

Personality differences between hypertensive patients and normotensive persons

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ABSTRACT

Background: Hypertension happens to be a major health problem and a significant cause of poor health and wellbeing all over the globe as well as being responsible for over thousands of deaths. People with hypertension are said to differ in their personality constellation in comparison to normal people. **Objective:** This study was designed to examine the differences in personality characteristics of hypertensive and normal people. **Method:** In all, 55 hypertensive and 100 normal subjects comprised the sample. They were administered 16 PF questionnaire and SES scale. **Results:** The analyses of data revealed that hypertensive patients scored significantly higher means on E, H, I, Q3 and Q4 factors than the normal subjects. **Conclusion:** The findings indicate that there exist personality differences between hypertensive and normal individuals and there is a need of intervention, based specifically on bio psycho-social approach, for enhancing wellbeing of hypertensive patients. The results are thoroughly discussed and limitations and suggestions are also mentioned.

Keywords: Hypertensive patients, Personality, Normotensive Person, 16 PF.

Hypertension is what most people describe as high blood pressure (WHO, 2010) and despite progress in medical science it affects about one million people globally (Ombani, 2019). Hypertension is specified as an abnormal condition with high blood pressure, a condition in which the pressure within the blood vessels is abnormally high. Sarason and Sarason (2002) define hypertension as a disorder marked by high blood pressures, usually considered a psycho-physiological disorder.

A blood pressure level that is over 140 when the heart contracts (systolic pressure) and does not fall below 90 when the heart relaxes (diastolic pressure) is usually considered high. High blood pressure indicates that there is resistance to the flow of blood through the cardiovascular system. The condition places pressure on the arteries and forces the heart to work harder to overcome the resistance (Foreman, et.al., 2018).

High blood pressure is a major contributor to cardiovascular disorders and is one of the conditions that creates increased risk of heart attacks. Usually it is a silent or symptomless

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risk, because the hypertensive individual might show no observable signs of a medical problem for many years.

Personality

Personality is a very popular concept, not only in psychology, but in society as well. It has so many attributes and traits, which are assumed to be dynamic and determine the behaviour of people in a specific way. (Allport, 1948). It includes thoughts and emotions which are responsible for adaptation in life in a particular way. Since personality determines our behaviour, so it may be assumed that people with psychosomatic problems (like hypertension etc.) may differ in their personality from the normal people.

Background

While firm empirical support for this approach is not yet available, there is growing evidence that personality constellations including anxiety, anger, and depression contribute to elevated blood pressure (Jorgensen et.al., 1996). Allexander (1950) emphasized that many chronic problems are caused not only by external factors, but by the life events, stress and emotional problems also. But some researchers are of the view that the oldest problem in this area of research is to establish relationship between personality and hypertension (Gerin, 2010; Gliberman, 1939).

The problem of hypertension is also associated with stress and quality of life. Bano, Bhardwaj and Singh (2012) obtained significant differences in quality of life between the hypertensive and normal groups. Irvine et al. (1989) found that hypertensive patients scored higher on neuroticism, state-trait anxiety, type A behaviour and aggression also.

One study relating job stress to blood pressure elevation focused attention on the environment's role in hypertension. Schnall et. al., (1990) found environment to have sustained round the clock effect on hypertension. The most problematic work environments were relatively low-level jobs in which high psychological demands were combined with little control over the work process and little use of skills. Inability to exert an influence on the work situation increased the likelihood of high blood pressure. Twenty-one percent of all subjects suffered job strain. The men faced as much as three times greater risk of having high blood pressure than did those without job strain.

Some other researchers have reported that various attributes of the individuals play important role in hypertension. Hambling (1955) found aggression to be associated with hypertension (also, Coleman & Broch, 1972; Jorgens et.al., 1996; Cohen, 1994). In some studies hypertension has been found to be associated with personality patterns (Malika & Sabharwal, 1998; Bhardwaj, 2002; Hokanson & Burgees 1962). Garcia-Veera (2010) found relationships between emotion, personality traits and stress with hypertension.

