

Comparative study of Anger Expression Styles and Optimism in Hypertensive and Non-Hypertensive Women

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ABSTRACT

A growing body of research have reported adverse health impact on women having hypertension. The anger expression styles have prominent role in developing hypertension in women. Also, studies have shown the role of optimism in preventing from developing hypertension. The present study compared hypertensive and non-hypertensive women within the age range of 45-60 years. The sample composed of 200 females i.e. (100 hypertensive and 100 non hypertensive), the sample was further divided in to 50 each (working and non-working women having hypertension and without hypertension). Result analyses revealed that the women having hypertension reported anger experienced and expression style as compared to women having non hypertension. Further, discussion and conclusion were discussed in the paper.

Keywords: Anger Expression Styles, Optimism, Hypertensive, Non-Hypertensive

The most acceptable definition of health is given by the WHO: Health is the state of complete physical, mental, social and spiritual well-being, and not merely an absence of disease or infirmity. Ottawa Charter for Health Promotion (1986) has defined health as “a resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities.” (Yadava, Hooda & Sharma, 2012).

The eternal urge of mankind has been to attain good health. Today, the very face of health and illness has undergone a tremendous change. In the early 1900's, mortality and morbidity was due to external pathogens causing infections. Advances in medical knowledge have controlled these bacterial diseases and viral infections by and large. In the modern times, people have died or exhibit disability/morbidity because of **lifestyle diseases**. A white paper released by CII and academia, by Sushma Dey (2015) revealed that one out of four Indians has been at risk of dying from non-communicable diseases like **diabetes, hypertension, cardiovascular ailments or cancer** before the age of 70. Every year, roughly 5.8 million Indians.

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Women with hypertension have been found at significant increased risk for heart attack, stroke, and kidney disease (James et al., 2014). Risk increases linearly with systolic and diastolic blood pressure, even small increase in systolic and diastolic pressures have been associated with higher risk of morbidity and mortality. Hypertension has been considered to be highly preventable with dietary patterns, lifestyle modifications and pharmacological treatments (Forman, Stampfer & Curhan, 2009). However, despite extensive knowledge of etiology and the availability of effective treatments, the prevalence of hypertension in women aged 18–39 years has increased nearly one-third since the mid-1990s and is expected to increase up to seven percent (Tu, Chen & Lipscombe, 2008).

Manorenj et al. (2017) in a cross-sectional study reported that cardiovascular disease especially stroke was the leading cause of death among women. Manorenj and associates studied the prevalence, patterns, risk factors and outcome of stroke in women. The sample was collected from ESIC Super speciality hospital of Hyderabad (India) which comprised of thirty-one females having stroke. The patients were identified over a period of three months and data was collected on the basis of clinical proforma developed for the purpose. Results revealed that stroke was predominant among older women. Menopause was the predominant risk factor followed by hypertension, dyslipidemia, physical inactivity and diabetes in females respectively. When compared to males, women were found to be more disabled after stroke. Thus, Stroke was common in older women and ischemic stroke was the predominate type of stroke. Age was found to be an important non-modifiable risk factor for stroke. Also, Physical inactivity was the significant risk factor in women when compared to men. Women were more likely to be disabled after stroke than men.

A strong correlation between increased hypertension and changing lifestyle factors has been reported. The problem which lies with the hypertension is that it cannot be cured completely and its management requires lifelong medication with some lifestyle modifications. Decreased physical activities coupled with increased mental tension are important contributors of hypertension. A study conducted by Dudhani and Khandekar (2017) on prevalence of hypertension and risk factors among Government Gazetted officers of Maharashtra, India. Study was carried among gazetted officers working in various departments of state government for a period of one year in Solapur district. 355 Gazetted government officers of class I & class II cadre (both males and females) were studied. Blood pressure was measured with a standard mercury sphygmomanometer. The prevalence of hypertension among Gazetted officers was observed 20.28%. The significant positive association was found between age and prevalence of hypertension. Both men and women reported same associations.

