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The Role of Depression, Anxiety, Stress, and Aggression in the Developing Hypertension Tendencies among Young Adults

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### Abstract

*The main purpose of this study is to determine how depression, anxiety, stress, and aggression relate to young adults diagnosed with hypertension. In this study, a correlational research design is used. The target population for this study was chosen using a purposive technique. The final sample comprised 200 people, equally divided across the genders (n = 100) female and (n = 100) male. Simple counts, simple percentages, mean, and standard deviation were all part of the descriptive analysis. The study's hypotheses are tested using inferential statistics, such as person correlation, multiple linear regression, and the t-test of independent samples analysis. Depression, anxiety, stress, and aggression are measured using the appropriate scales. SPSS is used to examine the data. Recommendations, consequences, and limits of the current study are discussed in the conclusion of the thesis.*

**Keywords:** Aggression, Anxiety, Depression, Patients of Hypertension, Stress

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Cite Us



## Title

### The Role of Depression, Anxiety, Stress, and Aggression in the Developing Hypertension Tendencies among Young Adults

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## Abstract

*The main purpose of this study is to determine how depression, anxiety, stress, and aggression relate to young adults diagnosed with hypertension. In this study, a correlational research design is used. The target population for this study was chosen using a purposive technique. The final sample comprised 200 people, equally divided across the genders (n = 100) female and (n = 100) male. Simple counts, simple percentages, mean, and standard deviation were all part of the descriptive analysis. The study's hypotheses are tested using inferential statistics, such as person correlation, multiple linear regression, and the t-test of independent samples analysis. Depression, anxiety, stress, and aggression are measured using the appropriate scales. SPSS is used to examine the data. Recommendations, consequences, and limits of the current study are discussed in the conclusion of the thesis.*

## Keywords:

[Aggression](#), [Anxiety](#), [Depression](#), [Patients of Hypertension](#), [Stress](#)

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## Introduction

Hypertension affects 333 million adults globally, or more than one-fourth of the global population, and 639 million people live in developing countries (Santulli, 2013). According to Jennings and Touyz (2013), it significantly raises the chance of developing cardiovascular diseases (CVDs), which include hypertension, stroke, Aortic aneurysm, cerebrovascular sickness, chronic renal disease, and peripheral artery disease. It also presents a serious risk of dying too soon and becoming permanently disabled.

Studies have shown that between 25 and 33 percent of persons have hypertension (Dennis et al., 2005). According to the findings of a study conducted in 19 countries (N=52,095), impulsive eating, anxiety, depression, and substance abuse are all associated with hypertension (Stein et al., 2014). Furthermore, studies indicate that an individual's emotional state can affect their blood pressure (BP) (Davison et al., 2004). The presumption that signs of anxiety or depression, Research, in particular, lend credence to the notion that the onset and maintenance of high blood pressure are closely linked to perceived stress, inadequate sleep,



work-related stress, and/or unpleasant emotions (Symonides et al., 2014; Petermann & Vaitl, 2009).

Hypertension is a major public health concern in developed nations. Wolf-Maier et al. (2003) estimate that 44% of people in Europe and 27% of adults in the USA and Canada are thought to have hypertension. Even while the proportion of patients with diagnoses More people have received therapy over the past few decades, and their blood pressure is now under 140/90 mmHg; however, only 35 to 57% of people in North America and Europe with medication-induced hypertension reach the recommended blood pressure targets (Degli et al., 2004; Payeras, 2005; Cutler et al., 2008).

Psychosocial factors have been identified as important determinants of medication compliance in patients with hypertension (Kim et al., 2003). Studies have been conducted on depression symptoms as a major psychosocial factor. A meta-analysis showed that compared to those without chronic illnesses, those who were depressed were significantly more likely to develop depression and to discontinue their treatment regimens. In this regard, Meng et al. (2012) discovered that the emergence of depressed symptoms increased the risk of hypertension. Rate of occurrence According to Kagee et al. (2007), over 20% of hypertension patients had symptoms of depression; comparable results were found in other studies (Cukrowicz et al., 2012; Ringoir et al., 2013).