Present Study

The preceding review marks it obvious that psychological factors play considerable role in hypertension. But most of the researches have yielded inconsistent results (Chachaj et.al., 2009). Besides, most of the related studies have covered behavioural attributes, not directly personality traits, and it has also been said that role of personality in high blood pressure may not be so good (CAH, 2001). The 16 personality factors, as covered in the present study, have generally not been evaluated from the point of view of hypertension. No doubt, in few studies these factors have been measured, but not rigorously, in relation to hypertension. The results obtained in previous studies are inconsistent and ambiguities still exist in this area of

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research. (Trudel-Fitzgerald, 2014). This provides the sufficient justification for the present study.

Objective

- To compare the hypertensive and normal subjects on 16 personality factors (excluding B) as measured by Cattell's 16 PF Questionnaire.

Hypothesis

- The hypertensive patients and normal subjects would differ significantly on the 16 personality factors (excluding-B).

METHODOLOGY

Sample

The sample comprised 55 male and female hypertensive patients with the age range 40 to 55 years. They were purposively selected from the hospitals located at Jaunpur (U.P.) and from the social contacts. Only those patients were included in sample who had not gone under treatment for a long time and thus had not consumed medicines, or if consumed, that should have been minimum. A group of normal subjects (N=100) was sampled for comparison with hypertensive patients. Both the groups belonged to middle socio-economic status.

Inclusion/Exclusion Criteria

The hypertensive patients with age range between 40-55 having middle SES, were selected, or otherwise excluded. The patients having long time treatment were also excluded.

Tools

16 PF Questionnaire – (Cattell, 1956; adapted in Hudi by Jalota and Asthana (1956), was used to assess personality traits of the experimental and control groups. It measures 16 personality factors (B-excluded here). Its reliability and validity have been reported to be high.

Socio-economic Status Scale (Pandey & Singh, 1997). It has 10 items and provides composite index which reflects the relative position of a person with reference to criteria of SES. The score range is 02 to 34. It is a reliable scale (0.92).

Procedure

The subjects were taken in confidence and warm rapport was established with them. They were told that their responses will be used for research purpose only and will also be kept strictly confidential, so that they could respond without inhibition. They were administered the selected tools and after getting their responses they were warmly seen off.

RESULTS

A perusal of result table-1 shows that hypertensive Ss scored higher on factor E, G, H, I, Q₃ and Q₄, while on the remaining 9 factors, normal Ss scored higher than those of the hypertensive patients. Profile drawn for this purpose also presents a comparative picture of the two groups.

Table-1 shows that on factor – A (reserved vs outgoing), normal Ss scored a significantly higher mean (M=6.15) than hypertensive Ss (M=5.16). This suggests that normal Ss are outgoing, kind, easy going, participating and soft hearted whereas the hypertensive patients appear to be aggressive, reserved, critical, cool and suspicious etc. (CR = 2.86; P < 0.01).

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Table-1: Mean, S.D. of Normal and Hypertensive Ss on Personality Factor with C.R.

Fact ors	Nomenclature	Normal Ss (N=100)		Hypertension (N=55)		
		M	SD	M	S.D.	CR
A	Outgoing vs Reserved	6.15	2.16	5.16	2.02	2.86
C	Emotional stability vs Unstability	10.42	2.95	10.15	2.16	0.66
E	Dominance vs Submissiveness	8.15	2.66	9.26	2.24	2.78
F	Surgency vs Desurgency	7.89	2.42	7.32	1.62	1.78
G	Strong vs Weak Super Ego	9.65	3.02	11.22	2.56	3.62
H	Adventurous vs Shy	9.80	3.16	10.42	2.18	1.44
I	Sensitive vs Tough	8.02	1.96	9.12	2.06	3.08
L	Trusting vs Suspicious	7.85	2.00	6.15	1.96	5.15
M	Imaginative vs Practical	8.75	2.26	7.22	1.42	5.19
N	Shrewed vs Simple	9.65	3.15	8.12	1.12	4.38
O	Guiltprone vs Confident	11.88	3.27	5.22	1.32	18.00
Q ₁	Radical vs. Conservative	10.45	3.40	5.26	1.40	13.41
Q ₂	Self-sufficiency vs Group dependence	8.66	3.02	7.18	1.89	3.75
Q ₃	High self-sentiment vs Poor self-sentiment	9.26	2.85	10.85	2.62	3.51
Q ₄	Tense vs Relaxed	8.98	2.67	9.15	1.95	0.46

