



Correlation between self-reported exercise participation and blood pressure at rest among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State

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Abstract

Hypertension is a growing concern among young adults particularly university students due to the increasing prevalence of sedentary lifestyles and reduced physical activity. This study investigated the correlation between self-reported exercise participation and blood pressure at rest among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State. Seven research questions and two hypotheses guided the study. The study design was quasi-experimental. The study population comprised all undergraduate students of the institution and a sample of two hundred students was recruited using convenience sampling. Data on self-reported exercise participation was collected using a self-structured questionnaire with 0.71 coefficient reliability while blood pressure in mmHg was measured with a digital device. Data was analysed using frequency counts, percentages, mean and standard deviation while hypotheses were tested using an Independent Sample t-test and PPMC at 0.05 alpha level of significance. The findings showed that the mean age of participants was 23.79 ± 3.76 years with more females than males in the study. The majority of the students reported participation in various forms of exercise however, in spite of the impressive rate of participation, the duration of exercise sessions was low. The mean systolic blood pressure was 126.28mmHg among males and 118.53mmHg among female students; the mean diastolic blood pressure was 84.50mmHg among males and 83.02mmHg among female students. The tested hypotheses revealed exercise was significant and negatively correlated with systolic ($r = -0.311$; $p = 0.000$) and diastolic ($r = -0.312$; $p = 0.003$) blood pressure. Also, there was a significant difference ($t = 2.997$; $p = 0.003$) in blood pressure based on gender among the undergraduate students, with the males having a higher mean incidence of elevated blood pressure than the females. Students should be encouraged to prioritise physical exercise while university management is encouraged to provide needed opportunities for students to incorporate exercise into their daily routines to promote healthy and all-round wellness.

Keywords: Exercise participation, blood pressure, undergraduate students, Nigeria

Introduction

Modern lifestyle in many societies is characterised by an increasingly sedentary lifestyle. This has led to an increase in the rates of chronic non-communicable diseases such as cardiovascular diseases, hypertension, and diabetes, necessitating participation in regular exercise for optimum health maintenance (Lavie et al., 2019; Bell et al., 2023; Gariballa et al., 2023). The American College of Sports Medicine (ACSM) defines exercise as any body movements that are planned, structured and repetitive and serve to improve or maintain one or more components of physical fitness (ACSM, 2021). It is an aspect of activity that involves energy expenditure that is organised, structured and repeated with the intention of preserving or enhancing general health and fitness (Mayfield & Bobb, 2023). These definitions amplify that for any activity to be regarded as exercise, it must be deliberately scheduled, systematised, and repetitive, with improvement and/or maintenance of body fitness as the ultimate goal. Interestingly, studies have shown that different exercises are a proven therapeutic method for preventing and managing non-communicable diseases affecting cardio-respiratory systems which include medical conditions such as obesity, stroke, and diabetes (Lavie et al., 2019; Santos et al., 2020; Granero-Jiménez et al., 2022; Mannarino et al., 2023).

Exercise can be classified into various types according to their primary focus and the systems they target within the body; they include aerobic exercises, strength training, flexibility exercises, balance exercises and functional exercises (National Institute of Health, 2021; Zhang et al., 2023). Aerobic exercises refer to any planned activity that increases the body's need for oxygen and engages large muscle groups over an extended period. This type of exercise encompasses a variety of activities including walking, running, dancing, swimming, cycling, and various group fitness classes that strengthen the heart muscle, enhance circulation, and reduce the risk of cardiovascular diseases (Suman, 2016; American Heart Association, 2020; ACSM, 2021).

Strength training or resistance exercises are exercises that include the utilisation of resistance to prompt muscle contractions thereby fostering improvements in strength, endurance and muscle mass. Strength training is beneficial for more than just developing muscular mass; it also improves bone density, cardiovascular health and mental wellness. Flexibility exercises involve engagement in activities that stretch and lengthen muscles and tendons, thereby enhancing range of motion and suppleness. While strength and cardiovascular training typically receive more attention, flexibility exercise offers a myriad of benefits for physical health, injury prevention, and overall well-being. In their study, Alimoradi et al., (2023) emphasized the positive correlation between flexibility and athletic performance. By increasing the range of motion around joints, flexibility exercises enable individuals to move more efficiently and effectively during physical activities, whether it be sports, recreational activities, or daily tasks.

Exercise schedules and intensities usually vary depending on personal fitness objectives, preferences and physical abilities. The American Heart Association (AHA) suggests engaging in muscle-strengthening exercises two or three days in a week in addition to 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity aerobic exercise per week (AHA, 2020; 2021). Any amount of exercise is beneficial and it is essential to find activities that the individual enjoys and can incorporate into his/her daily routine. Incorporating a wide range of exercise activities into one's fitness routine can have a significant positive impact on one's general health and fitness.