According to a recent study, anxiety affects 5.3% of people worldwide and in China, making it one of the most prevalent problem categories (Yu et al., 2018; Shi et al., 2020). Furthermore, anxiety symptoms are more common in those with hypertension (Cheung et al., 2005; Wei & Wang, 2006). According to research, 39% of patients with generalized anxiety disorder also meet the criteria for depression (Hunt et al., 2002). It has been discovered that trait anxiety is one of the most powerful positive markers of hypertension. Effective mediators are thought to be strong relationships between outcome factors and patients' lack of self-care (Doubova et al., 2016).

### Statement of Problem

The concepts that are most common in our system—

such as stress, anxiety, depression, aggression, and hypertension—have a vital function in mental health. They frequently connect to one another. To examine the relationship with gender diversity, the current study selected a proportionate number of male and female young adults from the Faisalabad region. These were the important roles that motivated the researcher to carry out the investigation. In order to investigate the gender disparities in depression, anxiety, stress, aggression, and hypertension, a research hypothesis recognizing the correlation between the words will be proposed.

### Significance of Study

The present study offers useful insights into the ways in which individuals respond to Depression, Anxiety, Stress, and Aggression when developing hypertensive tendencies in young adults. In order to overcome the characteristics of mental health issues, this research also supports the treatment of depression, anxiety, stress, and aggression in young adults who are developing hypertension tendencies. Research is also gathering new data regarding gender inequality in earlier literature. This study makes recommendations for improving the psychological well-being of people receiving a hypertension diagnosis. The justification offered in this study expressly calls on the authorities to consider the results and apply them to the care of patients from Pakistan.

### Literature Review

About 20% of young individuals have hypertension, whereas older groups are more likely to experience it, according to Nguyen et al. (2011). Nevertheless, very few studies have examined the differences between genders in hypertension and young knowledge of the condition, as well as the factors influencing these differences. There have been several epidemiological studies on the connection between anxiety and HT, but the findings are not entirely clear. According to a recent systematic review and meta-analysis by Pan et al. (2015), who collated the data from prospective and cross-sectional studies, anxiety and a higher risk of HT are connected. These results provide credence to the early detection and treatment of anxiety in

individuals with hypertension. More research is required, particularly in young people, to identify the pathophysiological mechanisms underpinning the associations between psychological factors and high blood pressure. It is true that the special traits of the adolescent and young adult population must be considered in the management of occupational risks (Caricati et al., [2016](#)).

Over the past few decades, rates of hypertension in the US have increased or stayed unchanged among both young people and the elderly. Men under 65 regularly have higher blood pressure values than women in the same age range, as multiple studies have demonstrated. It is during the early years of adulthood that this gap is most noticeable. This difference is particularly noticeable in the early years of adulthood. One study, for example, found that among white individuals between the ages of 18 and 29, just 1.5% of women and over 5% of men reported having hypertension, but the corresponding numbers for black adults were 4% and 10% (Cutler et al., 2008).

Gender differences exist in the prevalence of hypertension in both humans and animals. Physiological and behavioral factors both affect these variances (Sandberg & Ji, [2012](#)). In both human and animal populations, there are gender disparities in hypertension. These differences are influenced by both behavioral and biological variables. Gender variations in hypertension become less noticeable or go away totally after a woman reaches menopause, which is caused by these biological elements that first emerge during adolescence and continue throughout adulthood. According to several research, women are more aware of hypertension than men are. On the other hand, men are more likely than women to be aware that they have hypertension. From the perspective of our target audience, younger people usually have a somewhat poor awareness of hypertension (Egan et al., [2010](#)).

