with selected demographic and disease specific variables. The methods used one group pretest and posttest design. The total thirty individuals living with HIV who were admitted at ART center, District Hospital, Udupi were selected and different scales on anxiety and depression scale for people living with HIV were administered. Purposive sampling technique was used for the study. The result was Out of 30 subjects, 13.30% (4) experienced abnormal anxiety and 16.7% (5) abnormal depression. There was significance difference between mean difference of pretest and post test scores of anxiety and depression. Anxiety is independent of the chosen variables (Demographic and illness specific). Depression is dependent on previous history of psychiatric illness.

Patel (2014) explored A Study to Assess the Effectiveness of Progressive Muscle Relaxation Therapy on Stress among Staff Nurses Working in Selected Hospitals at Vadodara City. The Studies indicated that medical professionals such as Medical students, Nurses and Nursing students experience many stressor agents. There are various ways suggested to regulate or reduce the stress. Progressive Muscle Relaxation medical aid is a systematic therapy for managing stress and achieving a deep state of relaxation. Pre experimental one group, pre - test and post -test research design was adopted to achieve the goal of the study by using instrument .The data collected from 30 staff nurses. The study revealed that in pretest most of the nurses 53.3% had moderate stress, 40.0% had mild stress and 6.7% had severe stress. In posttest most of the nurses had mild stress seventy three.3 % and no stress 26.7 %. It is concluded that Progressive Muscle Relaxation Therapy is effective in reducing the level of strain in staff nurses.

METHOD

CHAPTER III

METHOD

The procedure pertaining to the present study, “**Efficacy of Psychological intervention for flood affected persons with PTSD and Depression**” was carried out involving following steps.

- Objectives
- Hypothesis
- Area
- Sample
- Inclusion criteria
- Exclusion criteria
- Tools
- Procedure
- Analysis of data

Objectives

- To find the level of Posttraumatic stress disorder in flood affected subjects.
- To find the level of depression in flood affected subjects.
- To find the effect of EMDR & JPMR in flood affected subjects.

ALTERNATIVE HYPOTHESIS

- There is high level of PTSD among flood affected people.
- There is high level of depression among flood affected people.
- There is significant difference in PTSD after the intervention programme.
- There is a significant difference in depression after the intervention programme.

Area

The sample was collected from flood affected villages of karuvarakundu, in Malappuram district.

The reason for selecting this area is as follows;

- Availability of subjects with PTSD and Depressive symptoms.
- The need to help the victims.

SAMPLE

Initially 55 subjects were investigated from flood affected areas of karuvarakundu. They were in the age range of 30-55 years. Convenient sampling method was used to select the subjects.

INCLUSION CRITERIA

- Subjects in the age range of 30-55.
- Subjects affected by PTSD due to flood.
- Subjects affected by depression due to flood.