Anger is a basic emotion that can be defined as a negative feeling state associated with specific cognitive appraisals, physiological changes and action tendencies (Kassinove & Sukhodolsky, 1995). Anger has many facets which affect the body equally, but are different in nature and expression. According to Spielberger (1999) experience of anger can be conceptualized as consisting of two main components, known as “state anger” and “trait anger.” **State anger** is defined as a psychobiological emotional state or a condition characterized by subjective feelings that vary in intensity from mild irritation or annoyance to intense rage. Anger in the psychobiological emotional framework is usually accompanied by muscular tension as well as by the arousal of the neuroendocrine and autonomic nervous systems. As time progresses, the intensity of state anger varies as a function of such things as perceived injustice, being treated unfairly or attacked, or frustration as a result of barriers

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to goals. **Trait anger** is defined in terms of “individual differences in the disposition to perceive a wide range of situations as annoying or frustrating and by the tendency to respond to such situations with elevations in state anger.”

Speilberger (1988) distinguished between the three modes of Anger expression styles: Anger out, Anger in and Anger control. **Anger-out** refers to the frequency with which a person expresses angry feelings toward other people or objects in the environment in the forms of verbal or aggressive behaviors. **Anger-in** or suppressed anger refers to the tendency to hold one’s anger on the inside without any outlet. **Anger control** measures the frequency of attempting to control the expression of anger by an individual. It refers to the tendency to engage in behaviors intended to reduce overt anger expression (Sinclair, Czech, Joyner & Munkasy, 2006; Mushtaq & Najam, 2015).

Optimism is an explanatory style that attributes positive events to internal permanent and pervasive causes and negative events to external, temporary and situation specific ones. Oxford English Dictionary defined optimism as having “hopefulness and confidence about the future or successful outcome of something; a tendency to take a favorable or hopeful view.” (Yadava, Hooda & Sharma, 2012).

Research has found that there are two forms associated with the Unrealistic optimism and Unrealistic pessimism. Unrealistic optimism or optimistic bias, is defined as a tendency for people to believe that they are more likely to experience positive events and less likely to experience positive events, than similar others. The opposite tendency of believing that positive events are less likely to happen to self than to others, and that negative events are more likely to happen to self than to others is called unrealistic pessimism or pessimistic bias (Weinstein, 1980).

The present study assumes a lot of relevance as previous research suggests that hypertension is more harmful for women. According to the latest research (World Health Organization, 2013) hypertension was found to be more dangerous for women than men. Thus, the primary aim of the present investigation was to compare Hypertensive and Non-Hypertensive Women on Optimism, State Anger, Trait Anger; Anger Expression Styles viz. Anger In, Anger Out and Anger Control, Perceived Health Status and Perceived Happiness Status.

METHODOLOGY

The sample comprised of 200 Women i.e. 100 hypertensive (50 working and 50 non-working) and 100 non-hypertensive (50 working and 50 non-working). The sample was selected from outpatient departments of government and private hospitals of Chandigarh, Mohali and Panchkula. The Non-hypertensive women were chosen randomly from various parts of Chandigarh, Mohali and Panchkula. The four groups of women viz. hypertensive working women, hypertensive non-working women, non-hypertensive working women and non-hypertensive non-working women were administered tests to assess Optimism, Anger Experienced and Anger Expression Styles, Perceived Health Status and Perceived Happiness Status.

Sample

The sample of the investigation comprised of 200 women i.e. 100 hypertensive women 50 working and 50 non-working) and 100 non-hypertensive (50 working and 50 non-working).

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Subjects were in the age range of 45-60 years. The hypertensive patients with confirmed diagnosis of hypertension were collected from OPD's of government and private hospitals of Chandigarh, Mohali and Panchkula.

The Non-Hypertensive groups were without a history of any kind of disease and randomly selected from Chandigarh, Mohali and Panchkula. Care was taken to select the sample from middle socio-economic group.

All the subjects were explained about the nature and aim of the study and their role in the study. Informed consent was obtained before they were enlisted as subjects in the study. Care was taken that the sample comprising of hypertensive and non-hypertensive women were homogeneous with respect to socio-economic status, age and educational background.

