The International Journal of Indian Psychology
ISSN 2348-5396 (e) | ISSN: 2349-3429 (p)
Volume 7, Issue 3,DIP: 18.01.030/20190703
DOI: 10.25215/0703.030
http://www.ijip.in | July - September, 2019

The International Journal of INDIAN PSYCHOLOGY

Research Paper

A Comparative Study of Personality Profile and Stress between Diabetic Patients and Normal Adults

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ABSTRACT

The present study investigated the personality profile and stress between the diabetic patients and normal adults. The sample comprised of 15 diabetic male patients and 15 normal male adults in the age group of 30-45 years. The tools used were Neo Five Factor model personality inventory developed by McCrae & Costa (1) in 1987 and Distressful life events scale by Verma & Asthana (2) in 1990.The results revealed significant differences on the extraversion, neuroticism and conscientiousness dimensions of personality inventory. Also, the results showed that the diabetic patients had higher level of stress created by life events as compared to normal adults.

Keywords: *Personality traits, Stress, Diabetic patients*

Diabetes mellitus is a chronic disease due to deficiency or diminished effectiveness of insulin. The only consistent abnormality is a high level of glucose in the blood(hyperglycemia) demonstrate under standardized conditions. Stress is the psychological response of the organism to the extra load put on it (Selye, 1956)(3). No disease can be caused by stress alone, but stress is most important pathogenic factor (Selye, 1977)(4), so stress of any kind has a central place in the causation of psychosomatic disease. It may be pointed out that probably in etiology, stress is the most applicable cause of disease. Diabetes is psychosomatic disease .The term psychosomatic indicates the relationship between psychological process or behavior on the one hand somatic structure or bodily organs on the other. There is a strong genetic predisposition to all common types of diabetes and although environmental stress might convert this to overt disease.

Personality

Personality refers to individual differences in characteristic patterns of thinking, feeling and behaving. The study of personality focuses on two broad areas: The first one understands individual differences in particular personality characteristics, such as sociability or irritability. The second one understands how the various parts of a person come together as a whole. It is a stable, organized collection of psychological traits and mechanisms in the human being that influences his or her interactions with and development to the

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Received: July 25, 2019; Revision Received: August 16, 2019; Accepted: September 25, 2019

psychological, social and physical environment surrounding them. Personality embraces moods, attitudes, and our perception and is most vividly expressed in interactions with other people. It includes behavioral characteristics both inherent or innate and acquired that distinguish one individual from another and that can be observed in people's relations to the environment and to the social group, culture, family nurturing and friends.

Catell[5] (1965) is one of the exponents of the traits approach of personality. His research was mainly in personality, abilities, motivations and innovative multivariate research methods and statistical analysis (especially his many refinements to exploratory factor analytic methodology).

Eysenck[6] (1960) gave typological approaches for understanding of human personality. He defined that personality is more or less stable and an enduring organization of person's character, temperaments, intellect and physique which determines his unique adjustment to the environment .Grant[7] (1974) and Bradley[8] (1979) reported that stressful life events are associated with disturbances of diabetic control.

Stress

Stress is explained by (Pargman 2006)[9] as "An uncertain reaction to external and internal factors" that means a negative or positive reaction to environmental stimuli. In this regard, it is how the totality of your body relate to changes and unfamiliar situations that present itself in the course of time.

Stress is defined as a general term applied to various psychological (mental) and physiological (anatomy) pressures experienced or felt by people during their lives. Stress can initiate the "fight or flight" response, a complex reaction of neurologic and endocrinological systems.

The endocrinologist, Hans Selye, a famous stress researcher, once defined stress as the "response of the body to any demand whether it is caused by or results in pleasant or unpleasant conditions". Selye's definition of stress is response-based in that it signifies stress basically in terms of the body's physiological reaction to any demand that is placed on it. Neither stimulus-based nor response-based definitions provide a complete definition of stress.

The scientific study of how stress and other psychological factors impact health falls within the realm of health psychology, a subfield of psychology devoted to understanding the importance of psychological influences on health, illness and how people respond when they become and feel unwell (Taylor 1999)[10].

Although stress can be positive and not so much bad at times although it can have severe health implications putting up to the onset and birth of a variety of physical illnesses and diseases (Cohen & Herbert, 1996)[11].

Eliot[12] (1988) said that "stress may be viewed as the body's response to any real or imagined event perceived as requiring some adaptive response and or producing strain".

Diabetes and its types

Diabetes is a serious condition where your blood glucose level is too high Diabetes is classified into type I & type II Type I used to be called juvenile onset diabetes and type II is called adult onset diabetes or non insulin dependent diabetes .Both Type I and Type II diabetics are sensitive to the effects of stress (Gonder & et al 1990; Halford & et al 1990)[13,14]. Stress may precipitate Type I diabetes in individuals with the affected gene (Lehman, Rodin, McEven& Brinton, 1991)([15] People at high risk for diabetes show abnormal glycemic responsiveness to stress which when coupled with the experience of intermittent or long-term stress may be implicated in the development of the disease (Esposito-Del Puente et al 1994)[16] Stress also aggravates both Type I and Type II diabetes after the diseases is diagnosed (Surwit & Schneider 1993; Surwit &Williams, 1996)[17,18].

Objectives of the Study

1. To find out the differences in the personality factors between diabetic patients and normal adults.
2. To find out the differences in stress level between diabetic patients and normal adults.

METHOD

Sample

The sample consisted of 15 male diabetes patients and 15 normal male adults from Bhopal city .Their age ranged from 30 to 45 years. All the participants were married and literate and belonged to middle class social status.