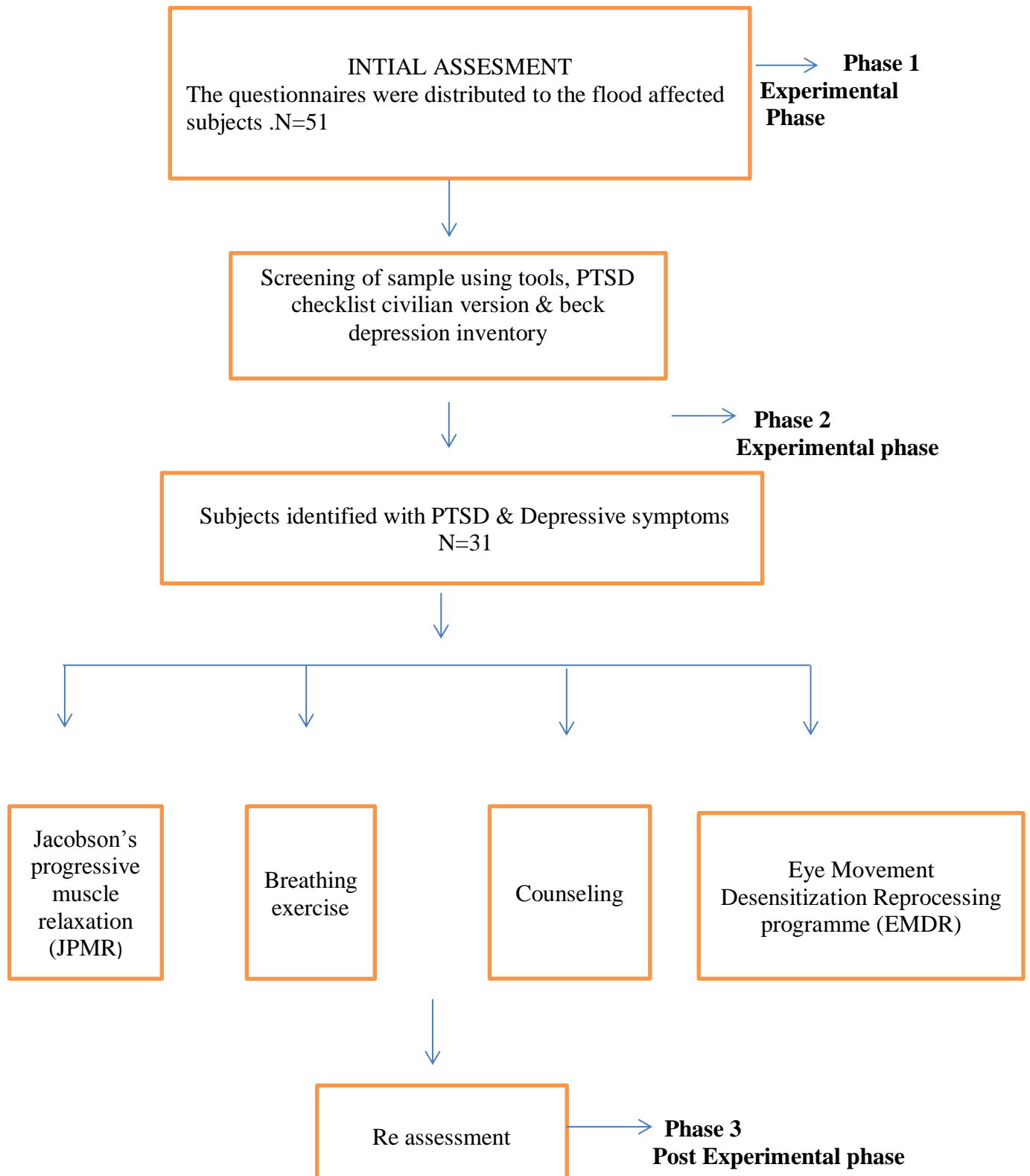
EXCLUSION CRITERIA

- Subject not affected by flood above 30 and below 55 years.
- Subject not willing to participate.
- Subject showing no psychological impact of the disaster.

TOOLS

1. Personal profile was evolved to collect the personal details from the subjects.
2. PTSD checklist –civilian version (PCL-C- Blanchard et al, 1996) , was used to measure the level of PTSD in the subjects. The scale consists of 17 statements with 5 point rating scale. The questionnaire was given to each of them and they were asked to rank the statements to indicate the response. The test-retest reliability of the scale was found to be .61.
3. Beck Depression Inventory (Aron Beck 1961) ,was used to measure the level of depression in the subjects. The scale consists of 21 statements with 4 point rating scale. The test-retest reliability of the scale is found to be 0.75.

FLOW CHART



PROCEDURE

Initially the pre-test was used to collect the data from 51 subjects and the screening was made to select the required number of subjects (31) with PTSD & Depression. Rapport was built with thirty one flood affected people. Personal profile was collected from the subjects. Breathing exercise & counseling provide to the subjects who had PTSD & Depression. The Eye Movement Desensitization and Reprocessing Therapy (EMDR) and JPMR were conducted with the duration of 6 sessions on alternative days for 2 weeks. For the efficacy of therapy the Reassessment was done using the same tools. Then pre and post of scores were compared to assess the efficacy of treatment.

INTERVENTION PROGRAMME

JACOBSONS PROGRESSIVE MUSCLE RELAXATION (JPMR) & EYE MOVEMENT DESENSITIZATION AND REPROCESSING (EMDR)

JPMR

JPMR was pioneered by Edmund Jacobson in the early 1920s. According to JPMR, it is a process of relaxation of certain muscles in the body to reduce anxiety symptoms. In short JPMR contains three steps.

FEET

The participants were asked to bring the attention to feet, and point feet downward. Then asked to tighten toe muscles gently without strain, the participants were asked to notice the tension for few moments, then release and notice the relaxation. The participants aware the difference between the muscles when they are tensed and when they are relaxed. The participants were continued to tense and relax the leg muscles from the foot to the abdominal area.

ABDOMEN

The participants were asked to gently tighten the muscles of abdomen without strain. And asked notice the tension few moments then asked to release and notice the relaxation, then the participants become aware of the difference between the tensed muscles and relaxed muscles.

SHOULDERS AND NECK

The participants were asked to very gently shrug shoulders straight up towards ears, without strain. Feel the tension few moments then asked to release and feel the relaxation. The participants were notice the difference between tensed muscles and relaxed muscles. Then the participants asked to focus on neck muscles, first tensing and relaxing until feel total relaxation in this area.

EMDR

Eye Movement Desensitization and Reprocessing therapy was pioneered by Francine Shapiro in 1987, EMDR is an interactive psychotherapy technique used to relieve psychological stress. Through EMDR people can release traumatic or triggering experiences in brief while the direction of eye movements.

HISTORY AND TREATMENT PLANNING

In history and treatment planning, the participants were asked to review the history and decide where they are in the treatment process. This evaluation phase also include talking about the trauma and identifying potential traumatic memories to treat specifically.

PREPARATION

In preparation, the participants were learn several ways to cope with the emotional or psychological stress they have experiencing. Stress management technique such as deep breathing also used.

ASSESSMENT

The participants were asked to identify the specific memories that will be targeted and all the associated components (such as the physical sensation that are stimulated when concentrate on an event) for each target memory.