Inclusion Criteria

1. Only those hypertensive patients were included who had the disease for at least 5 years.
2. The hypertensive women with confirmed diagnosis were included.
3. Non hypertensive groups without any history of any kind of disease were included.
4. Working women from different work domains like administration, teaching, medicine and banking sectors were included.
5. Only married women were included.
6. Subjects included were educated at least up to 10+2 level.
7. Sample was taken from middle socio-economic status to maintain homogeneity in the sample. The middle socioeconomic group was identified on the basis of annual income, which was supposed to be 2 to 5 lakh per annum (**India's National Council of Applied Economic Research, 2011**).
8. Sample was confined to those residing in urban areas only.

Exclusion Criteria

Those respondents who had any co-morbid chronic illnesses other than hypertension were excluded from the sample.

Ethical Considerations

1. Informed consent of the participants was obtained.
2. The confidentiality of the information given by the participants was ensured.

Tests and Tools

The following standardized tests were used for the present investigation:

1. Life Orientation Test (Scheier, Cohen & Bridges 1994; Carver, 2013).
2. The State-Trait Anger Expression Inventory (Spielberger, 1988).

A general information schedule was also administered to the respondents for getting demographic information on the following dimensions: name, age, education level, financial status, height, weight, size of family, birth order, number of siblings, profession of self and profession of spouse.

LIFE ORIENTATION TEST-REVISED (SCHEIER, CARVER & BRIDGES, 1994; CARVER, 2013): The **Life Orientation Test-Revised (LOT-R)** (Scheier, Carver & Bridges, 1994) was utilized to measure optimism and pessimism. The Life Orientation Test-

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R consists of 10 coded items, 3 statements described in a positive manner, 3 statements described in a negative manner, and 4 non-scored items. Subjects responded to the statements by indicating the extent of their agreement along a 5-point Likert scale, ranging from "strongly agree" to "strongly disagree." The Life Orientation Test–Revised measures optimism and contains 6 items. Item ratings are summed up to yield a total score that ranges from 6 to 30 (higher scores indicate greater optimism, and lower scores indicate greater pessimism). Sample questionnaire items were as follows: "In unclear times, I usually expect the best"; "If something can go wrong for me, it will." The internal reliability (Cronbach's $\alpha=.78$) and test-retest reliability ($r=.68$ over a four-week interval, $r=.60$ over twelve months, $r=.56$ over twenty-four months, and $r=.79$ over twenty-eight months) for the unidimensional use of the Life Orientation Test-R has been shown to be adequate.

SPEILBERGER'S STATE TRAIT ANGER EXPRESSION INVENTORY (STAXI) (SPEILBERGER, 1988): This is a self-rating questionnaire. There are 44 questions in a 3 part questionnaire and it requires 15-20 minutes to complete. It assesses self-reported feelings (experiences) of anger and its expression. It has 10 items to assess State Anger (how you feel right now). The subject chooses from the response format. (1) Almost never (2) Sometimes (3) Often (4) Almost always. It also has 10 questions to measure Trait anger (how you generally feel) and four response options: (1) Almost never (2) Sometimes (3) Often (4) Almost always. The range of possible scores for the two subscales varies from minimum of 10 to maximum of 40. The third part has 24 questions measuring three dimensions of Anger Expression viz. Anger Out, Anger In, Anger Control. Anger Out, Anger In and Anger Control subscales are computed by summing the column of item scores for each scale. The range of possible scores for three subscales varies from a minimum of 8 to maximum of 32. A total of Anger Expression Score is obtained by the formula:
Anger Expression = Anger Out + Anger In – Anger control + 16 (a constant of 16 is added).

Hypotheses

- Hypertensive Women were expected to score higher than Non-Hypertensive Women on State Anger, Trait Anger, Anger In, Anger Out, Total Anger Expressed and Anger Rumination.
- Hypertensive Women were expected to score lower than Non-Hypertensive Women on Anger Control.
- Hypertensive Women were expected to score lower than Non-Hypertensive Women on Optimism and Perceived Happiness Status.
- Working and Non-Working women both groups were expected to differ on measured variables viz. Anger Experienced, Anger Expression Styles and Optimism

Procedure

All the respondents for the testing sessions were contacted personally and requested to volunteer for the testing schedule. These respondents were then given the questionnaire in the form of a booklet and were requested to respond to them truthfully according to the given instructions. They were assured that the information they provide about themselves and their results will be kept strictly confidential and will be used for research purpose only.

