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Research Paper

Stress, Coping, and Depression in Patients with Functional Neurological Symptom Disorder

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ABSTRACT

The present study aimed to investigate the relationship of coping strategies (adaptive & maladaptive) with stress and depression among functional neurological symptom disorder patients. A purposive sample of 250 patients (m=78; f=172), aged between 13-65 years (m.a=25.43years; sd= 11.94) was selected from four different hospitals of lahore. Data was collected by administering a demographic questionnaire, holmes and rahe stress scale (hrss), brief cope scale, and beck depression inventory (bdi-ii). Ex post facto research design was used. Data was analyzed by using pearson's product moment coefficient of correlation and mediation analysis. Individual testing with one time approach to participants was employed. result indicated a significant relationship of coping strategies with stress and depression among fnsd patients. Findings revealed maladaptive coping strategies (avoidance, emotional focused, denial etc.) were positively correlated with stress and depression, whereas high stress and depression were correlated with less usage of adaptive strategies (problem focused, planning, humor, religious, etc.).

Keywords: *Stress, Coping, Depression, Functional Neurological Symptom Disorder.*

Functional Neurological Symptom Disorder (FNSD) was earlier referred to as Conversion disorder. It is one of type of somatic symptoms and related disorders which involves unexplained symptoms affecting voluntary motor or sensory functions of the body (American Psychiatric Association, 2013). Person with FNSD is not "faking" but symptoms that appear are not under the person's conscious control and are mainly caused by psychological factors, such as stress, conflict, attention seeking behavior etc. Generally, the presence of psychological stress is considered to be a cause in FNSD and the patient lacks the adequate strategy to deal with a stress (Stone, Carson, & Sharpe, 2005). Common symptoms include weakness, blindness, paralysis, dystonia, gait disorder, psychogenic non-epileptic seizures, motor tics, dementia etc. (American Psychiatric Association, 2013). Ercan, Varan, and Veznedaroglu (2003) reported the most common presentation of FNSD was pseudo-seizures,

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followed by the motor disability in their study. They also found FNSD to be more common in adolescents, living in rural areas, having broken family, ignorant parenting styles, stressful life events, high anxiety profile, poor communication skills and poor family functioning. During stress, the environmental demands of an individual exceeds from the adaptive capacity, which may result in change of psychological and biological state that can be a risk for a person's illness. The physical reaction to stress includes tearful behavior, running away, perspiring palms, and sleep disturbances (Cohen, Kessler, & Gordon, 1995).

Coping is a response to stressful situations and a dynamic process that changes over time according to demands of situation. Coping works as a stabilizing factor that helps to maintain psychological adjustment during stressful situations. Coping consist of emotional, cognitive and behavioral efforts that are used to cope with environmental demands, and conflicts which exceed from a person's capabilities (Lazarus & Folkman, 1984). People use different coping styles to deal with difficult situations: Adaptive coping is a combination of constructive coping strategies which are used to anticipate a problematic situation. It includes active coping, acceptance, social and emotional support from others, planning etc. (Skynner& Cleese, 1994). Maladaptive coping is a combination of negative coping strategies which disables an individual in all spheres of life. It includes dissociation, sensitization, safety behaviors, avoidance, disengagement, denial, drug use etc. (Jacofsky, 2011). Research suggests that patients with abridged somatization disorders use more maladaptive coping strategies which include emotion focused coping, detachment, seeking social support and escape avoidance (Rasmussen, Agerter, Bernard, & Cha, 2010). Furthermore, high stress was found significantly related with high level of depression, and less use of adaptive coping strategies (Irfan &Badar, 2002; Satija, Advani, &Nathawat, 1998).

Depression is a mood state described by a sense of failure, a feeling of unhappiness, negativity etc. (Reber, 1995; Stanley, Shyn, & Steven, 2010). Hurwitz, (2004) reported depression, and depressive symptoms (54-88%) among FNSD Turkish population. Factors involved in FNSD include age, social class status, and past physical illness, alexithymia, and unstable emotional state (Stanley, Shyn, & Steven, 2010). Khan et al., (2006) study reported FNSD to be more common in females (77% females), married individuals (56%) and the domestic stressors related with FNSD were financial problems, illness in family and physical abuse in a Karachi based sample. Further, Maqsood, Khan, Ahmad, Arshad, and Ullah (2005) in a cross sectional study found that FNSD patients reported depression (29%), and anxiety (35%) whereas, comorbidity of depression and anxiety symptoms was 95% among FNSD patients.