TREATMENT

In treatment, the participants were asked to focus on a negative thought, memory, or image. Asked to do simultaneously specific eye movements. The bilateral stimulation may also include taps or other movements.

After the bilateral stimulation the people were asked to imagine the blank mind and notice the thought and feelings they have spontaneously.

After identifying these thoughts people were asked to refocus the traumatic memory, or move on to another.

EVALUATION

In evaluation, the participants were asked to evaluate the progress after the session.

DURATION

EMDR & JPMR was given to all participants in 6 sessions on alternative days. Each session consisted of 30 to 45 minutes.

REASSESSMENT

All the subjects were reassessed on the 6th session, after the programme using the same set of questionnaires.

EXPERIMENTAL DESIGN

The experimental design used in this action research was “before-and-after without control design”. The dependent variable , posttraumatic stress disorder and depression was assessed before, after ,the psychological intervention , JPMR and Eye Movement Desensitization and Reprocessing (EMDR) , which is independent variable.

ANALYSIS OF DATA

Statistical analysis of data was carried out using SPSS 21.0 version.

RESULT AND DISCUSSION

CHAPTER 1V

RESULT AND DISCUSSION

The study on Efficacy of psychological intervention for flood affected persons with PTSD and Depression was conducted in flood affected villages of Karuvarakundu, Malappuram. The sample was collected from 31 flood affected subjects. The tools used for the study were PTSD checklist –civilian version (Balanchard -1996) & Beck Depression Inventory (Aroan Beck - 1961)

Table I
DEMOGRAPHIC FACTORS

N=31

Demographic Data		Number	Percentage
Gender	Male	14	46
	Female	17	54
Age	30-40	16	51
	41-50	12	38
	51-55	3	9

Table I shows the demographic data of the subjects. The subjects consisted of 46% males and 54% females. The age group was segregated into three groups. Fifty one per cent of the samples were in the age group of 30-40 years. 38% were in the age group of 41-50 and rest 9% were in the age group of 51-55 years.

The representation as per gender in the study subjects does not indicate vast difference, while the age differences in the sample are varied. With half the sample between 30-40 of age. It may be stated that the effect of the trauma is more on this group being very young looking forward to expectations in life. The late adulthood group has greater depression unsure of the future ahead and coping mechanism to adopt, the remaining sample a meagre of 3 individuals find life very difficult and stressful.