The testing schedule was started by firstly asking the participants to fill the form comprising of general information. Then groups of hypertensive and non-hypertensive women with and without hypertension were identified. Selected subjects were given a booklet of

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questionnaires for detailed analysis to find the factors affecting hypertension among working and non-working women. The booklet of questionnaires was administered to a sample of 200 women. The respondents were from Chandigarh, Panchkula and Mohali. All the respondents were given instructions for each questionnaire as specified in the respective manuals, as follows:

RESULTS

The raw scores were analysed using appropriate statistical analyses viz. Descriptive Statistics, t-test and 2 X 2 ANOVA.

t-ratios

t-ratios were calculated to find out significant differences between means of various groups on the measured variables. **Table 1.1** shows means, standard deviations and t- ratios **comparing Hypertensive and Non-Hypertensive Women**. The comparison revealed the following t-ratios to be significant. **Hypertensive women scored higher than non-hypertensive women on State Anger** ($t= 2.84, p< .01$), **Trait Anger** ($t= 3.03, p< .01$), **Anger In** ($t= 4.53, p< .01$), **Anger Out** ($t= 2.62, p<.01$), **Total Anger Expressed** ($t= 4.68, p< .01$). **Non-hypertensive women scored higher than hypertensive women on Optimism** ($t= 8.80, p< .01$) and **Anger Control** ($t = 2.96, p< .01$).

Table 1.2 shows means, standard deviations and t- ratios **comparing Hypertensive and Non-Hypertensive Working and Non-Working Women**. The comparison revealed the following t-ratios to be significant. **Working women scored higher than non-working women on Anger In** ($t= 2.13, p< .05$), **Anger Out** ($t=1.99, p<.05$). **Non-working women scored higher than working women on State Anger** ($t= 2.80, p<.01$).

Table 1.1 Means, Standard Deviations and t-ratios comparing Hypertensive and Non-Hypertensive Women

Sr. No.	Variables	Hypertensive Women (n=100)		Non-Hypertensive Women (n=100)		t-ratios
		Mean	SD	Mean	SD	
1	Optimism	11.99	2.34	15.30	2.94	8.80
2	State Anger	15.74	4.56	13.85	4.87	2.84
3	Trait Anger	21.82	5.25	19.71	4.59	3.03
4	Anger In	17.88	3.62	15.58	3.52	4.53
5	Anger Out	16.98	3.92	15.69	2.96	2.62
6	Anger Control	20.92	4.38	22.91	5.09	2.96
7	Total Anger Expressed	29.84	8.01	24.57	7.91	4.68

* *t-value significant at .05 Level = 1.97*

** *t-value significant at .01 Level = 2.60*

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Table 1.2 Means, Standard Deviations and t-ratios comparing Working and Non-Working Women

Sr. No.	Variables	Working Women (n=100)		Non-Working Women (n=100)		t-ratios
		Mean	SD	Mean	SD	
1	Optimism	13.72	2.87	13.57	3.38	0.34
2	State Anger	13.86	3.87	15.73	5.43	2.80
3	Trait Anger	21.13	4.88	20.40	5.17	1.03
4	Anger In	17.29	3.81	16.17	3.62	2.13
5	Anger Out	16.83	3.08	15.84	3.88	1.99
6	Anger Control	22.03	5.05	21.80	4.64	0.34
7	Total Anger Expressed	28.19	7.82	26.22	8.81	1.67

* *t*-value significant at .05 Level = 1.97

** *t*-value significant at .01 Level = 2.60

Analysis of Variance (ANOVA)

Analysis of variance was conducted on women with health status and work status as independent variables. 2x2 ANOVA was employed with two levels of Health Status viz. Hypertensive and Non-Hypertensive Women and two levels of Work Status viz. Working and Non-Working Women. The effect of these two variables was singly and jointly analyzed for all the variables.

Analysis of variance for the variable **Optimism (Table 2.1)** revealed that F-ratio for health status ($F= 77.48, p \leq .01$) emerged to be highly significant. F-ratios for work status and the interaction effect emerged to be insignificant.