Tools Used

1. NEO FIVE FACTOR MODEL -PERSONALITY INVENTORY:-The test was developed by McCrae &Costa in 1987. It consists of 5 personality factors: **Neuroticism (Anxiety,** Hostility, Depression, Self-Consciousness, Impulsiveness and Vulnerability to Stress), **Extraversion** (Warmth, Gregariousness, Assertiveness, Activity, Excitement Seeking and Positive Emotion), **Openness to experience** (Fantasy, Aesthetics, Feelings, Actions, Ideas and Values), **Agreeableness** (Trust, Straightforwardness, Altruism, Compliance, Modesty and Tender mindedness)and **Conscientiousness** (Competence, Order, Dutifulness, Achievement and Striving).The reliability was .86 to . 90 and its validity was found to be high. The inventory comprised of 60 items and was to be rated on a 5-point scale.

2. DISTRESSFUL LIFE EVENT SCALE: -It was developed by **Verma & Asthana (1990).** The life event scale measures stress of life events. The purpose of this Scale is to find out the stress by some events of life i.e. Death of spouse, any chronic disease, Lack of child, Marital unhappiness etc. Every event of life has its own value number. The high score of subject indicates the higher level of stress created by life events. . Rating is done on 3 point scale. Split half reliability of the scale ranges from .90 to .94. Test-retest reliability ranges from .80 to .84. Validity ranges from .78 to .80.

Procedure

The data for the diabetic patients was collected from the Medicine department of Kasturba Hospital, Bhopal. While the data for the normal adults group was collected by personally contacting the participants at their residence. The participants were briefed about the purpose of research and informed that their responses shall be kept confidential and used for research purpose only.

RESULTS AND DISCUSSION

The data was statically analyzed by using t-test and are given below:

PERSONALITY PROFILE :

Table 1.MEAN, STANDARD DEVIATION and t-values OF DIABETIC AND NORMAL ADULTS ON PERSONALITY PROFILE

Domains	Diabetic		Non Diabetic		t- value
	Mean	SD	Mean	SD	
Neuroticism	41.06	3.68	32.4	2.45	**3.68
Extraversion	31.8	6.39	43.13	7.05	*2.45
Openness	32.266	4.23	31.73	2.87	1.317
Agreeableness	31.06	3.99	36.46	3.925	1.44
Conscientiousness	36.67	6.78	34.7	8.39	*2.79

****** ($p<0.01$) *****($p< 0.05$)

Neuroticism

A close perusal of above table revealed that the diabetic patients showed significant difference on the personality factor Neuroticism than normal adults. The diabetic patients scored (M=41.06) higher than normal (M=32.4). Obtained t-value was to be 3.68 which significant at 0.01evel. It is clear that difference does exist on Neuroticism personality factor between Diabetic patients and normal adults .The study was supported by the work done by Kristin Volpe (2007) stating higher level of neuroticism is linked with higher BMI and the diabetes.

Extraversion

The t-test indicates that on the personality factor extraversion, the two groups differed significantly. The mean score of normal adults score was M=43.1 while diabetic patients scored (M=31.8). Obtained t-value was to be 2.45 which significant at 0.05 levels The study by Dr. Indranee Phookan Borooah in (2016) reported that Extraversion was found to be significantly high in diabetic patients.

Openness

On the personality factor openness, the results revealed no significant differences between diabetic patients and normal adults. However the research of Iva Cukic (2015) contradicted our findings and stated that lower openness was found to be important characteristic of diabetic patients. Another study reported by the work of Cukic and Mottus stating that lower openness was related to increase in genetic risk of diabetes.

Agreeableness

On the dimension of agreeableness, the results of the study revealed no significant differences between diabetic patients and normal adults.

Conscientiousness

The t-test indicates that on the personality factor conscientiousness, diabetic patients scored (M=36.67) higher than normal adults (M=34.7). The results revealed that the diabetic patients were found to be more higher on conscientiousness than normal adults.

Distressful Life event scale

TABLE 2 MEAN, STANDARD DEVIATION AND t- values OF DIABETIC AND NORMAL ADULTS ON STRESS PROFILE

Group	Mean	SD	t-Value
Diabetic Adult	22.4	8.54	**3.99
Normal Adult	9.3	9.48	

****** ($p<0.01$)

The results showed that the two groups showed significant differences on the distressful life events scale. The diabetic patients showed higher level of distress than the normal adults. A close perusal of mean scores showed that the diabetic patients scored (M=22.4) higher than normal adults (M=9.3).thus, the results of this study clearly indicate that distressful life events contribute to diabetes . According to American Diabetic Association, Scientists have studied the effects of stress on glucose levels in animals and people. The researches have shown that in type I the glucose levels can increase as well as decrease in most of the patients. In people with type II diabetes, mental stress often raises blood glucose levels. Physical stress, such as illness or injury, causes higher blood glucose levels in people with either type of diabetes.

CONCLUSION

The present study showed that the personality profile of diabetic patients differed significantly on the dimensions of neuroticism, extraversion and Conscientiousness in comparison to normal adults. Also, the diabetic patients reported high levels of distress than their counterparts. The diabetic patients are sensitive to emotions and are affected by feelings, get easily upset, and are emotionally less stable. The diabetic patients tends to be low in frustration tolerance for unsatisfactory conditions, neurotically fatigued fretful, easily emotional, and annoyed, active in dissatisfaction, having neurotic symptoms (phobia, psychosomatic complaints etc.).Thus, it is suggested that counseling may be given to diabetic patients to change their life-styles and adopting relevant coping strategies to effectively manage stressful life events.

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Acknowledgements
The author appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest
The author declared no conflict of interests.

How to cite this article: S. Singh, & B. Singh (2019).A Comparative Study of Personality Profile and Stress between Diabetic Patients and Normal Adults. *International Journal of Indian Psychology*, *7*(3), 247-252. DIP:18.01.030/20190703, DOI:10.25215/0703.030