Pakistan Journal of Social and Clinical Psychology
2024, Vol. 22, No. 1, 8-14

Anger Expression, Life Orientation, and Quality of Life in Patients with Hypertension

Ayesha Ahmad
Department of Psychology
Lahore College for Women University
&
Amina Muazzam
Department of Psychology
Lahore College for Women University

Abstract

The research was done to explore the relationship between anger expression, life orientation, and quality of life in patients having a diagnosis of hypertension. A cross-sectional research design was used following the technique of purposive sampling. Pearson product-moment correlation indicated that inward and outward anger expression of anger was negatively related to life orientation while anger control was positively related to both life orientation and quality of life. Anger control positively predicts quality of life in patients with hypertension. This present study aimed at maximizing behavioral interventions that are meant to enhance adherence in patients with hypertension while focusing on stress and anger management. The results would improve social health and mental well-being and suggest public seminars to improve coping strategies.

***Keywords*:** Life orientation, anger expression, quality of life, hypertension

Hypertension (HTN), commonly known as blood pressure, is an abnormal rise in blood pressure. Its symptoms do not develop earlier in the course of the illness. The psychological well-being of people is also influenced by their physical health. Due to physiological changes, patients with high blood pressure often display more rage. The development and progression of hypertension depend heavily on anger. Many hypertensive individuals are unaware of their condition, and among those who have been diagnosed, there is a lack of appropriate care. To prevent the spread of hypertension and to improve awareness, care, and control among the population, adequate processes must be implemented at all levels of society (Kearney et al., 2004).

According to Whelton (2004), humans communicate their anger in three distinct ways. Rage or anger management, anger out, and anger in. Inward anger is a way of expressing anger in which an individual does not openly address anger but instead tries to figure out alternative ways to express it, outward anger is a direct way of expressing hostile feelings without taking into account others' feelings. Whereas rage is a lack of control over emotions. The subjective level of contentment with one's life is a crucial indicator of both mental and physical health. Subjective satisfaction assesses a person's quality of life, which covers everything that is a part of their existence, including their work, employment, bodily and psychological health, environment, and other factors. An individual's optimistic or pessimistic view and the manifestation of anger expression (AE) both have an impact on Quality of Life (QOL).

Correspondence concerning this article should be addressed to Ayesha Ahmad
Lahore College for Women University
E-Mail: ahmadayesha21@yahoo.com

Hypertension (HTN) is a crucial medical problem in both industrialized and developing nations. According to the World Health Organization (2008), 40% of people over the age of 25 have hypertension. Danaei et al. (2011) conducted a global study of systolic blood pressure (SBP) and found a 2mmHg decrease in systolic blood pressure (SBP) between 1980 and 2008. In the decades from 1980 to 2008, it was predicted that the incidences of uncontrolled hypertension would rise due to the growth and maturation of the global population. Hypertension has been linked to 54% of strokes and 47% of ischemic heart diseases. Hypertension has been linked as a separate risk factor for coronary artery disease and cerebrovascular disorders. Higher blood pressure readings have been linked to a higher risk of cardiovascular disease and other chronic illnesses, according to the meta-analysis. Due to research showing that hypertension is a severe problem in the Southeast Asian region, the situation is critical. A region-specific risk factor for the prevalence of illnesses includes the age and education level of patients and also one of the physiological factors which is cholesterol level (Kishore et al., 2015).

The term "silent killer" refers to hypertension. A chronic condition, hypertension can lead to cardiovascular illnesses and other medical issues obesity, diabetes, etc. (Jovinelly, 2015). Hypertension is a common health condition in Asian countries including Pakistan. To examine the prevalence of hypertension as well as the extent to which it is understood, treated, and controlled around the globe requires physiological and psychological assessment of patients. In a study, Kearney et al., (2004) found that the prevalence of hypertension varied throughout the world with Poland having the highest prevalence and comparatively lower prevalence in rural India. Everson (1984) studied how people show their anger and incidents of hypertension, Moreover, independent of other known risk variables, the findings provide convincing epidemiological evidence for a connection between how one expresses anger and subsequent hypertension. This study also states that hostility can result in heart disease which ultimately lowers the mental well-being of the individual. Anger is one of the human beings'

