Comparison of Anxiety, Depression, Stress and Anger in Migraine, Diabetic and Cardiac Patients and Healthy People

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Abstract

Scientific evidence reveals interaction of physical and psychological factors (such as anxiety, depression, stress, anger) in mental and somatic disorders. The current study measured anger, anxiety, stress and depression in migraine, diabetic and cardiac patients and healthy people. 200 participants 50 person in each group completed STAXI_2 and DASS_21 questionnaires and were compared by using analysis of variance (one way ANOVA). The results showed that stress levels in all three groups of patients had significant difference with healthy subjects. As well as heart disease and headaches in anger state, feelings of anger and anxiety were different from diabetic patients and healthy persons. Only patients with migraine headaches in depression were significantly different with healthy subjects. Migraine patients in the index of anger, anger trait, anger expression in and angry reaction had significant differences with the three other groups.

Keywords: anxiety, depression, stress, migraine headaches, cardiac disease, diabetes.

1. Introduction

Bio-psycho - social Model believed that biological, psychological and social factors have interacted to keep health or cause disease. Psychosomatic medicine is believed that the role of psychological factors is important in the genesis of all disease. Mind and body have bilateral relating, so anxiety, fear, anger and other emotional states can cause physiological changes such as asthma, gastroenteritis, cardiovascular disease, dermatological diseases, cancer, pain (headache, low back pain, etc.), diabetes, arthritis, thyroid disease, muscle tension, infectious diseases (Sadok and Sadok 2007).

Heart diseases are the most common causes of sudden natural death (Loscalzo, J., 2010). Other studies have indicated that type a behavior pattern is one of the strongest predictive of a recurrent heart attack (Ben Fletcher 1381).
Diabetes is one of the most common inherited metabolic disorders (Hadavi 1339). In chronic physical disease such as diabetes psychological factors have an important role. These diseases can be a big stressor for patients and their relatives. In most chronic disease, psychological problem such as disappointment, depression, anxiety, aggression Are inseparable part of their life (alipor, 1390). Evidence has been shown that exposure with every kind of stressors can start or intensify Diabetes (hori,n. et al.2008).

Migraine headaches have significant negative impact on performance and quality of life (Holroyd, K. A. et al, 2006). Several hypotheses about the cause of migraine headaches are propounded. While some of them believe that biological system malfunction is the cause of headaches. But migraine headaches often are initiated along by severe stress, frustration, anger and other emotional factors (Pearce, J., 1977).

2. Materials and methods

2.1. Participants

The population of this study was all patients with migraine headaches, diabetes and the heart diseases that referred to hospital. Case selection based on random sampling. The selection criterion was specialist’s diagnosis as migraine headaches, heart diseases and diabetes. Four group heart diseases, headaches, diabetes and a group of healthy people (as a control group) participated in this study. The sample size was 50 patients for each disease and totally 200 subjects responded to questionnaires.

2.3. Research Tools

Several measures were used in this study. However, for the purpose of the present study, information obtained from socio-demographic and clinical questionnaire as well as DASS-21 and staxi-2 questionnaires.

The socio-demographic and clinical questionnaire

Participants completed a questionnaire with information regarding age, gender, marital status, level of education, working status, major health problem, and clinical diagnosis.

2.3.1. Depression Anxiety Stress Scale (DASS–21):

DASS- 21 scale is formed of 21 sentence associated with signs of negative emotions (depression, anxiety and stress). (Anthony et al, 2002). Several studies have shown that DASS sub-scales had good psychometric properties. In a study with nonclinical population, internal consistency coefficients of three subscales depression, anxiety and stress, respectively was, 0.91, 0.84, 0.90 (Lovibond and Lovibond, 1995). And in a study with clinical populations (pathological) internal consistency coefficients for the three subscales respectively were 96/0 89/0 93/0 has been reported. Psychometric properties (validity and reliability) of this questionnaire among Iranian nonclinical samples has been approved. (Brown, TA et al, 1997).

2.3.2. State - Trait Anger Expression (STAXI-2)

A revised version of the state - trait anger expression Questionnaire (Spielberger, 1999) contains 57 items that can assess anger as a multidimensional phenomenon. This Questionnaire has 6 scales and 5 subscales that are assessing anger state, anger trait, anger expression style and anger control techniques. Psychometrics characteristics of this questionnaire in Iranian samples of college student, psychological diseases and the general population were approved by Asghari and colleagues (Asghari et al, 2008). Overall, the results of these studies have been shown acceptable validity and reliability of the staxi_2 among those populations.
3. Findings

The current sample consisted middle-aged (M age 33.4 in the control group and 26 years) participant and All of them were female. 40% in each group were married and 40% in each group were unemployed at the time of testing. There were no significant differences between the groups on these demographic variables (see Table 1). The migraine duration did not differ between the two migraine patient groups, who on average had been suffering from migraine for 137 months in control group and an 9 month in the experimental group. The group assignment of patients was random.