The present study aimed to determine the relationship of stress and depression with adaptive and maladaptive coping strategies employed by FNSD's patients.

Hypotheses

1. High stress will lead to less use of adaptive coping among Functional Neurological Symptom Disorder patients.

2. High stress will lead to more use of maladaptive coping among Functional Neurological Symptom Disorder patients.
3. High depression will lead to less use of adaptive coping among Functional Neurological Symptom Disorder patients.
4. High depression will lead to more use of maladaptive coping among Functional Neurological Symptom Disorder patients.

METHODOLOGY

Sample

Through purposive sampling, 250 Functional Neurological Symptom Disorder (FNSD) patients (M=78; F=172); aged between 13-65years (MA=24.80; SD=11.58) were included in the study. Participants were recruited from four different hospitals of Lahore, namely: Children Hospital Lahore; Jinnah Hospital Lahore; Services Hospital Lahore and Mayo Hospital Lahore. Descriptive statistics showed that majority was middle born (36.5%), Muslims (99%), living in nuclear family system (72%), and were unmarried (60%).

Instruments

Four measures were used in this study,

1. Demographic Questionnaire. A self-constructed demographic questionnaire was used to gather personal information such as age, gender, education, birth order, religion, family system, marital status, and occupation etc.

2. *Holmes and Rahe Stress Scale (HRSS).* It is used for the purpose of evaluating a person's risk of stress related illnesses. HRSS have separate version for children and adults. HRSS comprise of 43 items (i.e losing a spouse, death in the family, or breaking the law etc.) relevant to stressful life which are called Life Change Units. Each Life Change Unit has a different numerical weightage for stress. If the score is below 150, means that patient is not at high risk for health problems. A score between 150 and 250 is considered a high risk. Score above 250 has an elevated chance of stress-induced physical problems (Rahe, Ryman, & Arthur (1972).

3. BRIEF COPE Scale. It is a 28 item self-report assessment tool of measuring adaptive and maladaptive coping skills. It is consists of 14 subscales. Subscales measuring emotion-focused, problem-focused, dysfunctional coping, self- distraction, denial, active coping, substance use, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive framing, planning, humor, acceptance, religion, and self-blame (Carver, 1997).

4. Beck Depression Inventory (BDI-II). It is used to assess depression in individuals aged 13 years and above. The BDI-II includes items measuring cognitive, emotional, and somatic complaints regarding to depression like hopelessness, irritability, guilt, physical, fatigue, weight loss, and lack of interest in sex. The cutoffs scores are: Minimal depression: 0–13, mild depression: 14–19, moderate depression: 20–28, and severe depression: 29–63 (Beck, 1996).

Procedure

Written permission was taken from the administration of hospital. Written consent was also obtained from participants. They were briefed about the nature, purpose and procedure of study. Furthermore, they were assured about the confidentiality of their information that it will be solely used for research purpose. Moreover, they were told about their right to withdraw from the study at any point in time. Participants were administered: Demographic Questionnaire; HRSS; BRIEF COPE; and BDI-II, respectively. Individual testing was conducted. The total administration time was 25-30 minutes, approximately. One time approach to the participants was used.

RESULTS

Pearson's Product Moment Coefficient of Correlation was used to check the relationship of stress, coping, and parenting styles and depression among patients with FNSD. For this purpose Statistical Package of Social Sciences Version 18.0 was used. Descriptive Statistics was included Means, Standard Deviations, Percentages, and Frequencies. In the present study the alpha level was set at 0.05.

Table 1

Pearson Product Moment Coefficient of Correlation showing Relationship of Adaptive Coping Strategies and Maladaptive Coping Strategies with Stress and Depression in Functional Neurological Symptom Disorder Patients (N=250).

Variables	*r*
Adaptive coping	-.24**
Stress	
Maladaptive coping	.36**
Adaptive coping	-.17**
Depression	
Maladaptive coping	.30**

Note: ** = p <.01; r= Pearson's Product Moment Coefficient of Correlation, HRSS = Holmes and Rahe Stress Scale; BDI-II= Beck Depression Inventory; Brief COPE= Adaptive and Maladaptive coping strategies.

Table 1 show that stress and depression are both significantly and positively correlated with maladaptive coping strategies in Functional Neurological Symptom Disorder patients. Whereas, significant negative relationship was found between depression and adaptive coping strategies as well as with stress and adaptive coping in Functional Neurological Symptom Disorder patients.