primary emotions. Anger is a powerful emotion that typically manifests as dissatisfaction, irritation, and a menacing mood in response to an apparent wrongdoing. Since we don't want to deal with anger, our minds have come up with clever and subversive ways to cope with it. Therefore, it is often deeper or misleading; it seldom manifests as typical brief fits of rage. According to research by Herzfeld (2011), people with hypertension are more prone to act out in rage. Anger may be a very detrimental emotion, negatively affecting our physiology, emotional state, and mental health. The human person expresses rage in three fundamental ways. When anything goes "wrong" or when something is happening that one doesn't like, there is a rush to emit. The most overt kind of rage is also the most difficult for us to control. Some individuals vent their rage within. They appear friendly and deal with situations well on the outside, but this is only because they stifle their true emotions. As their annoyed feelings turn internal, this hidden face of rage frequently results in actual physical problems. Passive aggression is the third way to convey rage. It sets aside some chance to admit that this type of AE is sometimes the most disappointing. Aggressively passive people, instead of speaking out, stew and clutch their rage; they pretend to be silent and prepared to take things in stride (Herzfeld, 2011). An analysis of the style of anger expression and the prevalence of hypertension was done in a sample of N=537 men. The research's findings provide strong epidemiological support for a link between AE and the resulting hypertension, regardless of any recognized risk factors. Results support the hypothesis AE that anger has detrimental cardiovascular effects in any course (Everson & Salonen, 1998).

According to Everson and Goldberg (1998) and Kaplan et al. (1998), there is strong evidence supporting a link between AE style and the ensuing hypertension. Igna and Julkunen (2009) looked at theories that might explain the connection between AE treatment approaches and hypertension. It showed that AE indicators were negatively correlated with various aspects of a bad way of life. There is little doubt that unhealthy lifestyle choices influence the connection between rage and elevated blood pressure. An openly expressed rage seems to have a positive, direct effect on BP.

According to, an indigenous study by Shafqat (2016) there is a strong positive relationship between rage and hypertension. Trait outrage, in-outrage, outrage management, and outrage become the psychological predictors for the hypertension state-outrage. Study findings revealed gender differences among the study variables (Mushtaq & Najam, 2014).

Ohira et al. (2002) explored the relationship between AE, BP, and hypertension in Japanese people. A total of *N*=4374 participants, including men and women between the ages of 30 and 74, were collected from both rural and urban locations. The Spielberger Anger Expression Scale's outrage out and outrage in scores were used to measure AE. The results revealed that the anger out score and the systolic and diastolic pulse rates in males were inversely related. The study's findings suggest that Japanese men who don't express their anger, especially when they exhibit low adaptive behavior, may be at increased risk for hypertension. In this regard, the current study was designed to explore the relationship between anger expression, life orientation, and quality of life in patients with hypertension.

From the literature, it is clear that anger is the factor that leads to hypertension. In Pakistan hypertension exists along with the anger and views of individuals about life (Mushtaq & Najam, 2014). Life orientation is a holistic approach that encompasses the idea of self-study concerning others and society. Szabo and Böhm (2020) investigated a strong relationship between life satisfaction and life orientation in hypertensive and non-hypertensive adults which concluded that HPT patients had lower optimism and dissatisfaction with life as compared to non-hypertensive adults. It shows a strong association between life orientation and blood pressure.

Rationale

The present study explores the relationship between anger expression, life orientation, and quality of life in hypertensive patients. Hypertension is a chronic disease that has a greater influence on the overall well-being of individuals. A person's life orientation and emotional expression are contributing factors in developing and managing the symptoms of hypertension. A healthy lifestyle, anger management, and an individual's optimistic approach toward life improve the QOL and decrease the mortality rate. The purpose of this study is to understand the negative effects of hypertension and its overall impact on QOL. Furthermore, the study will be aimed to explore the gender difference in the study variables.

Hypotheses

H1: There is likely to be a significant relationship between anger expression, life orientation, and quality of life in patients with hypertension.