Analysis of variance for the variable **State Anger (Table 2.2)** revealed that F-ratios for health status ($F= 8.43, p \leq .01$), work status ($F=8.25, p \leq .01$) emerged to be highly significant. F-ratio for the interaction effect was found to be insignificant.

Analysis of variance for the variable **Trait Anger (Table 2.3)** revealed that F-ratio for health status ($F= 9.20, p \leq .01$) emerged to be significant. F-ratios for work status and the interaction effect emerged to be insignificant.

Analysis of variance for the variable **Anger In (Table 2.4)** revealed that F-ratios for health status ($F= 21.14, p \leq .01$), work status ($F=5.01, p \leq .05$) emerged to be significant. The F-ratio for the interaction effect was found to be insignificant.

Analysis of variance for the variable **Anger Out (Table 2.5)** revealed that F-ratios for health status ($F= 6.97, p \leq .01$), work status ($F=4.10, p \leq .05$) emerged to be significant. F-ratio for the interaction effect emerged to be insignificant.

Analysis of variance for the variable **Anger Control (Table 2.6)** revealed that F-ratio for health status ($F= 8.76, p \leq .01$) emerged to be highly significant. F-ratios for work status and the interaction effect were found to be insignificant.

Analysis of variance for the variable **Total Anger Expressed (Table 2.7)** revealed that F-ratio for health status ($F= 22.08, p \leq .01$) emerged to be highly significant. F-ratios for the work status and the interaction effect emerged to be insignificant.

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Table 2.1 Analysis of Variance of Optimism

Sources of Variance	Sum of Squares	df	Mean Sum of Squares	F-Value	Significance Level
Health Status	55.81	1	53.81	77.48	.00
Work Status	1.13	1	1.13	0.16	ns
Health Status X Work Status	13.01	1	13.01	1.84	ns
Within Treatment	14.86	196	7.07		
Total	19.79	199			

Table 2.2 Analysis of Variance of State Anger

Sources of Variance	Sum of Squares	df	Mean Sum of Squares	F-Value	Significance Level
Health Status	18.61	1	18.61	8.43	.00
Work Status	17.85	1	17.85	8.25	.01
Health Status X Work Status	70.81	1	70.81	3.34	ns
Within Treatment	42.34	196	21.20		
Total	46.60	199			

Table 2.3 Analysis of Variance of Trait Anger

Sources of Variance	Sum of Squares	df	Mean Sum of Squares	F-Value	Significance Level
Health Status	22.61	1	22.61	9.20	.00
Work Status	26.65	1	26.65	1.10	ns
Health Status X Work Status	41.41	1	41.41	1.71	ns
Within Treatment	47.30	196	24.19		
Total	50.96	199			

Table 2.4 Analysis of Variance of Anger In

Sources of Variance	Sum of Squares	df	Mean Sum of Squares	F-Value	Significance Level
Health Status	26.50	1	26.50	21.14	.00
Work Status	62.72	1	62.72	5.01	.03
Health Status X Work Status	11.52	1	11.52	0.92	ns
Within Treatment	25.68	196	12.51		
Total	28.42	199			

Table 2.5 Analysis of Variance of Anger Out

Sources of Variance	Sum of Squares	df	Mean Sum of Squares	F-Value	Significance Level
Health Status	83.205	1	83.21	6.97	.01
Work Status	49.005	1	49.01	4.10	.04
Health Status X Work Status	4.205	1	4.21	0.35	ns
Within Treatment	2340.140	196	11.94		
Total	2476.555	199			

Table 2.6 Analysis of Variance of Anger Control

Sources of Variance	Sum of Squares	df	Mean Sum of Squares	F-Value	Significance Level
Health Status	20.01	1	20.01	8.76	.00
Work Status	2.65	1	2.65	0.12	ns
Health Status X Work Status	31.21	1	31.21	1.38	ns
Within Treatment	44.70	196	22.61		
Total	47.56	199			

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Table 2.7 Analysis of Variance of Total Anger Expressed