Table 2

Simple Regression Analysis for Variables Maladaptive and Adaptive Coping predicting Stress and Depression among FNSD Patients (N=250).

Variables	*B*	*SE(B)*	*β*	R^2	ΔR^2
Adaptive	-1.94**	.62	-.18		
Stress				.16	.15
Maladaptive	2.47**	.44	.32		
Adaptive	-.19*	.09	-.12		
Depression				.10	.10
Maladaptive	.31**	.06	.28		

Note. ΔR^2=Adjusted R^2 ; B= unstandardized coefficient; SE B= standard error of unstandardized coefficient; β= standardized coefficient beta, ** = $p < 0.01$, * = $p < 0.05$.

The above table shows maladaptive copings to be predictive of stress and depression among FNSD patients whereas, adaptive copings show an inverse significant prediction for stress and depression.

In Step 1 of the mediation model, the regression of depression (BDI) scores on stress scores, was significant, $b = .07$, $t(248) = 8.64$, $p = .001$. In step 2 of the regression analysis, adaptive coping scores on stress scores , was significant, $b = -2.92$, $t(248) = -3.84$, $p = .001$. Step 3 indicated that the regression of maladaptive coping scores on stress scores, was also significant, $b = .04$, $t(248) = 6.01$, $p = .001$. In step 4 of the mediation process, depression total scores (BDI), were regressed on adaptive coping and maladaptive coping in the presence of stress scores. The results indicated that the regression of depression on maladaptive coping scores (as a mediator) was still significant, $b = .16$, $t(248) = 2.48$, $p = .01$. A Sobel test was conducted and it was found that maladaptive coping was a significant mediator between stress and depression ($z = 2.87$, $p = .001$) among FNSD patients.

DISCUSSION

The results of Pearson's Product Moment Coefficient of Correlation and mediation analysis through Regression indicated that usage of adaptive coping strategies (Active coping, acceptance, social and social support from others, planning etc.), are inversely correlated with the high stress, whereas a significant positive relationship was found between stress and maladaptive coping was found in Functional Neurological Symptom Disorder patients. Similar results were found in a comparative study conducted by Testa, Krauss, Lesser, and Brandt (2012) for examining the relationship of stressful life events with coping styles among FNSD (Pseudo seizures) patients and patients with epilepsy. Study indicated that FNSD group perceived stress more as compared to the epileptic group especially in socializing with people, at work or job conditions and in health related issues, negative life events, therefore they were more engaged in denial, mental disengagement, venting of emotions, and diminished positive growth. Similar results were also provided by Baker and Appleton

(1999). Cronje (2013) in a South African FNSD sample found usage of maladaptive coping lead patients to perceive their life more stressful moreover, usage of maladaptive coping was predisposing factor in development of non- epileptic seizures in patients; furthermore, maladaptive coping was positively associated with low quality of life whereas adaptive coping was positively associated with high quality of life.

Ahmad and Bokharey, (2013) reported that FNSD patients used emotional coping for emotional support, due to emotional support and usage of avoidance coping their unresolved issues converted in to physical presentation. Use of avoidance coping is a major factor which contribute more in sustaining FNSD.

In accordance with the present findings Goldstein, Drew, Mellers, Malleyc, and Oakley (2000) reported that patients with pseudo seizure scored low at on adaptive coping (planning, problem focused, etc.) than non- pseudo seizure group, furthermore, patients with pseudo seizure scored high on avoidance coping (emotion focused coping) than non- pseudo seizure group. Whereas, seeking for social support was major coping strategy of both groups, pseudo- seizure group scored high on depression scale. Generally, when individuals experience stressful situations mostly they do not prefer using adaptive coping strategies because of lack of knowledge about usefulness of adaptive coping strategies. Furthermore, use of adaptive coping does not facilitate malingering behavior, attention from anyone and secondary gains. One of the drawbacks of living in a collectivistic culture like Pakistan is that the family system encourages the use of maladaptive coping strategies by giving individuals positive feedback in form of encouragement to adhere to the somatoform symptoms. Furthermore, individuals may get emotional support from family while using maladaptive coping strategies.

The results showed a significant inverse relationship between depression and usage of adaptive coping strategies, whereas a significant positive relationship was found between depression and maladaptive coping strategies in Functional Neurological Symptom Disorder patients. Individuals with unresolved issues are more prone towards getting depressed because usage of maladaptive coping strategies, individuals are unable to resolve their issues and stressed out for their unresolved issues, whereas getting depressed is now becoming our society's new pattern which can be validate by examining the figures relevant to increase in depression and its depends on the nature of stressors which an individual is experiencing. Negative stressful events (death of family member, death of spouse, fear of failure in class, etc.) and usage of maladaptive coping strategies are the main elements in developing the depression.