H2: Anger expression and life orientation are likely to predict the quality of life in patients with hypertension.

H3: There are likely to be gender differences in anger expression, life orientation, and quality of life in patients with hypertension.

Method

Research Design

A correlational research design was used.

Sample

Using a sample, people with diagnosed hypertension were chosen from a purposive sampling technique. The sample of research consisting of *N*=100 (n=58 women and n=42 men) with an age range of 25-45 was taken from the hospitals of Lahore. Only those patients were included who had been diagnosed with hypertension for at least two years and had been receiving medication for at least a year. Hypertension and a history of any psychological illness were the only physical conditions that were eliminated from the list of conditions.

Table 1

Demographic Characteristics of the Sample (N=100)

Characteristics	*N*	%
Gender		
Men	42	42
Women	58	58
Education		
Primary	12	12
Middle	8	8
Matric	18	18
Intermediate	14	14
Up-to intermediate	48	48

Profession		
Unemployed	32	32
Business	11	11
Private job	20	20
Government job	37	37
Marital status		
Married	66	66
Unmarried	34	34
Physical illness		
Yes	99	99
No	1	1
Family history of hypertension		
Yes	45	45
No	55	55
BP Duration		
1-5 years	70	70
6-10 years	21	21
10 or more years	9	9

Note. The average age of the participants was 29.7(*SD* = 6.51) and the average income was 33150 (*SD* = 22259). The average duration of taking BP medicine was 3.1 (*SD*=2.81)

Table 1 lists the participants' demographic details. The sample's age range was 25–45, with a mean of 29.7 (SD=6.51). From the total sample, 12% completed primary school, 8% completed middle school, 18% completed metric, 14% completed intermediate, and 48% completed high school. Among patients, 32% were unemployed, 11% were self-employed, 20% worked for a private company, and 37% worked for the government. 66% of the study's whole sample's participants were married, while 34% were single. Patients reported having a family history of hypertension in 45% of cases, but not in 55% of them.

Measures

A demographic sheet was prepared to collect the demographic data of the research participants. Multiple variables were added such as socioeconomic status, marital status, age, monthly income, and physical ailments. Moreover, data related to the history of hypertension and its diagnosis along with family history and triggers were also collected.

Anger Expression Scale (Shafqat, 2016)

Anger expression was measured by administering Shafqat (2016) created the Anger Expression Scale. The Scale has three sub-scales anger inward, anger outward, and anger control. Anger-in is defined as directing the anger towards yourself, denying thoughts or memories caused by anger, whereas anger-out is to express anger towards another person or object, and anger-control is the ability to manage and control feelings of anger by respecting and using non-offensive words for other Han, et al (2015). The scale consists of 21 items with a 5-point Likert style rating scale from 0 to 4, with 0 denoting never, 1 denoting rarely, 2 denoting occasionally, 3 denoting frequently, and 4 denoting always. The reliability of the test-retest and Cronbach's alpha was r=.98 and α= .80. It depicted measure was highly reliable (Shafqat, 2016).

***Life Orientation Scale-R* (Scheier et al., 1994)**

Life Orientation Scale-R by Schieier et al. (1994) was used to evaluate the life orientation of the participants. The scale consists of 10 items on a 5-point Likert-type scale ranging from strongly agree to strongly disagree. Life Orientation Scale Test (LOT-R) psychometric parameters revealed test re-test reliability ranged from .78 to .90 (Carnicer et al., 2016).

WHOQOL- Brief (WHO, 1996)

The World Health Organization created the short Quality of Life Scale. The measure has 26 items and was divided into four domains: social relationships (3 items), physical health (3 items), and mental wellbeing (6 items). Additionally, it includes aspects of general welfare and quality of life. A 5-point ordinal scale was used to provide the QOL scale with a score between 1 and 5. According to Vahedi (2010), the respective Cronbach's alpha values for social connections, physical health, mental health, and ecological health were 0.77, 0.52, 0.65, and 0.79.