Without insurance, young adults (ages 19 to 24) are more likely to put off or miss a doctor's appointment, refuse to fill a prescription because of the cost, and not see a doctor at all. Therefore, people without health insurance are less likely to receive

preventative treatment, including cardiovascular preventive care. A more recent study (Callahan & Cooper, [2005](#)) found that the use of healthcare services is a major predictor of the diagnosis and management of hypertension.

Since hypertension (HT) is caused by a complicated interaction between a number of genetic and environmental risk factors, the etiology of HT remains poorly understood despite intensive research over the past few decades. Moreover, the onset of HT is associated with a range of behavioral, psychological, and sociodemographic characteristics (Pilic et al., [2016](#)). Aging, ethnicity, geographic location, lower earnings, lower educational attainment, admissions challenges, and worse-quality public health care are a few demographic traits linked to CVDs. Age, smoking, drinking, not exercising enough, tampering with the circadian rhythm, eating a diet poor in fruits and vegetables, and becoming overweight or obese all dramatically raise the risk of HT and all CVDs (Tanuseputro et al., [2003](#)).

A recent review of the literature found that HT risk has been associated with factors such as job insecurity, long work hours, low pay, workplace stress, and sleep issues. According to a recent study, men who were not regularly exposed to active employment had a greater cumulative incidence of HT over a five-year period (Trudel et al., 2016). Those were not exposed, per studies looking at the impact of effort-reward imbalance and recurrent work stress. Conversely, research demonstrated that women exposed to ERI had greater ambulatory systolic blood pressure than women who were not. In a sample of healthy male employees, some researchers discovered a negative link between work stress and arterial stiffness, while other researchers discovered a positive correlation (Bugajska et al., [2008](#)).

There have been several epidemiological studies on the connection between anxiety and HT, but the findings are not entirely clear. According to a recent systematic review and meta-analysis by Pan et al. (2015), who collated the data from prospective and cross-sectional studies, anxiety and a higher risk of HT are connected. These results provide credence to

the early detection and treatment of anxiety in individuals with hypertension. More research is required, particularly in young people, to identify the pathophysiological mechanisms underpinning the associations between psychological factors and high blood pressure. It is true that the special traits of the adolescent and young adult population must be considered in the management of occupational risks (Caricati et al., 2016). Because of this, determining a child's cardiovascular risk is essential, particularly in light of the recent lifestyle changes that youth have made (Mangena et al., 2015). An explanation for the issue of over-identification in certain groups of young adults, such as health professions students, could perhaps come from a balance between effort and reward. Because of the unique characteristics of healthcare workers, the difficulty in finding employment, and the precarious nature of employment contracts, these students actually experience constant ERI throughout their academic careers in addition to a recurrent job strain. These problems may become even more apparent in light of the present economic crisis (Van Hal, 2015).

The World Health Organization (2009) states that depression is one of the most debilitating mental diseases globally because its symptoms can worsen social functioning and become chronic or recurrent over the course of a person's life. Kessler et al. (2003) state that young adulthood is when depression usually first manifests itself. It is crucial to identify the factors that contribute to depression throughout the transition to adulthood. The passage from childhood to adulthood is often symbolized by a number of life events rather than precise years, such as completing education, landing a job, getting married, and starting a family (Furstenberg et al., 2005). A longitudinal study is needed to determine whether unmet expectations about academic success and when to get married, start a family, and work impact depressed symptoms later on. According to the life course perspective, the timing of life stages can have particular social and psychological effects, and individual expectations regarding the indicators of adulthood may be based on their age.

Teenagers with sub-diagnostic degrees of depressive symptoms are more likely to experience young-adult depression, substance dependency, and impaired social and psychological functioning, according to (Aalto-Setälä et al. 2002). Sixty-two percent of the 149 participants in the Maudsley ongoing study of depressed children and adolescents (Fombonne et al., 2001) who were followed for 20 years had another severe depressive episode. Comparable numbers of people attempted suicide, with 44% of those individuals making more than one attempt. Compared to the adult population as a whole, this group of people had significantly higher rates of social disorders and service use (Knapp et al., 2002).