FIGURE I
Demographic Data of Gender

N=31

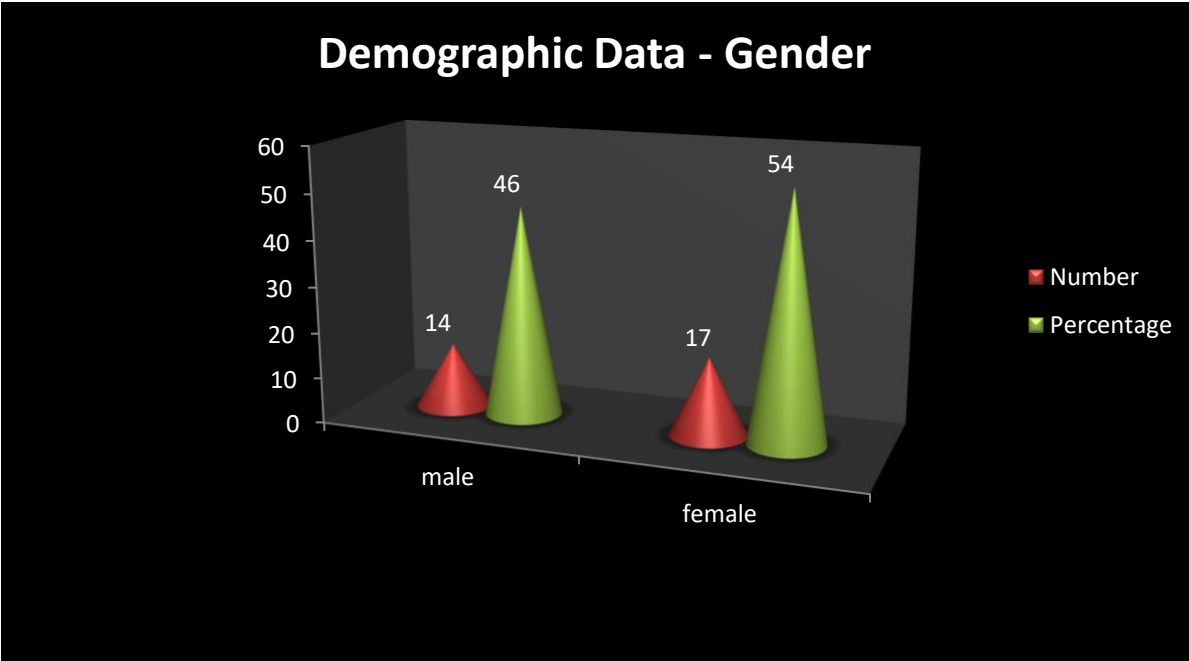


FIGURE II
Demographic Data of Age

N=31

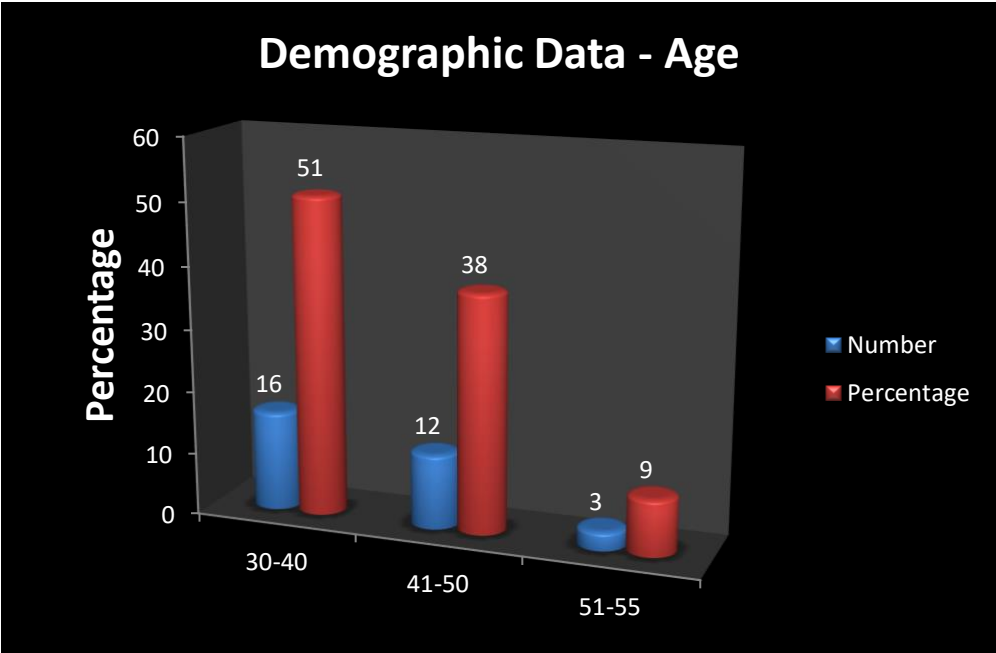


Table II
LEVEL OF PTSD IN THE SAMPLE

Level of PTSD	N	%
Severe (45-50)	21	68
Moderate (36-44)	9	29
Mild (30-35)	1	3

Table II shows the level of PTSD of the subjects. The effect of the floods on the selected sample was an emotional shock throwing them off board resulting in severe levels of PTSD. Initially, 68% of the subjects had 'severe' level of PTSD, 29% of the subjects had 'Moderate' level of PTSD and 3% of the subjects had 'mild' level of PTSD. The symptoms of PTSD following the traumatic floods left the sample totally disturbed. The symptoms were disturbing like night mares, flashbacks, sleep disturbances, difficulty in appetite and crying spells. Much of their hardship was due to their loss of home and personal property. Hence the hypothesis, 'there is high level of PTSD among flood affected subjects' is accepted.

Aslam & kamal (2014) investigated on frequency of PTSD, traumatic event and the subsequent onset of PTSD in the population to floods in Pakistan. It is observed that trauma had a positive relation with flood exposures.

FIGURE III
Level of PTSD in the Sample

N=31

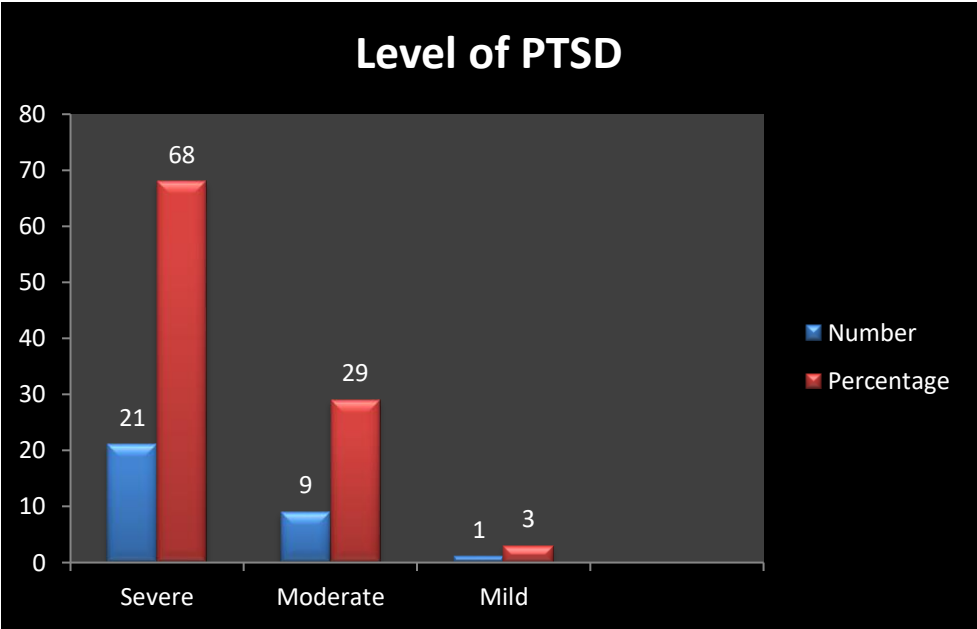


Table III
LEVEL OF DEPRESSION IN THE SAMPLE

N=31		
Level of depression	N	%
Extreme (Above 40)	1	3
Severe (31-40)	15	48
Moderate (21-30)	10	32
Borderline (17-20)	2	6
Mild (11-16)	3	9
Normal (1-10)	0	0