N.B. : Factor B is exclude.

On factor C (high ego vs low ego strength), the normal Ss scored a slightly higher mean (10.42) than those of the hypertensive Ss (10.15). But the differences are not significant. On Factor E (dominance vs submission) hypertensive Ss scored significantly a higher mean (9.26) those normal subjects (8.15). Higher mean of hypertensive Ss on factor E suggest that they are aggressive, competitive, assertive and independent minded as compared to normal Ss. C.R. 2.78; $P < 0.01$). On factor F (Surgency vs Desurgency), the mean of normal Ss is relatively higher (7.89) as compared to the mean of hypertensive Ss (7.32). But CR is not significant.

The hypertensive Ss scored significantly higher (11.22) on factor G₁ (strong vs weak super ego) than the normal subjects (9.65; CR 3.62; $P < 0.01$). On factor H (adventurous vs shy) also, hypertensive Ss scored higher (10.42) than the normal group (9.80). But the difference is not significant.

The hypertensive Ss scored significantly higher mean (9.12) on the factor-I also as compared to the normal group (8.02) (CR=3.08, $P < 0.01$). The higher mean of hypertensive group suggests that they are sensitive, overprotected, dependent, tender minded, imaginative and kind. On the other hand, normal Ss appear to be realistic, tough, self-reliant and unaffected by fancies.

The normal Ss scored significantly higher (7.85) on factor-L (suspicious vs trusting) as compared to hypertensive Ss (6.15). The higher mean of normal Ss on factor-L suggests that they appear to be suspicious, hard to fool, self-sufficient, irritable and jealous, while the

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hypertensive Ss appear to be accepting, adaptable, trusting, outgoing, soft hearted and cheerful. (C.R. 5.15; $P < 0.01$).

On factor M (imaginative vs practical), normal Ss scored significantly higher (8.75) as compared to hypertensive (7.22). This indicates that normal Ss appear to be absent-minded, self-absorbed, interested in art and theory and imaginative works. On the other hand, hypertensive Ss appear to be practical (CR=5.19; $P < 0.01$). On factor N (shrewed vs simple) also, normal Ss scored significantly higher mean (9.65) than the hypertensive Ss (8.12). The normal Ss appear to be shrewed, calculating, worldly and penetrating while the hypertensive Ss appear to be forthright, natural, simple and sentimental. CR = 4.38; $P < 0.01$).

Result table shows that on factor O (guilt proneness vs confident adequacy), also, normal Ss scored significantly higher (11.88) than the hypertensive Ss (5.22). Normal Ss seem to be apprehensive, worrying, depressive and troubled while the hypertensive Ss appear to be confident, self-secure, cheerful and expedient (CR=18.00; $P < 0.01$).

It is evident from result table that on factor Q₁ (radicalism vs conservatism), normal Ss scored higher (10.45) than the hypertensive Ss (5.26). Thus, normal Ss seem to be more radical, critical liberal, analytical and free in thinking. (CR=13.41: $P < 0.01$).

On factor Q₂ (Self-sufficiency vs group dependency) also, normal Ss scored higher (8.66) than the hypertensive Ss (7.18). The normal Ss appear to be more self-sufficient, prefer their own decisions and are resourceful. (3.75) The CR (CR= 3.75) is significant at 0.01 level.