Procedure

The research was given authorization to proceed by the department's Board of Synopsis after receiving approval from the research ethical committee. Information was gathered from Lahore hospitals. After requesting authority, the data-collecting process was begun. Before starting to gather data, the hospitals were asked for institutional consent. The medical director of hospitals received information on the research endeavor and the scales that were utilized in the study. Data was gathered from Lahore's public hospitals, which also had a sample of patients from other parts of Pakistan. The data were examined using the Statistical Package for Social Science (SPSS) version 21.0.

Results

In a sample of hypertension patients, correlation analysis, regression analysis, and independent sample t-test were used to determine the relationships and gender differences between anger expression, life orientation, and quality of life.

Table 2

Psychometric Properties of Measures

Measure	*M*	*SD*	Range	Cronbach's *α*
Life Orientation Scale	23.58	8.49	0-4	.63
Anger Expression Scale	35.71	12.67	0-4	.77
WHOQOL-Brief	86.38	16.00	1-5	.92

Note: WHOQOL= World Health Organization Quality of Life

The reliability analysis of "Life Orientation Scale", "Anger Expression Scale" (AES), and "World Health Organization Quality of Life Brief Scale" (WHOQOL-BRIEF) were .63, .77, and .92, respectively. It showed that the Cronbach's alpha was in acceptable to good range

.

Table 3

Correlation Analysis between Study Variables (N=100)

Variables	*n*	*M*	*SD*	1	2	3	4
1. Anger Outward	100	11.22	7.42	-			
2. Anger Inward	100	13.17	5.90	.26*	-		
3. Anger Control	100	27.61	5.87	-.11	.09	-	
4. Life Orientation	100	23.59	8.49	-.20*	-.23*	.29**	-
5. QOL	100	76.11	14.19	-.02	.07	.87***	.30**

The results showed that anger control was positively related to life orientation and quality of life, indicating that anger control is related to it more positive life orientation and better quality of life. Anger inward and anger outward were negatively related to life orientation, indicating that participants having anger inward and anger outward had a more pessimistic life orientation. Lastly, positive life orientation was positively related to quality of life.

Table 4

Hierarchical Regression Analysis showing Life Orientation as a Predictor of Quality of Life in Patients with Hypertension (N=100)

		95% CI for B					
Variables	B	*LL*	*UL*	SE	*β*	R^2	ΔR^2
Step 1						.12	.12**
Constant	61.41***	40.25	80.58	9.65			
Age	.05	-.38	.48	.22	.02		
Education	3.50**	1.50	5.50	1.01	.35**		
Step 2						.77	.65***
Constant	3.81	-9.17	16.79	6.54			
Age	.28*	.04	.52	.12	.13		
Education	.72	-.44	1.88	.58	.07		
Anger outward	.14	-.07	.35	.11	.08		
Anger inward	-.09	-.34	.17	.13	-.04		
Anger control	2.05***	1.77	2.32	.14	.85***		
Life Orientation	.12	-.06	.30	.09	.07		

The predictive relationship between demographic factors (age and education) and QOL in hypertensive patients has been investigated using hierarchical regression analysis. It was revealed that age is significant positive predictor of quality of life in hypertensive patients F (2, 96) = 10.47, p<.05. Also, it was discovered that there is a significant predictive relationship between educational attainment and quality of life F (2, 96) = 6.49, p<.01 Furthermore, the results showed that anger control was a significant positive predictor of quality of life in patients with hypertension as $F(2,96) = 50.14$, p<.001.

Table 5

Independent Sample t-test showing Gender Difference in Study Variables (N=100)

Variables	Men		Women		*t(98)*	*P*	*Cohen's d*
	M	*SD*	*M*	*SD*			
Anger Outward	11.39	7.66	11.10	7.31	.19	.851	.04
Anger Inward	12.31	5.90	13.79	5.85	-1.24	.217	.25
Anger Control	27.10	5.56	27.98	6.11	-.74	.458	.15
Life Orientation	24.95	11.30	22.62	5.65	1.35	.180	.26
Quality of Life	75.54	14.48	76.51	14.09	-.34	.738	.06

Note. Men (n= 42), women (n=58)

The results of the t-test analysis are summarized in Table 5. It showed that there were no significant gender differences in anger control, life orientation, and quality of life in patients having hypertension.