Sources of Variance	Sum of Squares	df	Mean Sum of Squares	F-Value	Significance Level
Health Status	14.65	1	14.61	22.08	.00
Work Status	19.05	1	19.01	3.09	ns
Health Status X Work Status	25.21	1	25.21	0.40	ns
Within Treatment	12.70	196	62.90		
Total	14.60	199			

DISCUSSION

India has been experiencing an epidemiological transition and hypertension has emerged as a major threat to people's health. Hypertension has turned out to be a significant public health problem in both urban and rural areas of India. According to the Register General of India, the prevalence of hypertension in urban and rural populations of India was 25% and 10% respectively (Reports on the cause of deaths in India, 2010). Cardiovascular diseases such as coronary heart disease and stroke have been the largest cause of deaths in most developing countries (World Health Organization, 2005). Moreover, Hypertension has been shown to be directly responsible for 42% of coronary heart disease deaths and 57% of stroke deaths in India (Gupta, 2006; World Health Organisation, 2014).

There have been many misconceptions about cardiovascular diseases in women. In reality it affects as many women as men. The risk of cardiovascular disease including hypertension in women is often underestimated because of the notion that it is a "man's disease". Ischemic heart disease and stroke are the most important causes of death, years of life lost and disability in women (Lozano et al., 2013).

A glance at **t-ratios (Table 1.1)** comparing **Hypertensive and Non-Hypertensive Women** revealed that Hypertensive women scored higher on State Anger, Trait Anger, Anger In, Anger Out, Total Anger Expressed and Anger Rumination than Non-Hypertensive women. Hypertensive women scored lower than Non-Hypertensive women on Anger Control and Optimism.

The **Analysis of Variance** tables (**Tables 2.2-2.7**) revealed significant F-ratios for State Anger, Trait Anger, Anger In, Anger Out, Total Anger Expressed and Anger Control. The mean scores were found to be higher in Hypertensive women on State Anger, Trait Anger, Anger In, Anger Out and Total Anger Expressed whereas on Anger Control non hypertensive women were found to be higher.

Analysis of Variance table (**Table 2.1**) revealed the F-ratio to be significant for Optimism. The mean scores were found to be higher for Non-hypertensive women on Optimism.

Thus, the hypotheses were upheld in the case of Optimism. For anger Expression styles, hypotheses were upheld in the predicted direction. Hypertensive women were found to be higher on State Anger, Trait Anger, Anger In, Anger Out, Total Anger Expressed and Anger Rumination. Non hypertensive women were found to be higher on Anger Control.

For working versus non-working women No significant differences emerged on Trait Anger, Anger Control and Total Anger Expressed in case of working and non-working women. Also, Working and Non-Working women showed no significant differences on Optimism.

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Thus, the hypotheses were upheld partially for Anger In, Anger Out and State Anger. The working women were found to be higher on Anger in and Anger Out whereas non-working women were found to be higher on State Anger.

Many studies done earlier lend support to the present findings for role of Anger Experienced, Anger Expression styles with hypertension.

In a study by Poverny (2010), women who expressed their anger during work were mostly viewed as out of control or as difficult people to work with. If a woman becomes angry over an unreasonable expectation or demand, she has been thought to be of an angry nature or short tempered. Whereas, a man's angry reaction to the same event has been attributed to circumstances outside of himself or beyond his control. This sort of subtle gender discrimination encourages women to suppress their anger. Consequently, most working women report an "Anger-In" style, at least at the workplace. Anger is associated with adverse social, psychological, and physical consequences. Much of the recent empirical attention devoted to anger suggested a link between anger and the development of physical disorders, such as heart disease. Physicians have speculated that chronic anger contributes to illness since the time of Galen; however, systematic data addressing this association were unavailable until the advent of the behavioral sciences. Females have been found to cry when angry and to use avoidance, calm discussion, and suppression (Palaparthi & Rani, 2012).

Sadiq and Ali (2014) conducted a study to examine the psychological ill-being in married working women as a consequence of dual responsibility at home and workplace. A sample of fifty married working women was compared with fifty married non-working women. Sample was taken from general population. Data was collected using semi-structured brief interview form, General Health Questionnaire (ghq-28), Anger and Hostility Subscales of Aggression questionnaire. Results showed that working women significantly reported more cases of somatic complaints, social dysfunction, hostility, anger and depression. The dual responsibility of working women have made them prone to psychological problems and chronic ailments like heart disease, high blood pressure, type 2 diabetes and cancer.