Over the past 20 years, it has been determined that the brain regions that are active during stress and anxiety responses in healthy individuals are the amygdala, cerebellar nuclei, prefrontal cortex, and hypothalamus (Takagi et al., 2018). Remarkably, both stress illnesses and anxiety disorders have an impact on certain brain regions, including the accumbens nucleus (NAc), medial frontal cortex (mPFC), locus cerulean (LC), and basolateral amygdala (BLA) (Shin & Liberzon, 2011). There may be a strong bidirectional relationship between stress and anxiety in both healthy and pathological situations, according to the integrated brain circuits that control both forms of stress and anxiety. Changes in the connection between brain regions that control stress and anxious behavior may consequently have an impact on the etiology of psychopathologies like post-traumatic stress disorder (PTSD), social anxiety disorders, and generalized anxiety disorder (GAD).

Symptoms of depression and anxiety are often co-occurring, and it is believed that dysfunctional alterations in stress-responsive pathways underlie both diseases (Holsboer, 2000). The traditional classification of anxiety and depressive illnesses, however, may be arbitrary, according to an implicit class analysis of clinical symptoms, which also proposed the creation of a new category called "major depression - generalized anxiety disorder." The fact that the genetic factors that enhance sensitivity for these two illnesses are almost identical lends credence to this theory. Therefore, considering the strong

evidence linking central NPY to stress and anxiety, it is not surprising that this system has been associated with depressive disease.

When an organism's equilibrium is endangered, either by an actual or imagined threat (stressor), it goes into an emergency state (Chrousos, 2009). When in this crisis condition, the organism initiates a coordinated response that encompasses both physiological and behavioral responses. Systemic emphasizes, also referred to as internal threats, are defined by physiological changes in the body, such as hypoglycemia and hypervolemia (low blood volume), which can be caused by a severe car accident, among other things. On the other hand, perceived hazards, sometimes referred to as mental stressors, are circumstances that may provide risk and jeopardize homeostasis, which brings in the crucial element of anticipation (Koolhaas, 2011). Understanding the idea of expectation in the stress response is necessary to understand the relationship between stress and anxiety. According to that perspective, stress is a simultaneous, bodily, and emotional reaction to a stimulus. Certain elements of the emotional reaction are influenced by the perception of the threat's closeness (Anderson & Adolphs, 2014).

According to Bandura, people can take up social traits like violence by seeing and copying others. Kids viewed a DVD of an actor doing his famous experiments, which included striking a "Bobo Doll" in a variety of inventive ways. In the future, the children mimicked the behavior without either classical or operant training. Bandura popularized the concept of vicariously learning violence by showing that young people were particularly likely to imitate role models who had been praised for acting aggressively. Numerous writers have also examined other risk factors, such as psychological disorders and mental health concerns, however, the connection to hypertension is less certain and often disputed (Sparrenberger et al., 2008). As a result, studies often demonstrate that individuals who choose to work in the health sector endure high levels of perceived stress and that a significant percentage of them are at risk of mental health issues (Wallace et al., 2015).

## Methodology

### Population

Male and female participants in the study with a diagnosis of hypertension are young adults from various organizations in Faisalabad.

### Sampling Technique

Young people from Faisalabad who have been diagnosed with hypertension are the study's participants. Purposeful sampling is used to select the sample in order to allow researchers to draw useful conclusions from the data they have collected. This enables scholars to explain how their research has a substantial impact on the broader public.