Discussion

The study aimed to investigate the connection between hypertension patients' life direction, rage outbursts, and quality of life. Additionally, studies look into gender differences in AE, life orientation, and QOL in hypertension patients. The current study demonstrates the importance of life orientation, anger management, age, gender, and education in predicting patients with

hypertension's quality of life. Data was analyzed using SPSS.

The first hypothesis indicates that among hypertension patients, there would be a significant relationship between anger expression, life orientation, and quality of life. The results of the study indicated a significant relationship between the study variables. The findings of the current study are lined with different researches. A study by Everson et al., (1998) showed a correlation between AE and hypertension in terms of style. James et al. (1986) also showed that anger can increase hypertension in varied amounts, Blood pressure also has an impact on the hypertensive patients' quality of life. The results of this research confirmed that hypertension harms the quality of life in terms of health. Patients with BP have a lower quality of life than non-hypertensive patients (Mena-Martin et al., 2003; Trevisol et al., 2011, Kerkhoff & Fuchs, 2011).

The findings of the regression analysis show the predictive relationship between the variables anger expression, life orientation, and QOL. The findings of this study looked at how certain demographic factors, including age, and education, can influence a person's QOL. According to Papadopoulos et al., (2007) hyperlipidemia, obesity, a lower level of education, being single, gender, a diabetic complication, advanced age, and hypertension were the most significant indicators of a lower QOL associated with compromised health. The current study hypothesizes that QOL can be significantly predicted by anger control. The study's findings lend credence to the notion. The results of Rutledge and Hogan's research (2002) demonstrate that hostility can predict BP.

The results of the current study showed no significant gender difference in study variables which were anger expression, life orientation, and quality of life in hypertension patients. Krieger (1990) conducted research that is aligned with the findings of the current research. The research findings demonstrated that there is no difference between genders in hypertension. HP is a physiological condition that equally effects both genders because environmental stressors can be perceived in different manners which depicts the individual differences. This may cause blood pressure fluctuation among individuals.

Conclusion

According to study findings, life orientation, quality of life, and the subcategories of anger (anger-in, anger-out, and anger-control) all have highly significant positive relationships. An individual's optimism and pessimism directly rise as their quality of life improves. Age, gender, and education all appeared to be socio demographic characteristics that significantly predicted quality of life. In the study, no discernible gender difference was discovered.

Limitations

Data was collected from the few hospitals of Lahore city so the sample may lack generalizability because of limited approach. It was difficult to find patients of hypertension in hospitals because of the less severe nature of the disease. Another limitation that researcher faced, was restrictions imposed by hospital management, it requires more time to collect data. The length of the scales employed in the study to gauge respondents' levels of anger expression and quality of life was not taken into consideration. The inability of the participants due to their probable health condition to participate was another significant barrier to data collection.

Recommendations

There are some suggestions for present study, in future longitudinal studies could be conducted furthermore study can have vast implication to design as experimental research. There should be placement of health psychologist in hospitals so it can bridge between patients and physicians for their health management and also facilitate researchers in healthcare settings. In can assist patients in taking protective and preventive measures for symptoms management. Data should be collected from diverse hospitals with greater number of sample to increase the generalizability of the study.

Implications

This research is relevant to enhancing knowledge of behavioral concerns in hypertensive patients. It should be understood that the aim is to identify the measures needed to improve patient’s adherence to their conditions. The findings can be used to address issues concerning stress and anger that contribute to hypertension hence improving the health of patients. Besides, anger management and hypertension, public seminars could teach how to cope with that, enhancing the general population’s health.

References

Aghajani, M., Ajorpaz, N. M., Atrian, M. K., Raofi, Z., Abedi, F., Vartoni, S. N., &Soleimani, A. (2013). Effect of self-care education on quality of life in patients with primary hypertension: comparing lecture and educational package. *Nursing and midwifery studies*, 2(*4*), 71.