Exercise (in its different forms) has long been recognized as a cornerstone of health promotion, with numerous benefits extending beyond physical fitness to encompass mental well-being and cardiovascular health. Changes in lifestyle and work habits brought about by modern times are linked to decreased levels of exercise (Granero-Jiménez et al., 2022; Yao et al., 2022; Mahindru et al., 2023; Martin-Rodriguez et al., 2024). Most people transitioned to more sedentary lifestyles from historically active ones where managing everyday tasks required physical fitness. According to a study undertaken in England, only 21% of boys and 16% of girls in the country met the recommended minimum activity levels for their health and about 4.5 million people in the United Kingdom between the ages of 11 and 25 were inactive (UK Department of Health, 2011). Unfortunately, leading a sedentary lifestyle, having poor cardiorespiratory fitness and not being active are major risk factors for developing chronic illnesses. These illnesses can cause morbidity and death, putting a financial strain on society through the provision of health and social care and reducing productivity at work (Lavie et al., 2019; Gariballa et al., 2023).

One of the major indicators of cardiovascular health is blood pressure; and persistently high blood pressure (hypertension) raises the likelihood of suffering chronic ailments such as cardiovascular diseases, stroke and other health complications (Fuchs & Whelton, 2020; Luo et al., 2020; Triposkiadis et al., 2023). As the heart pumps blood throughout the body, it exerts force against the artery walls; this force is known as blood pressure (WHO, 2023). It is commonly expressed in millimetres of mercury (mmHg) and has two components; diastolic pressure which indicates the pressure in the arteries between heartbeats and systolic pressure, which indicates the pressure in the arteries during a heartbeat or contraction. Typically, two numbers are used to express it; systolic pressure which is the upper number as opposed to diastolic pressure which is the lower number. For instance, a reading of 120/80mmHg (which is read as 120 over 80) means that one's systolic pressure is 120mmHg while the diastolic is 80mmHg (American Heart Association, 2020; Shahoud et al., 2023; WHO, 2023).

Measuring blood pressure is essential for determining cardiovascular health and identifying medical conditions like hypertension. A stethoscope and a sphygmomanometer (blood pressure cuff) are typically used for the measurement. With the stethoscope positioned over the upper arm, the cuff is inflated to a pressure greater than the systolic pressure and then gradually deflated as the Korotkoff sounds are listened for, these sounds signify the restoration of blood flow in the artery. When the first sound is heard, the systolic pressure is recorded; when the sound stops, the diastolic pressure is recorded (American Heart Association, 2020; WHO, 2023).

Interestingly, it has been demonstrated that exercise, in addition to improving overall fitness in active individuals, has moderating effects on both diastolic and systolic blood pressures (Kim & Kang, 2019; Pesova et al., 2023).

Among the myriad health benefits associated with exercise, its impact on blood pressure regulation stands out as a critical area of investigation particularly among adolescents and youths. The transition to adolescence from early childhood is crucial for comprehending the impact of exercise habits on cardiovascular health since it is characterised by considerable physiological and lifestyle changes (Nystoriak & Bhatnagar, 2018; Santos et al., 2020; Mannarino et al., 2023). The late adolescence and youthful stages are crucial developmental stages when personal choices about lifestyle and behaviour are made such as the decision whether or not to exercise. Beyond the individual's personal well-being, the physical health of the growing youth population reflects the present and future health status of a given society, and it contributes to scholastic achievement, as well as the advancement of the country (United Nations, 2003; Australian Institute of Health and Welfare, 2022).

Statement of the Problem

Elevated blood pressure (hypertension) is a growing concern among young adults particularly university students due to the increasing prevalence of sedentary lifestyles and reduced physical activity. The advancement in technology and numerous technological gadgets have fuelled sedentary lifestyles across different populations irrespective of age, income level, education, ethnicity and socio-economic background; this is particularly so among the student population. It has been observed that students, particularly those in higher institutions of learning like those in Ignatius Ajuru University of Education Rumuolumeni, spend long hours sitting in classrooms during lectures, studying or working on assignments in the library or their halls of residence, leading to an increasingly sedentary lifestyle. The academic pressures and ensuing demanding schedules often leave little or no time for routine physical activity or exercise. During leisure hours, it is observed that many of these students frequently spend a lot of time doing sedentary activities such as playing video games, watching television, browsing the internet using computers/laptops while lounging in chairs and conversing on social media platforms. While engaging in these activities is not bad in itself, continuous sedentary lifestyles contribute to a decline in physical fitness which may affect blood pressure levels leading to potential long-term health risks. The physiological health implications could include an elevated risk of cardiovascular conditions such as coronary artery diseases, heart attacks and heart failure. Others include increased risk of stroke, kidney damage, weakened walls of the blood vessels, risk of vision loss and cognitive decline. These may have far-reaching effects as prolonged ill-health often leads to poor academic performance, low self-worth, and an increased propensity to drop out of school when grades become very low. It has been observed that engaging in regular exercise has mediating effects on different aspects of the body mechanisms hence could engaging in regular exercise also affect the blood pressure of these students? Data available to the researcher indicated that there is information dearth on the correlation between regular exercise participation and blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State which necessitated this study.