Table III shows the level of depression in the subjects with 3% of the subjects having ‘extreme’ level of depression, 48% of the subjects had ‘severe’ level of depression, 32% of the subjects had ‘moderate’ level of depression, 6% of the subjects had ‘borderline’ depression and 9% of the subjects had ‘mild’ level of depression. Majority of flood affected subjects who had severe level of depression were reflecting on their traumatic experiences that were frightful, feeling emotionally inadequate, distressed and unable to make any decisions relating in their immediate daily life events.

Hence the hypothesis, 'there is a high level of depression in flood affected people' is accepted.

Tang (2014) had undertaken a study on A meta-analysis of risk factors for depression after natural disaster. The result observed that number of risk factors for depression affect exposure to natural disasters.

FIGURE IV

Level of Depression in the Sample

N=31

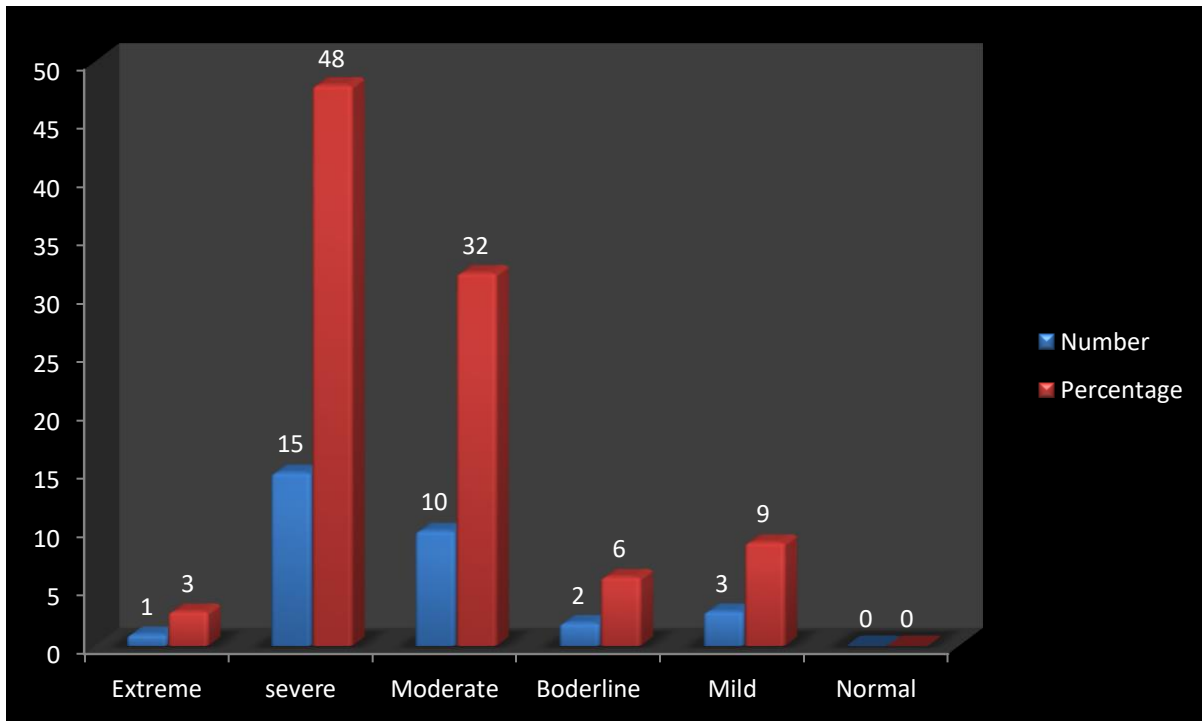


Table-IV**Mean and SD in PTSD before and after intervention****N=31**

	Mean (SD)	't'	Significance
Before	46.52 (8.31)	4.80	.000
After	39.81 (4.22)		

**significant at 0.01 level

Table IV shows the mean. Standard deviation & t value before and after intervention in PTSD. The statistical value indicates that there is a significant difference. This denotes the effects of psychological intervention on the subjects. In PTSD the mean difference before and after is 6.71. The t value is 4.80.

From the table it is clear that the intervention programme on Eye Movement Desensitization Reprocessing (EMDR) technique, helped the flood affected sample to manage symptoms of PTSD. The subject with desensitization can be made to relive the traumatic and triggering experiences. This can be done by recalling the distressing events intermittently with relaxation to reduce their emotional upsets, when the therapist directs their eye movement. The result clearly suggests the effect of intervention before and after.