Bardage, C., Isacson, D. G. (2001). Hypertension and health-related quality of life:An epidemiological study in Sweden. *Journal of clinical epidemiology*, 54(*2*), 172-` 181.doi.org/10.1016/S0895-4356 (00)00293-6

Banegas, J. R., Guallar-Castillón, P., Rodríguez Artalejo, F., Graciani, A., López-García, E., & Ruilope, L. M. (2006).Association between awareness, treatment, and control of hypertension, and quality of life among older adults in Spain.*American journal of hypertension*, 19(*7*), 686-693. doi.org/10.1016/j.amjhyper.2006.01.015

Banegas, J. R., López-García, E., Graciani, A., Guallar-Castillón, P., Gutierrez-Fisac, J. L., Alonso, J., & Rodríguez-Artalejo, F. (2007). Relationship between obesity, hypertension and diabetes, and health-related quality of life among the elderly. *European Journal of Cardiovascular Prevention & Rehabilitation*, 14(*3*), 456-462.doi/abs/10.1097/hjr.0b013e3280803f29

Chin, Y. R., Lee, I. S., & Lee, H. Y. (2014). Effects of hypertension, diabetes, And/or cardiovascular disease on health-related quality of life in elderly Korean individuals: a population-based cross-sectional survey. *Asian nursing research*, 8(*4*), 267-273. doi.org/10.1016/j.anr.2014.10.002

Cottington, E. M., Matthews, K. A., Talbott, E.,

&Kuller, L. H. (1986). Occupational Stress, suppressed anger, and hypertension. *Psychosomatic Medicine*, 48(*3*), 249-260. Retrieved from http://journals.lww.com

Danaei, G., Finucane, M. M., Lin, J. K., Singh, G. M., Paciorek, C. J., Cowan, M. J. & Ezzati, M. (2011). National, regional, and global trends in systolic blood pressure since 1980: systematic analysis of health examination surveys and epidemiological studies with 786 country-years and 5· 4 million participants. *The Lancet*, 377(*9765*), 568-577. doi.org/10.1016/S0140-6736 (10)62036-3

Everson, S. A., Goldberg, D. E., Kaplan, G. A., Julkunen, J., & Salonen, J. T. (1998). Anger expression and incident hypertension. *Psychosomatic Medicine*, 60(*6*), 730-735. Retrieved from journals.lww.com

Ferrans, C. E. (1996). Development of a conceptual model of quality of life. *Scholarly Inquiry for nursing practice*, 10(*3*), 293-304. Retrieved from www.ingentaconnect.com

Ferrans, C. E. (1990). Development of a quality of life index for patients with cancer. *Oncology Nursing Forum*, 17(3), 15-19. PMID: 2342979

Glanz, K., Rimer, B.K. & Lewis, F.M. (2002). Conceptual Model .*Health belief model.* Retrieved from www.utwente.nl

Green, E. C., & Murphy, E. (2014).Health belief model. *The Wiley Blackwell Encyclopedia of health, illness, behavior, and society:* doi: 10.1002/9781118410868.

Ha, N. T., Duy, H. T., Le, N. H., Khanal, V., &Moorin, R. (2014). Quality of life among people living with hypertension in a rural Vietnam community. *BMC Public Health*, 14(1), 833. doi.org/10.1186/1471-2458-14-833

Han, A., Won, J., Kim, O., & Lee, S. E. (2015). Anger expression types and interpersonal problems in nurses. *Asian nursing research*, *9*(2), 146-151.

Hogan, B. E., & Linden, W. (2004). Anger response styles and blood pressure: at least Don't ruminate about It!. *Annals of Behavioral Medicine*, 27(*1*), 38-49. DOI: 10.1207/s15324796abm2701_6

Herzfeld, R. (2011). The Three Faces of Anger: Which One Is Yours? *The Blog*, retrieved from www.huffingtonpost.com

Igna, C. V., Julkunen, J., &Vanhanen, H. (2009). Anger expression styles and blood Pressure: evidence for different pathways. *Journal of Hypertension*, 27(*10*), 1972-1979:doi: 10.1097/HJH.0b013e32832f4f8f