Table 1. Demographic characteristic

| Groups                  | Cardiopathy Group (n=50) | Diabetes Group (n=50) | Migraine Group (n=50) | Healthy Group (n=50) |
|-------------------------|--------------------------|-----------------------|-----------------------|----------------------|
| Age                     | 60.36 (14.10)            | 41.04 (11.36)         | 57.24 (15.81)         | 46.52 (11.79)        |
| Gender (% female)       | 50                       | 50                    | 50                    | 50                   |
| Marital status (% married/cohabiting) | 72                       | 80                    | 96                    | 88                   |
| Education (% literate)  | 68                       | 84                    | 76                    | 96                   |
| Employment (% unemployed)| 42                       | 28                    | 16                    | 38                   |
| Illness duration (years)| 7.52 (9.46)              | 7.48 (8.13)           | 7.80 (8.10)           | ------               |

Table 2. Comparison between experimental groups in research variables

| Groups   | C Cardiopathy Group (n=50) | D Diabetes Group (n=50) | M Migraine Group (n=50) | H Healthy Group (n=50) | F(sig) | Between-group comparison |
|----------|----------------------------|-------------------------|-------------------------|------------------------|--------|--------------------------|
| Depression | 5.54(3.9)               | 5.4(4.30)               | 6.82(4.29)              | 4.59(3.07)             | 2.732(0.045) | H=D=C<M                  |
| Stress    | 8 (4.94)                 | 7.6(5.06)               | 9.8(4.32)               | 5.36(2.93)             | 8.620(0.000) | H<D=C=M                  |
| Anxiety   | 5.3(4.2)                 | 4.5(3.73)               | 5.96(4.01)              | 3.04(3.10)             | 5.505(0.001) | H<D<C=M                  |
| Angry temperature | 8.36(3.31)   | 7.78(3)                 | 8.68(2.8)               | 7.00(1.96)             | 4.653(0.004) | H<D=C=M                  |
| anger trait | 20.02(6.43)              | 18.30(5.84)             | 21.96(6.01)             | 18.34(4.17)            | 3.438(0.018) | H=D=C<M                  |
| index of anger | 37.12(12.04)             | 37.36(8.67)             | 42.02(11.24)            | 36.54(11.51)           | 2.693(0.047) | H=D<C<M                  |
| anger expression out | 14.66(4.45)              | 14.38(3.71)             | 16.58(4.38)             | 14.82(3.35)            | 3.104(0.028) | H=D<C<M                  |
| anger expression in | 17.44(5.23)              | 16.58(3.70)             | 18.94(3.50)             | 17.44(3.84)            | 2.827(0.040) | D<M                      |
| angry reaction | 8.88(2.85)               | 7.96(2.98)              | 9.92(3.01)              | 8.60(2.68)             | 4.006(0.009) | H=D<C<M                  |

The results show that stress levels and angry temperament in all three groups of patients (migraine headaches, cardiac and diabetics) has significant difference with healthy subjects. Heart disease and headaches are same in anxiety and they are different from diabetic patients and healthy persons. Only patients with migraine headaches in depression were significantly different with healthy subjects. Migraine patients in the index of anger, anger trait, anger expression in and angry reaction had significant differences with the three other groups. And the headache patient is different just for diabetics in anger expression in.

4. Conclusion

The aim of this study was to compare migraine headache, diabetic, cardiac patients with healthy people in psychological characteristic. The result showed that all patients had higher stress level than healthy people. Stress
reduces Bio-Psycho-Social potentiality of the individuals, to cope with problems. Slie believed that GAS (general adaptation syndrome) is a non-specific to a particular type of events that can cause stress. All stressor arouse same physical reactions. But not the same physical disorder. According to vulnerability-stress model depending on the person’s personality, hereditary, environmental and social factors she/he will vulnerable to specific disturbances. And when affected by stress that disorder will be developed. Also chronically angry reactions are often maladaptive, because it leads to between personal confusion and chronic sympathetic activity. (Greenwood et al, 2003)

T sauna - Hadji and colleagues (1998) reports a relationship between hostility and coronary chest pain in patients in such manner that patients with higher scores on hostility significantly reported higher levels of chest pain. Among cancer patients the relationship between severity of pain and anger supported by experimental evidence (Greenwood et al, 2003). Across these statements we found that all patient groups have higher scores in angry temperature. And in other anger scales patients in the migraine group had significant difference with others.

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