Hence, the hypothesis, 'There is a significant difference in PTSD after the intervention programme' is accepted.

Korn (2019) had undertaken a study on EMDR as the treatment of complex PTSD. The result showed on the strengths and unique advantages of EMDR in treating complex PTSD are offered along with suggestions for future investigations.

FIGURE V

Mean and SD in PTSD before and After Intervention

N=31

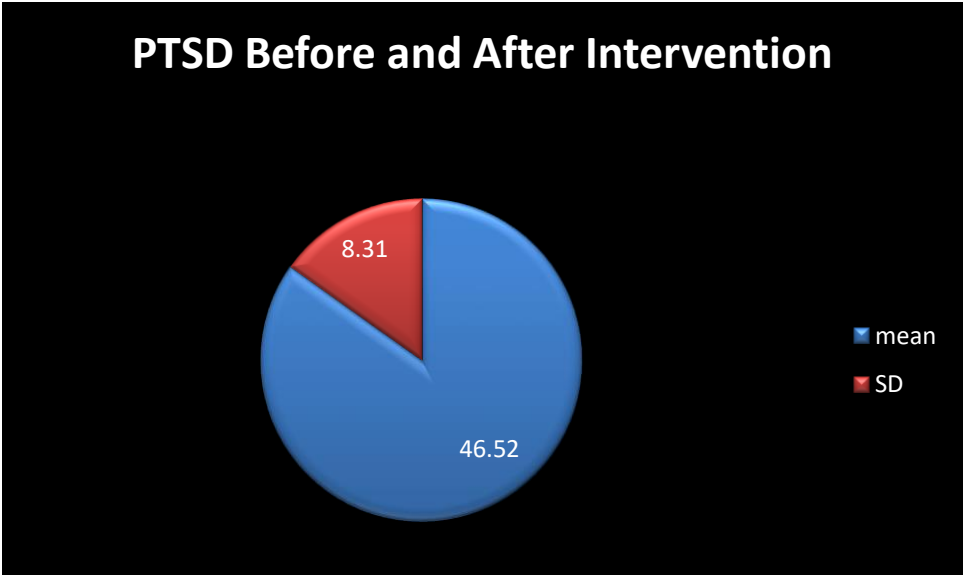


Table V**Mean and SD in Depression before and after intervention****N=31**

	Mean (SD)	't'	Significance
Before	28.42 (6.61)	6.65	0.00
After	25.39 (5.72)		

**significant at 0.01 level

Table V shows the mean, standard deviation & t value before and after intervention in Depression. The statistical value indicates that there is a significant difference, which denotes the effects of psychological intervention on the subjects, as observed from the mean difference of 3.30. T value is 6.65.

The intervention programme in using Jacobson's progressive muscle relaxation technique (JPMR) is most effective in flood affected subjects to reduce their level of Depression. The subjects were helped to reduce their anxiety and depression. The subjects were given counseling after the JPMR intervention with inputs of auto suggestion. This helps in reducing the depression. Further there was a decrease in negative thinking and a positive redirection in their perceptual level.

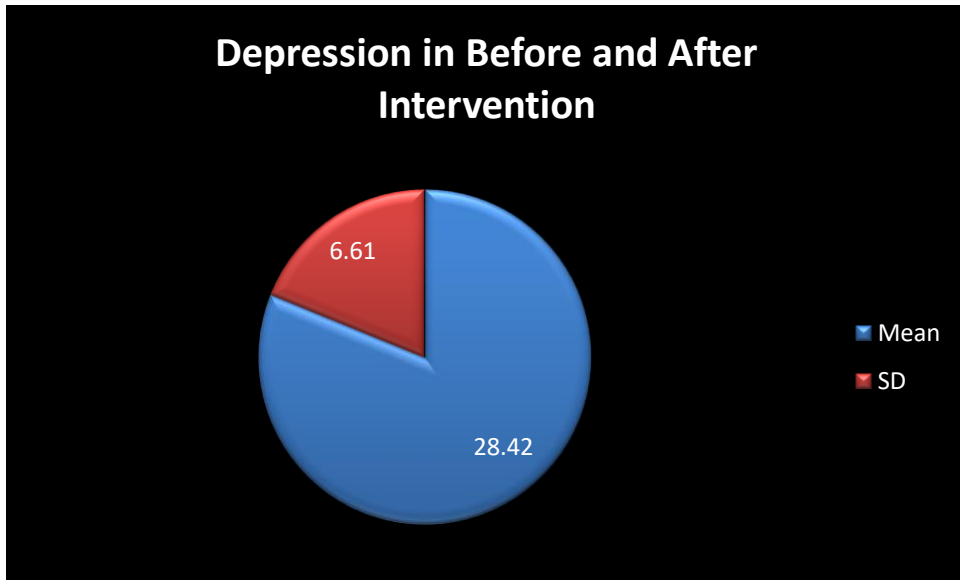
Hence, the hypothesis, 'there is a significant difference in depression after the intervention programme' is accepted.