James, G. D., Yee, L. S., Harshfield, G. A., Blank, S. G., & Pickering, T. G. (1986). The influence of happiness, anger, and anxiety on the blood pressure of borderline hypertensives. *Psychosomatic Medicine*, 48(*7*), 502-508. Retrieved from journals.lww.com

Johnson, E. H., Schork, N. J., &Spielberger, C. D. (1987). Emotional and familial Determinants of elevated blood pressure in black and white adolescent females. *Journal of Psychosomatic Research*, 31(*6*), 731-741. Retrieved from deepblue.lib.umich.edu

Jovinelly, J. (2015). Risk factors for hypertension with diabetes.*Type 2 diabetes And hypertension.* Retrieved from www.healthline.com

Julkunen, J., &Ahlström, R. (2006). Hostility, anger, and sense of coherence as predictors of health related quality of life. Results of an ASCOT sub-study. *Journal of Psychosomatic Research*, 61(*1*), 33-39. DOI: 10.1016/j.jpsychores.2005.12.005

Kawecka-Jaszcz, K., & Klocek, M. (2014).*The Expectancy and Quality of Life in Hypertension.*

Kearney, P. M., Whelton, M., Reynolds, K., Whelton, P. K., & He, J. (2004). Worldwide prevalence of hypertension: a systematic review. *Journal of hypertension*, 22(*1*), 11-19.PMID: 15106785.

Kishore, J., Gupta, N., Kohli, C., & Kumar, N. (2016). Prevalence of hypertension And determination of its risk factors in rural Delhi. *International journal of hypertension*, 2016, 1-6:doi.org/10.1155/2016/7962595.

Krieger, N. (1990). Racial and gender discrimination: risk factors for high blood pressure, *Social science & medicine*, *30*(*12*), 1273-1281. Retrieved from http://www.sciencedirect.com.

Marcellin, F., Protopopescu, C., Esterle, L., Wittkop, L., Piroth, L., Aumaitre, H. & Salmon-Ceron, D. (2017). Short article: Anger and quality of life in patients co-infected with HIV and hepatitis C virus: a cross-sectional study (ANRS CO13-HEPAVIH). *European Journal of Gastroenterology &Hepatology*, 29(*7*), 786-791. Doi: 10.1097/MEG.0000000000000883

Markovitz, J. H., Matthews, K. A., Kannel, W. B., Cobb, J. L., &D'agostino, R. B. (1993). Psychological predictors of hypertension in the Framingham study: is there tension in hypertension? *Jama*, 270(*20*), 2439-2443. doi:10.1001/jama.1993.03510200045030

Mena-Martin, F. J., Martin-Escudero, J. C., Simal-Blanco, F., Carretero-Ares, J. L., Arzua-Mouronte, D., &Herreros-Fernandez, V. (2003). Health-related quality of life of subjects with known and unknown hypertension: results from the population-based Hortega study. *Journal of hypertension*, 21(*7*), 1283-1289. Retrieved from journals.lww.com.

Moum, T., Næss, S., Sørensen, T., Tambs, K., & Holmen, J. (1990). Hypertension Labeling, life events, and psychological well-being. *Psychological medicine*, 20(*3*), 635-646.doi.org/10.1017/S0033291700017153

Mushtaq, M., &Najam, N. (2014). Anger as a psychological risk factor of Hypertension. *Pakistan Journal of Psychological Research*, 29(1), 21.Retrieved from search.proquest.com

Nickel, M. K., Krawczyk, J., Nickel, C., Forthuber, P., Kettler, C., Leiberich, P., & Rother, W. K. (2005). Anger, interpersonal relationships, and health-related quality of life in bullying boys who are treated with outpatient family therapy: a randomized, prospective, controlled trial with 1 year of follow-up. *Pediatrics*, 116(*2*), e247-e254. DOI: 10.1542/peds.2004-2534

Ohira, T., Tanigawa, T., Iso, H., Sankai, T., Imano, H., &Shimamoto, T. (2000). Impact of anger expression on blood pressure levels in white-color workers with low-coping behavior. *Environmental health and preventive medicine*, 5(*1*), 37-42. doi: 10.1007/BF02935914