Mushtaq and Najam (2015) studied the relationship of hypertension with psychological states of anger, stress and anxiety. The sample comprised of 200 subjects out of which 110 were men and 90 were women having hypertension and the control group comprised of 170 of which 90 were men and 80 were women within the age range of 30-65 years. The measures used were Spielberger State Trait Anger Expression Inventory (Spielberger, 1988) and Depression Anxiety Stress Scale (Lovebind & Lovebind, 1995). The logistic regression analysis was applied and it was found that anger, anxiety and stress acted as the best predictor contributing to the hypertension. The findings stated that all dimensions of anger have significant correlation with hypertension. This might be explained as people with hypertension often experience irrational judgment of reality, low level of frustration tolerance, unrealistic expectations and face disappointment and helplessness. Moreover, stress was found to be statistically significant and a strong predictor of hypertension. These findings are in line with earlier findings which have reported that stress has significant and positive relationship with hypertension. Job strain model of occupational stress predicts hypertension on the grounds of an individual's control over his job and circumstances. In the presence of uncontrollable job demands and pressures from the superiors often lead the individual insurmountable stress and ultimately becomes hypertensive (Flaa, Eide, Kjeldsen

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& Rostrup, 2008). Thus, the findings of this research have suggestions for understanding the role of emotional and psychological condition of individual in developing hypertension and in introducing effective preventive measures for the prevalence of hypertension.

A study was conducted by Shankarrao (2016) on psychological well-being and emotional maturity among working and non-working women. The sample comprised of 240 women (120 working and 120 non-working women). The measures used were Ryff's Psychological Well-Being Scale (Ryff, 1995) and Emotional maturity Scale by Singh and Bhargava (1999). Results revealed that working women were significantly higher on having positive attitude towards oneself (being optimistic), sense of self-determination, independence, freedom, having life goals, ability to manage life and being open to new experiences as compared to non-working women. Thus, it was found that working women had better psychological well-being, having positive attitude and were happier than non-working women.

Moxoto and Malagris (2015) investigated the differences between hypertensive and normotensives on anger expression and stress. 112 subjects (56 hypertensives and 56 normotensives) who were not homogeneous with respect to educational level, gender and age formed the sample. The measures used were Lipp's Inventory of Stress Symptoms (Lipp, 2000) and the State Trait Anger Expression Inventory by Spielberger, (1988). It was found that hypertensive participants were more likely to suppress their anger (anger in) and were more stressed as compared to normotensives. By frequently suppressing anger, the individuals with hypertension often fail to make the claim of their own rights, defense of their opinions and desires. The inhibiting of emotions has an immediate protective effect in people with hypertension, and thus the search for adaptive expression for these emotions through psychological interventions must be taken into account. Other way to understand the emotional factors associated with hypertension, such as stress and anger, is the understanding of the concept of cardiovascular reactivity, which refers to changes in blood pressure or heart rate due to specific stimuli. Though the general tendency of most people is to demonstrate cardiovascular reactivity in the form of blood pressure elevations facing *stressful situations*, individuals with hypertension are at higher elevations and more frequent than people without this diagnosis in similar situations which are transitory, these increases do not produce harmful effects in individuals with no tendency to hypertension because the normal adaptability of arteries allows the recovery of the body without causing cry. There is also the possibility that the direction of the expression of anger is also influenced by learning, resulting from observation of parenting styles (Lipp, 2005). Since hypertension has a strong hereditary component, it is possible that many individuals who have developed hypertension because of domestic chores where expression is predominant. Thus, it should be emphasized that clear communication is necessary to promote gratifying and functional interpersonal relationships, communication failures due to excessive inhibition of anger can be considered as predictors of deterioration in the quality of life in the social area of the person with hypertension, including both family and marital contexts, as well as occupational contexts. This damage is likely to cause stress, which in turn, may intensify anger. The health of this person will also be affected, because they occur excessively, both inhibition of anger and stress, can cause elevation of cardiovascular reactivity and increase the negative impact in the life of the individual having hypertension.