Patel (2014) explored a study to assess the effectiveness of progressive muscle relaxation therapy on stress among staff nurse. The result observed the progressive muscle relaxation therapy is effective in reducing the stress level.

FIGURE VI

Mean and SD in Depression before And After Intervention

N=31



SUMMARY AND CONCLUSION

CHAPTER V

SUMMARY AND CONCLUSION

The study on Efficacy of Psychological Intervention for Flood affected Persons with PTSD & Depression was conducted with the following objectives:

- To find the level of Posttraumatic stress disorder in flood affected subjects.
- To find the level of depression in flood affected subjects.
- To find the effect of EMDR & JPMR in flood affected subjects

The study was conducted at flood affected villages of Karuvarakundu, Malappuram district. Thirty one (31) flood affected individuals were selected by convenient sampling. The sample was assessed by PTSD Checklist Civilian Version by Blanchard (1996) and Beck Depression Inventory by Aroan Beck (1961). The age of the sample ranged from 30-55 years. PTSD Checklist Civilian version was used to assess the level of PTSD. Beck Depression Inventory was used to assess the level of Depression.

The sample of the study were given psychological intervention called Jacobson's Progressive Muscle Relaxation by Jacobson (1920) and Eye Movement Desensitization Reprocessing by Shaprio (1987), it works by changing people's PTSD and Depression.

All the subjects underwent 6 sessions of Jacobson's Progressive Muscle Relaxation (JPMR) and Eye Movement Desensitization Reprocessing (EMDR) on alternative days. The duration for intervention programme consists of 6 sessions in alternative days for 2 week. Each session consists 30-45 minutes. After the completion of 6 sessions reassessment was done using the same tools. The experimental design used in this research was Assessment Before and After without Control Group.

CONCLUSION

- High level of PTSD was observed in the flood affected subjects. Therefore, the hypothesis, “There is high level of PTSD among flood affected subjects” is accepted.
- High level of Depression was observed in the flood affected subjects. Therefore, the hypothesis “There is high level of Depression among flood affected subjects” is accepted.
- There is a significant difference in PTSD after the intervention programme of EMDR. Therefore, the hypothesis “There will be a significant difference in PTSD after the intervention programme” is accepted.
- There is a significant difference in depression after the intervention programme using JPMR. Therefore, the hypothesis “There is a significant difference in Depression after the intervention programme” is accepted.

LIMITATIONS

- The data collection was done in a small region of Malappuram and the results may vary in other parts of the district.
- The sample size was too small for any conclusion.
- The period of research study was short.

RECOMMENDATIONS

- Psychologists who are trained in Eye Movement Desensitization Reprocessing (EMDR) can be appointed to villages to provide counseling to the people.
- Increase the usefulness of JPMR in people.

SUGGESTION FOR FURTHER RESEARCH

- Longitudinal research can be conducted on larger sample of flood affected people and applying intervention.
- The research might be expanded to different districts for comparison purposes.

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ANNEXURES

PTSD Checklist – Civilian Version (PCL-C)

Client’s Name: _____

Instruction to patient: Below is a list of problems and complaints that veterans sometimes have in response to stressful life experiences. Please read each one carefully, put an “X” in the box to indicate how much you have been bothered by that problem *in the last month*.

No.	Response	Not at all (1)	A little bit (2)	Moderately (3)	Quite a bit (4)	Extremely (5)
1.	Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?					
2.	Repeated, disturbing dreams of a stressful experience from the past?					
3.	Suddenly acting or feeling as if a stressful experience were happening again (as if you were reliving it)?					
4.	Feeling very upset when something reminded you of a stressful experience from the past?					
5.	Having physical reactions (e.g., heart pounding, trouble breathing, or sweating) when something reminded you of a stressful experience from the past?					
6.	Avoid thinking about or talking about a stressful experience from the past or avoid having feelings related to it?					
7.	Avoid activities or situations because they remind you of a stressful experience from the past?					
8.	Trouble remembering important parts of a stressful experience from the past?					

9.	Loss of interest in things that you used to enjoy?					
10.	Feeling distant or cut off from other people?					
11.	Feeling emotionally numb or being unable to have loving feelings for those close to you?					
12.	Feeling as if your future will somehow be cut short?					
13.	Trouble falling or staying asleep?					
14.	Feeling irritable or having angry outbursts?					
15.	Having difficulty concentrating?					
16.	Being “super alert” or watchful on guard?					
17.	Feeling jumpy or easily startled?					

Beck's Depression Inventory

This depression inventory can be self-scored. The scoring scale is at the end of the questionnaire.