### Procedure

The research proposal and synopsis were approved by a committee at a meeting held at Riphah International University's psychology department, marking the beginning of the study's execution. The letter of authorization to obtain data collection, along with all papers and measures related to the current study, was given to the heads and in-charges of every college and other field where data was collected. The letter also included all mental measurements, including research scales that the psychology department provides students with. Young adults with hypertension in Faisalabad were selected through deliberate selection from the broader population. To get participants' informed consent, questions about the study and its objectives would be explained in compliance with ethical guidelines. While full involvement is encouraged, participants will be told that they can stop at any time if it becomes uncomfortable. This was taken to guarantee that participation would only be voluntary. Even though it was determined that there was minimal danger of injury during the experiment, those who showed symptoms of discomfort could receive counseling. A complete set of study questionnaires was given to each participant. They would advise answering every question honestly.



## Data Analysis

The information will be analyzed using IBM SPSS version 23.0. Both descriptive and inferential statistics were used in the data analysis. Basic counts, basic percentages, averages, and standard deviations are all part of the statistical analysis. The study's hypotheses were assessed using inferential statistics such as person correlation, multiple linear regression, and t-tests on independent samples.

## Ethical Consideration

This study's ethical implications were considered. The participants in this particular study were selected voluntarily, and informed consent was given in front of the administrators. The goal of the study was explained to each participant, and it was decided that the data would only be utilized for legitimate business needs. If participants had any queries, they could mail them in. Since the complete dataset was gathered in a booklet, each participant was required to sign a consent form. The scale was approved by the corresponding authors.

## Results and Discussion

Finding out more about how young adults with hypertension feel about sadness, anxiety, stress, and aggression is the major objective of this study. The findings of our investigation are presented in this chapter along with a discussion of them. The data collected from the 200 participants was gathered using the Aggression Questionnaire and the DASS. Statements pertaining to the three key dimensions of depression, anxiety, and stress made up the DASS questionnaire. The Violence Questionnaire addresses verbal, physical, auto, and aggression against property as the four main categories of aggressiveness. The collected data was analyzed using the SPSS 23.0 version, employing inferential statistics to carry out t-test and correlation procedures and descriptive statistics to ascertain the psychometric properties of each variable.

The key components that serve as the primary etiologies for these noteworthy conclusions will become evident from the data analysis. The results are combined with those from earlier studies. As a result,

both male and female Faisalabad patients who are employed or enrolled in school in a range of public and private sectors are highly susceptible to experiencing a number of psychological and emotional issues. The discussion will conclude with those elements and elements that are acting as underlying causes. We'll also talk about how stress, anxiety, and depression contribute to the development of these problems. This chapter will also cover the issues that people with hypertension face, as well as the types of aggression that lead to pathology. Many scientific studies have delved deeply into the biology of hypertension and its associated psychological issues, including stress, anxiety, and depression in patients with a diagnosis of hypertension. We can better comprehend the results of the current study, which examined stress, anxiety, depression, and aggression among patients in Faisalabad, Pakistan, who had confirmed hypertension, by talking about these important variables.

The results of the first hypothesis show that stress, anxiety, depression, and aggression all strongly dominate at P.05, suggesting that these factors have high associations with individuals who have a history of hypertension. When the results of the current study are combined with those from previous studies, there is a greater chance that job demands (Babu et al., 2014), depression, anxiety, stress, and sleep issues (Genta-Pereira et al., 2014), or other negative emotions (Symonides et al., 2014) will be directly responsible for the onset and maintenance of hypertension (Abbott et al., 2014). Several reasonable ideas explain these results; the most important one regarding the relationship between these parameters will be discussed in more detail below.

The results of this study, which demonstrate that stress, anxiety, and depression have a substantial influence on aggression in hypertension patients, also validate the study's second premise. Table 4.6 indicates that there is a significant difference in the stress variable scores between male and female hypertensive patients: M 10.64 and SD 5.34 for male patients and M 8.75 and SD 4.00 for female patients. The t value is 2.83 when contrasted with P =.000.

With a mean of 10.15, a standard deviation of 4.42, a t value of 2.53, a P value of .000, and a depression variable in the same table, male and female patients with a diagnosis of hypertension had excessive variation.