Similarly, Sahrain et al. (2015) studied scores of anger in hypertensive patients in comparison to individuals without hypertension. The study was conducted on 100

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hypertensive patients and 107 normal controls with the mean age of 52.48. The results showed that hypertensive group scored higher on anger dimension that is anger in, anger out and hostile outlook as compared to normal controls. In line with the previous researches, the study indicated that high level of anger was significantly related to high blood pressure.

Carver and Scheier (2014) found that optimists took a proactive approach to health promotion. They were less likely to smoke, more likely to exercise, have more healthy diets, and were more likely to improve their diets than pessimists, which promoted their recovery from coronary heart disease. Another reason for better health followed from the better profile of emotional responses to adversity displayed by optimists- less distress and more positive emotions. This pattern of overall emotional experiences, which followed in part from the coping reactions that optimists used (Carver, Scheier & Segerstorm, 2010), doubtlessly resulted in lower physiological strain over time, resulting in better health and improvement in their blood pressure readings.

Optimism is a psychological trait characterized by positive expectations about future outcomes. It is a significant predictor of physical health and was associated with enhanced physical recovery in a number of conditions and procedures such as traumatic brain injury, lung cancer, breast cancer, heart diseases, hypertension and bone marrow transplant. The protective effects of optimism have extended to both pain and physical symptom reporting, and negative associations between optimism and pain have been reported in a number of chronic illnesses. Post-operative pain reported lower among patients who were higher in optimism and this association has been demonstrated in patients who have undergone breast cancer surgery, heart surgery, and knee surgery. Ronaldson et al. (2014) reported that Optimism was a modest, yet significant, predictor of pain intensity and physical symptom reporting. Having positive expectations may promote better recovery with cardiovascular disease. A study by Ronaldson et al. (2014) investigated the association between optimism and post-operative pain and physical symptoms in coronary artery bypass graft surgery patients. The subjects comprised of 197 adults undergoing coronary artery bypass graft surgery. The patients were followed up to 6–8 weeks after the procedure to measure affective pain, pain intensity and physical symptom reporting directly pertaining to coronary artery bypass graft surgery. Optimism was measured at baseline using the revised Life Orientation Test (Scheier & Carver, 1994). The results revealed that more optimistic patients have less intense pain up to two months after coronary artery bypass graft surgery. Furthermore, patients who were higher in optimism reported fewer physical symptoms pertaining to coronary revascularisation. These associations were independent of demographic and clinical factors. The finding of the study indicated that a more optimistic disposition predicts less pain and fewer physical symptoms pertaining to coronary revascularisation approximately two months after coronary artery bypass graft surgery — the time at which most patients are expected to be able to do most normal activities and return to work. Therefore, having positive expectations may promote better recovery of the cardiovascular disease (Sehgal, 2015). In a study by Vaughan, Bushnell, Bell and Espeland (2016) investigated a sample of women at the time of ischemic stroke. 159 women stroke survivors were included. Researchers found that higher body mass index, hypertension, higher physical functions were associated with stroke and women with low optimism had decreased cognition and poor health recovery.

A large number of studies in the field of hypertension among working versus non-working women appear to be similar but have different measures and emphasis. That's why the

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present study investigation gains its significance. Certainly, hypertension is emerging as an important problem among working women. Therefore, attention has to be paid to train them to overcome stress and empower them to employ psychosocial medical strategies for fuller and healthier lifestyle.

The results of the present study emphasize the need to focus greater attention on women having hypertension. Health professionals must become aware of the female coronary risk profile as distinct from that of men. Comparisons of rural and urban populations on these parameters can be an important avenue for further research. Also, international comparisons may be an important basis for designing prevention programs globally.

The study also provides strong evidence for the detrimental effects of Anger, Stress, Type A Behavior and Anger Rumination. Thus, there are various programs which should be given to patients that help them to modify their behavior and promote different ways to enhance Optimism, Subjective Well Being and Effective Coping among women and consequently reduce the risk of hypertension.

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Conflict of Interest

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