Similarly Kendler, Kessler, Heath, Neale, and Eaves (1991) reported that seeking support from others, and problem solving coping was negatively correlated with anxiety and depression, as well as both coping strategies buffered the depressogenic and anxiogenic effects of stressful life events. Denial coping was positively correlated with anxiety and

depression as well as denial coping exacerbate the anxiogenic effects of stressful life events

Simon,Vonkorff, Piccinell, Fullerton, and Ormel (1999) found the significant relationship between depression and somatoform symptoms, patients with depression reported somatic complains like dizziness, nausea, jerking movements etc. Study revealed that somatic complains were essential element of depression, cross cultural differences found further more presentation of somatic complains with depression were different from country to country, 69% patients reported depression with somatic complains, patients with interpersonal problems reported somatic complains only 45% patients reported depression with multiple somatic complains,11% did not acknowledged psychological complains of depression when asked directly, and study suggested that ratio of somatic complain were common in Eastern countries than Western countries. Stanhope, Goldstein and Kuipers (2003) reported in a comparative study that epileptic group reported more level of expressed emotions (52.8) than FNSD group (49.1). Patients in FNSD group (71%) reported more anxiety level than epileptic group (44%). Emotion focused coping was more used with high EE by non-epileptic group, whereas, epileptic patients used problem focused coping in high EE and there was no significant difference found in depression scores with high and low expressed emotions in both groups though both groups had significantly association with depression. Mokleby, Blomhoff, Malt, Dahlstrom, Tauboll and Gjerstad (2002) also found that pseudo seizures group reported significantly high level of depression and anxiety than healthy group, furthermore pseudo seizure group scored high on hostility scale due to hostile coping (maladaptive coping, high level of depression and anxiety than rest of two groups. Somatoform group also scored high on depression and anxiety than healthy group, whereas scored low on hostility scale than pseudo seizure group. Pseudo seizure and somatoform group reported comorbidity with depressive symptoms, anxiety, posttraumatic stress disorder, phobias, and bipolar disorders.

Janssens, Rosmalen, Ormel, Oort, and Oldehinkell (2010) in their descriptive research found anxiety and depression to be significantly related with the development of functional somatic symptoms. Strutt, Scott, Ferrara, York and Jankovic (2012) conducted a comparative research study and found that patients in pseudo seizures group presented with more depressive symptoms and elevated anxiety levels, moreover, they scored high on depression and anxiety inventory than rest of other two groups. Pseudo seizure group reported early onset of symptoms as well as prolong duration of motor problem and reported psychosocial stressor like emotional abuse along with other stressors (sexual and physical abuse), whereas, psychogenic motor disorder group reported late onset of symptoms, less prolong duration of motor problems and reported more emotional abuse than pseudo seizures group. Similar results were also reported by Binzer, Andersen, and Kullgren (1997).

CONCLUSION

The study concludes that coping strategies has a significant relationship with stress and depression among Functional Neurological Symptom Disorder patients, whereas, non-significant relationship was also found between adaptive coping strategies and depression

among Functional Neurological Symptom Disorder patients. Statistical results indicated that individuals preferred the usage of maladaptive coping strategies (active coping, acceptance, emotional support etc.), in stressful situations therefore stress was positively correlated with the usage of maladaptive coping strategies (avoidance, denial, substance use etc.), whereas less usage of adaptive strategies was correlated with high stress, because individuals did not preferred the usage of adaptive coping strategies in stressful situations. Furthermore, maladaptive coping scores and depression scores were strongly associated because mostly individuals got depressed in stressful situations due to usage of maladaptive coping strategies, moreover, there found a non-significant relationship between adaptive coping strategies and depression, although, usage of adaptive coping reduces the level of depression but in our society it seems to have no relationship between adaptive coping and depression.

LIMITATIONS AND SUGGESTIONS

Only bilingual sample was included. Participants were taken from four government hospitals of Lahore city, participants should be taken from private hospitals as well as. A mixed research design should be used in order to get more in depth details about the usage of coping strategies, different types of stress contributing in development of FNSD, comorbid disorders and manifestation of different symptoms especially in urban and rural areas of Pakistan. A comparative study of gender differences with same variables should be conduct in order to explore more new facts. A cross-sectional study may be designed including different cities so the results can be generalized and be more reliable.

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