In line with the results of the current study, Shah et al. (2011) discovered that women with a history of attempted suicide are three times more likely than the general population to die from cardiovascular diseases (men are at 2.4 times higher risk). The authors also observe that these women had a 14-fold higher risk of dying from a cardiac attack than men do (men are 3.5 times less probable). Individuals experiencing stress, anxiety, or depression may find it easier to interpret and use these results.

## Conclusion

In conclusion, there is a strong association between depression, anxiety, stress, and violence in people who have been diagnosed with hypertension. Psychological issues like depression, anxiety, stress, and aggression can have a significant impact on people with hypertension, whether they live in Pakistan or somewhere else. Like many other nations, Pakistan may have limited access to mental health care, and cultural considerations may have an impact on how these issues are seen and handled. When treating individuals with hypertension, medical providers need to use a comprehensive strategy that considers psychological aspects and provides appropriate therapy. This may require medication, nutritional adjustments, psychotherapy, and support from mental health or medical professionals.

Several studies on the relationship between mental health issues and hypertension have shown that these variables interact in a complex way. Studies show that

people with hypertension are more likely than people without it to have symptoms of depression. Chronic illness management, changing one's lifestyle, and taking medication can all be stressful and cause depressive symptoms, hopelessness, and low mood. Hypertensive patients may also have heightened anxiety, which manifests as agitation, excessive concern, and a sense of impending danger. Anxiety symptoms can be made worse by fear of potential health problems, such as heart attacks or strokes, which can also feed a vicious cycle of stress and elevated blood pressure. It is well known that persistent stress contributes to the development of hypertension as well as its course. Individuals with hypertension often experience chronic stress in their personal, professional, and health-related lives. Increased blood pressure can be brought on by stress, and high blood pressure over time can be harmful to cardiovascular health. Although the association between hypertension and aggression has not been well investigated, some research suggests that individuals with the illness may be more aggressive than those without it.

However, it's crucial to remember that aggression is a complex behavior impacted by a wide range of factors, and more research is required to definitively link aggression to hypertension. People with hypertension who suffer from mental health disorders must receive treatment because these conditions might worsen the condition's management and have an impact on overall well-being. A multidisciplinary approach to treatment that combines medical doctors, therapists, and lifestyle modifications and treats both the physical and mental aspects of the illness can lead to better outcomes and a higher quality of life for patients.

**Table 1**

*Demographics Information of the Participants (N=200).*

	N	%	Cumulative
Age			
18-20	65	32.5	32.5
21-25	125	67.5	100.0
Gender			

	N	%	Cumulative
Male	100	50.0	50.0
Female	100	50.0	100.0
Education			
Intermediate	34	17.0	17.0
Bachelor	115	77.5	94.5
M. Phil	11	5.5	100.0
Socio-economic status			
Upper	24	12.0	100.0
Middle	154	77.0	88.0
Lower	22	11.0	12.0

Table 1 It includes many factors, such as socioeconomic level, age, education, and gender. The demographic details of samples taken from (n=100) male and (n=100) female patients are shown in this table. It has been divided into male and female categories in terms of gender. More specifically, data analysis has been done on 100 male and 100 female

patients with hypertension. The second factor is age, which refers to young individuals between the ages of 18 and 25. The population's educational level ranges from intermediate to master level. According to the samples' socioeconomic status, 11% of patients are from the lower class, 77% are from the middle class, and 12% are from the upper class.