Ohira, T., Iso, H., Tanigawa, T., Sankai, T., Imano, H., Kiyama, M., & Shimamoto, T. (2002). the relation of anger expression with blood pressure levels and hypertension in rural and urban Japanese communities. *Journal of hypertension*, 20(*1*), 21-27.Retrieved from journals.lww.com

Oza, B. B., Patel, B. M., Malhotra, D. S., & Patel, V. J. (2014). Health-related quality of life in hypertensive

patients in a tertiary care teaching hospital. *Journal of the Association Physicians India*, 62(10), 22-29. Retrieved from japi.org

Papadopoulos, A., Kontodimopolos, N., Frydas, A., Ikonomakis, E., & Niakas, D. (2007). Predictors of health-related quality of life in diabetes II patients in Greece, *BMC Public Health*, 7(*1*), 186. Retrieved from https://bmcpublichealth.biomedcentral.com.

Raikkonen, K., Matthews, K, A., Flory, j & Gump. (1999). Effects of optimism Pessimism and trait anxiety on ambulatory blood pressure and mood during everyday life. *Journal of personality and social psychology*, 76(*1*), 104. Retrieved from http://psycnet.apa.org.

Rutledge, T., & Hogan, B. E. (2002). A quantitative review of prospective evidence Linking psychological factors with hypertension development. *Psychosomatic Medicine*, 64(*5*), 758-766. Retrieved from journals.lww.com

Schneider, R. H., Egan, B. M., Johnson, E. H., Drobny, H., & Julius, S. (1986). Anger And anxiety in borderline hypertension. *Psychosomatic Medicine*, 48(*3*), 242-248.

Sharma, M. K., Suman, L. N., Murthy, P., &Marimuthu, P. (2012). Relationship of trait anger with quality of life and anger control among alcohol users. *Open Journal of Psychiatry*, 2(*4*), 249 DOI: 10.4236/ojpsych.2012.24033

Soni, R. K., Porter, A. C., Lash, J. P., & Unruh, M. L. (2010). Health-related quality of Life in hypertension, chronic kidney disease, and coexistent chronic health conditions. *Advances in chronic kidney disease*, 17(*4*), e17-e26.doi: 10.1053/j.ackd.2010.04.002

Starner, T. M., & Peters, R. M. (2004).Anger expression and blood pressure in Adolescents. *The Journal of School Nursing*, 20(*6*), 335-342. doi/abs/10.1177/1059840504020006080

Szabo, A., & Böhm, T. (2020). Differences in life satisfaction, optimism, and pessimism between hypertensive and non-hypertensive adults. *Hellenic Journal of Psychology*, *17*(1), 35-44.

Gustems-Carnicer, J., Calderón, C., &Santacana, M. F. (2017). Psychometric properties Of the Life Orientation Test (LOT-R) and its relationship with psychological well-being and academic progress in college students. *Revista Latino Americana de Psicología*, 49(1), 19-27. doi.org/10.1016/j.rlp.2016.05.001

Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: assessment And implications of generalized outcome expectancies. *Health psychology*, 4(*3*), 219-247.doi=10.1037/0278-6133.4.3.219

Shafqat, F. (2016).Anger expression scale: *Development of anger expression scale.*

Thalacker, K. M. (2011). Hypertension and theming community: Using the health Belief model for health promotion. *Health promotion practice*, 12(*4*), 538-543.doi/abs/10.1177/1524839909353735

Trevisol, D. J., Moreira, L. B., Kerkhoff, A., Fuchs, S. C., & Fuchs, F. D. (2011). Health-related quality of life and hypertension: a systematic review and meta-analysis of observational studies. *Journal of hypertension*, 29(*2*), 179-188.Retrieved from journals.lww.com

Vahedi, S. (2010). World Health Organization Quality-of-Life Scale (WHOQOL-BREF): analyses of their item response theory properties based on the graded

Responses model. *Iranian journal of psychiatry*, 5(*4*), 140.PMID: 22952508

World Health Organization. (1996).*WHOQOL: Measuring Quality of Life.* Health statistics and information system

Received: April 4, 2023
Revision Received: October 10, 2024