1.
 - 0 I do not feel sad.
 - 1 I feel sad
 - 2 I am sad all the time and I can't snap out of it.
 - 3 I am so sad and unhappy that I can't stand it.
2.
 - 0 I am not particularly discouraged about the future.
 - 1 I feel discouraged about the future.
 - 2 I feel I have nothing to look forward to.
 - 3 I feel the future is hopeless and that things cannot improve.
3.
 - 0 I do not feel like a failure.
 - 1 I feel I have failed more than the average person.
 - 2 As I look back on my life, all I can see is a lot of failures.
 - 3 I feel I am a complete failure as a person.
4.
 - 0 I get as much satisfaction out of things as I used to.
 - 1 I don't enjoy things the way I used to.
 - 2 I don't get real satisfaction out of anything anymore.
 - 3 I am dissatisfied or bored with everything.
5.
 - 0 I don't feel particularly guilty
 - 1 I feel guilty a good part of the time.
 - 2 I feel quite guilty most of the time.
 - 3 I feel guilty all of the time.
6.
 - 0 I don't feel I am being punished.
 - 1 I feel I may be punished.
 - 2 I expect to be punished.
 - 3 I feel I am being punished.
7.
 - 0 I don't feel disappointed in myself.
 - 1 I am disappointed in myself.
 - 2 I am disgusted with myself.
 - 3 I hate myself.
8.
 - 0 I don't feel I am any worse than anybody else.
 - 1 I am critical of myself for my weaknesses or mistakes.
 - 2 I blame myself all the time for my faults.
 - 3 I blame myself for everything bad that happens.

9.
 - 0 I don't have any thoughts of killing myself.
 - 1 I have thoughts of killing myself, but I would not carry them out.
 - 2 I would like to kill myself.
 - 3 I would kill myself if I had the chance.
10.
 - 0 I don't cry any more than usual.
 - 1 I cry more now than I used to.
 - 2 I cry all the time now.
 - 3 I used to be able to cry, but now I can't cry even though I want to.
11.
 - 0 I am no more irritated by things than I ever was.
 - 1 I am slightly more irritated now than usual.
 - 2 I am quite annoyed or irritated a good deal of the time.
 - 3 I feel irritated all the time.
12.
 - 0 I have not lost interest in other people.
 - 1 I am less interested in other people than I used to be.
 - 2 I have lost most of my interest in other people.
 - 3 I have lost all of my interest in other people.
13.
 - 0 I make decisions about as well as I ever could.
 - 1 I put off making decisions more than I used to.
 - 2 I have greater difficulty in making decisions more than I used to.
 - 3 I can't make decisions at all anymore.
14.
 - 0 I don't feel that I look any worse than I used to.
 - 1 I am worried that I am looking old or unattractive.
 - 2 I feel there are permanent changes in my appearance that make me look unattractive
 - 3 I believe that I look ugly.
15.
 - 0 I can work about as well as before.
 - 1 It takes an extra effort to get started at doing something.
 - 2 I have to push myself very hard to do anything.
 - 3 I can't do any work at all.
16.
 - 0 I can sleep as well as usual.
 - 1 I don't sleep as well as I used to.
 - 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
 - 3 I wake up several hours earlier than I used to and cannot get back to sleep.
17.
 - 0 I don't get more tired than usual.
 - 1 I get tired more easily than I used to.
 - 2 I get tired from doing almost anything.
 - 3 I am too tired to do anything.

18.

- 0 My appetite is no worse than usual.
- 1 My appetite is not as good as it used to be.
- 2 My appetite is much worse now.
- 3 I have no appetite at all anymore.

19.

- 0 I haven't lost much weight, if any, lately.
- 1 I have lost more than five pounds.
- 2 I have lost more than ten pounds.
- 3 I have lost more than fifteen pounds.

20.

- 0 I am no more worried about my health than usual.
- 1 I am worried about physical problems like aches, pains, upset stomach, or constipation.
- 2 I am very worried about physical problems and it's hard to think of much else.
- 3 I am so worried about my physical problems that I cannot think of anything else.

21.

- 0 I have not noticed any recent change in my interest in sex.
- 1 I am less interested in sex than I used to be.
- 2 I have almost no interest in sex.
- 3 I have lost interest in sex completely.

INSTITUTIONAL HUMAN ETHICS COMMITTEE



Avinashilingam

Institute for Home Science and Higher Education for Women
Deemed to be University Under category 'A' By MHRD, (Estd. u/s 3 of UGC Act 1956)
Re Accredited with 'A' Grade By NAAC, Recognised by UGC Under Section 12 B
Coimbatore - 641043, Tamil Nadu, India

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Dr. Judith Justin
Dr.Anitha Subash

24 January 2019

To
Ms. Fathima Shirin .K.A
Department of Psychology
Avinashilingam Institute for Home Science and
Higher Education for Women
Coimbatore – 641 043

Dear Fathima Shirin .K.A,

Ref: Your proposal No. IHEC/18-19/PSY/19 entitled
"The Study on PTSD and Depression among Flood Affected
Individuals in Kerala" submitted for approval to the IHEC on
30.09.18.

The Institutional Human Ethics Committee of our University hereby
grants approval to your research proposal No. IHEC/18-19/PSY/19
entitled "Self Esteem and Emotional Intelligence among Employed
and Unemployed" submitted by you. The Approval number for the
same is AUW/ IHEC/PSY-18-19/XPD/19.

We wish you all the best in your research endeavours.

Regards,

S. Uma Mageshwari
Dr.S.Uma Mageshwari
Member Secretary