**Table 2**

*Pearson Correlations between Depression, Anxiety, Stress and Verbal Aggression, Aggression against Property, Auto Aggression, and Physical Aggression among Diagnosed Patients with Hypertension (N=200)*

Variables	M	SD	Stress	Anxiety	Depression	VA	AAP	AA	PA
Stress	9.69	4.80	-	.498**	.496**	.152*	.104	.163*	.116
Anxiety	9.62	3.89		-	.656**	.114	.036	.260**	.223
Depression	9.37	4.41			-	.101	.168*	.326**	.289
VA	3.44	2.21				-	.206**	-.030	.029
AAP	2.23	2.01					-	.420**	.303
AA	2.06	2.61						-	.553
PA	1.82	2.36							-

\*\*p <.05

Table 2 shows the considerable correlation between the variables stress, anxiety, depression, and aggression. Stress has a significant relationship with anxiety P is .498\*\* depression P is .496\*\* verbal aggression P is .152\* and auto aggression P is .163\* with a mean of 9.69 and a standard deviation is 4.80. The same table's data revealed a significant link between anxiety and sadness (P =.656\*\*) as well as between aggression and self-control (P =.260\*\*) with

a mean of 9.62 and a standard deviation of 3.89. Further depression has also a significant relationship with the aggression against property P is .168\* and auto aggression P is .326\* with the M of 9.37 and SD is 4.41. These variables (stress, anxiety, depression, and aggression) were found to be positively and significantly correlated in the current study, which will be explained in detail in the discussion chapter.

**Table 3**

Summary of Linear Regression Analysis with Depression, Anxiety, Stress, and Aggression among Diagnosed Patients with Hypertension (N= 200).

Predictors	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	F	Df	Sig.
Aggression	.317a	.101	.096	22.128	198	.000

\*p<.05

In Table 3, it is demonstrated that depression, anxiety, and stress are significant predictors of aggression in diagnosed hypertensive patients, with R =.317<sup>a</sup>, R<sup>2</sup> =.101, Adjusted R<sup>2</sup> =.096, and F = 22.128, and p =.000.

**Table 4**

Summary of Linear Regression Analysis with Depression, Anxiety, Stress, and Aggression among Diagnosed Patients with Hypertension (N= 200).

Model	Sum of Square	df	Mean of Square	f	Sig
Regression	2401.214	1	2401.214	22.128	.000
Residual	21485.941	198	167.229		
Total	23887.155	199			

Independent Variable; Stress, Anxiety, and Depression

Dependent Variables; Aggression

**Table 5**

Coefficients Summary of Depression Linear Regression Analysis, Anxiety, Stress and Aggression among Diagnosed Patients with Hypertension (N= 200).

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	SE	B		
Constant	23.256	1.369		16.985	.000
Aggression	.568	.121	.317	4.704	.000

\*\*\*p >.001

Independent variables are stress, anxiety, and depression, The Dependent variable is aggression. Coefficients Summary of Linear Regression Analysis reveals that stress, anxiety, and depression can lead to aggression in a variety of populations, particularly as findings suggested that it can lead to aggression

among those with hypertension who have been diagnosed with the condition. With a t value of 4.704 and a p value of.000, it has been demonstrated that stress, anxiety, and depression are predictors of aggression across all variables.

**Table 6**

A comparison of the depression-related factors based on gender differences, Anxiety, Stress, and Aggression among Diagnosed Patients with Hypertension (N= 200).

Variable	Male (n = 125)		Female (n = 125)		t	P	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
Stress	10.64	5.34	8.75	4.00	2.83	.005	.572	3.20	.66

Variable	Male (n = 125)		Female (n = 125)		t	P	95%CI		Cohen's d
	M	SD	M	SD			LL	UL	
Anxiety	9.61	3.26	9.63	4.45	-.036	.971	-1.10	1.06	.55
Depression	10.15	4.42	8.59	4.29	2.53	.012	.344	2.77	.61
Aggression	9.99	5.52	9.12	6.64	1.00	.316	-.835	2.57	.86

*P* < .05

According to table no. 6, there is a substantial difference between male and female patients with hypertension on the stress variable, with M 10.64 and SD 5.34 for male patients and M 8.75 and SD 4.00 for female patients. The t value is 2.83 whereas P = .000.

Between male and female patients diagnosed with hypertension, there are too many significant differences in the variable of depression. The mean value is 10.15, the standard deviation is 4.42, the t value is 2.53, and P = .000.

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