As regards on Q₃ (high self-sentiment vs low self-sentiment), the hypertensive Ss scored higher (10.85) than the normal Ss (9.26). The higher score of hypertensive Ss on Q₃ indicates that they are more controlled, socially precise and have good will power. (CR=3.51; $P < 0.01$). On factor Q₄ (tense vs relaxed) hypertensive Ss scored higher (9.15) than the normal Ss (8.98). But the CR is not significant.

DISCUSSION

This study was conducted to examine the difference in personality characteristics of hypertensive and normal individuals as measured by 16 PF questionnaire. The two groups differed significantly on all but four factors (C, F, H, Q). The findings of this study indicate that if someone is a certain type of person, but not a certain type of person, the chance of blood pressure modification may be there. How people behave in different situations of life, may give or not give rise to HBP. For example, perfectionism, short temper, pessimism, hostility or cynacism, easily irritated, impatience and urgency, Type A personality contribute to hypertension. The above style of behaviour is said to lead to an elevated level of sympathetic nervous activity. As a result of it, norepinephrine hormone is secreted more than the required amount, which translates into hypertension (TNN, 2018). Chachaj et.al. (2009) has reported that alexithymia, social desirability and psychological distress were found to be associated with essential hypertension. Splete (2006) also states that personality traits may predict blood pressure problem. The gender and family history may moderate the impact of personality factors on hypertension.

The results obtained in this study extend empirical support to some of the previous studies also (Bhardwaj 2002; Roy, 1971; TNN, 2018, Jorgens on et. al., 1996; Garcia-Veera, 2010), but at the same time contradicts the view as expressed by CAH (2001).

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How to enhance the well-being of hypertensive patients, it is a big question. Jacobs et al. (1987) have reported that combined use of relaxation and biofeedback exerts positive long-term effects on hypertension. Such interventions might prove to be more effective if accompanied by anti-hypertensive medication. Trudes-Fitzgerald et. al. (2014) found that high emotional vitality reduces hypertension risk and is very much favourable for improved well-being of hypertensive patients of males and females both. Thus, increase in emotional vitality decreases hypertension and increases the well-being of hypertensive patients. The findings about emotional vitality and hypertension suggest a robust relationship between the two variables (Richman et. al., 2009; Begley, et. al. 2000).

Gerin (2010) opined that it is a big problem to establish the relationship between personality and blood pressure. If people tend to repress their anger, they would have higher blood pressure than those who can express their anger (Gleiberman, 1939). Our knowledge in this field is still in rudimentary stage regarding personality and hypertension. However, the findings of the present study indicate a strong association between the personality and hypertension.

CONCLUSION

The findings obtained in this study revealed that hypertensive patients scored significantly higher means on five factors (E, G, I, Q₃ and Q₄). However, in all they differed significantly on 11 factors, which indicate that hypertensive patients possess particular types of personality constellation, being associated with hypertension. Thus, the proposed hypothesis is accepted, to a large extent as the two group differed significantly on eleven factors of personality as measured with 16 PF questionnaire.

Implications

The results of the present study very clearly suggest that hypertensive patients possess a different personality constellation. Thus, keeping in view the results, it is felt that negative behavioural attributes of hypertensive patients should be managed properly to enhance their well-being, life satisfaction and quality of life. The application of biopsychosocial approach of therapy to hypertensive patients seems to be the most suitable choice for their wellness in life.

Limitation and Suggestions

This study was conducted on a relatively small sample localized in a particular geographic area, so, its generalizability is naturally limited. It covered personality traits (16PF). So other personality factors like, Type A, PEN and Big five need to be tapped in future studies for more comprehensive results. The correlational approach should also be applied to see the relationship between different related variables. The well-being, mental health and quality of life also need to be assessed among hypertensive patients. Besides, LOC, optimism and social support self-management, positive emotions, mental vitality, self-efficacy, gender and age variables and medical adherence, may also be tapped in future studies. This study did not examine the specific mechanism underlying the relationship personality and hypertension.

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Conflict of Interest

The author declared no conflict of interest.

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