The study was guided by the following research questions;

1. What are the types of exercises undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State participate in?
2. What is the frequency of exercise participation among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State?
3. What is the duration of exercise participation among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State?
4. What is the mean systolic blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State?
5. What is the mean diastolic blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State based on gender?
6. What is the mean blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State based on gender?
7. What is the correlation between exercise and blood pressure at rest among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State based on gender?

To further guide the study, the following hypotheses were stated and tested at a 0.05 level of significance.

1. There is no significant difference between male and female blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State.

- There is no significant correlation between exercise and blood pressure at rest among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State.

Materials and Methods

The study design was quasi-experimental. The study population comprised all undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State. Using convenience sampling, two hundred undergraduate students were recruited to participate in the study. A self-developed instrument with a reliability coefficient of 0.71 was used for data collection. Blood pressure in mmHg was measured with a digital device. Data was analysed using frequencies, percentages, mean and standard deviation while hypotheses were tested using an Independent Sample t-test and Pearson's Product Moment Correlation (PPMC) at 0.05 alpha level of significance.

Results

Table 1: Socio-Demographic Characteristics of Respondents

Variable	Description	Frequency	Percent
Age	≤ 20	41	20.5
	21-30	152	76.0
	≥ 31	7	3.5
	<i>Mean/SD</i>		<i>23.79±3.76</i>
Gender	Male	52	26.0
	Female	148	74.0
Level of study	100Level	39	19.5
	200Level	54	27.0
	300Level	53	26.5
	400Level	54	27.0
Employment status	Unemployed	102	51.0
	Self-employed	95	47.5
	Civil Servant	3	1.5
Monthly income	≤ ₦30,000	16	15.5
	₦31,000-₦60,000	42	40.8
	₦61,000-₦90,000	22	21.4
	₦91,000-₦120,000	21	20.4
	≥ ₦121,000	2	1.9

Source: Fieldwork, 2024

The mean age of the respondents as presented in Table 1 is 23.79±3.76 years with the highest category in the 21-30 years bracket. More females (74.0%) than males (26%) participated in the study with a relative spread across the levels of study. About half (51.0%) were unemployed and the highest income range was ₦31,000-₦60,000.

Table 2: Types of exercise undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State participate in

Variable	Description	Frequency	Percent
Types of exercise	Cardiovascular	113	83.1
	Strength training	25	18.7
	Flexibility	19	14.2
	Sports	43	32.1

Table 2 shows the types of exercises undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State participate in. From the results, it was observed that 83.1% claimed that they often engaged in cardiovascular exercise, 18.7% claimed they engaged in strength training, 14.2% claimed they engaged in flexibility exercise and, 32.1% actively participated in various forms of sports as their form of exercise.

Table 3: Frequency of exercise participation among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State

Variable	Description	Frequency	Percent
Frequency of participation per week (n=136)	Daily	26	19.1
	1-2 times	80	58.8
	3-4 times	23	16.9
	≥ 5 times	7	5.1

Table 3 shows the frequency of exercise participation among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The result showed that 58.8% claimed they engaged in exercise 1-2 times a week, 19.9% claimed they exercised daily; 16.9% exercised 3-4 times a week, and 5.1% exercised 5 or more times in a week.

Table 4: Duration of exercise per session among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State.

Variable	Description	Frequency	Percent
Exercise duration per session (n=136)	< 30 minutes	73	53.7
	30-60 minutes	47	34.6
	61-90 minutes	10	7.4
	> 90 minutes	6	4.4

Table 4 presented the result on duration of exercise participation among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The duration of exercise as presented revealed that 53.7% spent less than 30 minutes in their exercise session, 34.6% spent 30-60minutes in their exercise session, 7.4% spent 61-90minutes in their exercise session, and 4.4% spent 90minutes or more during their exercise bout.

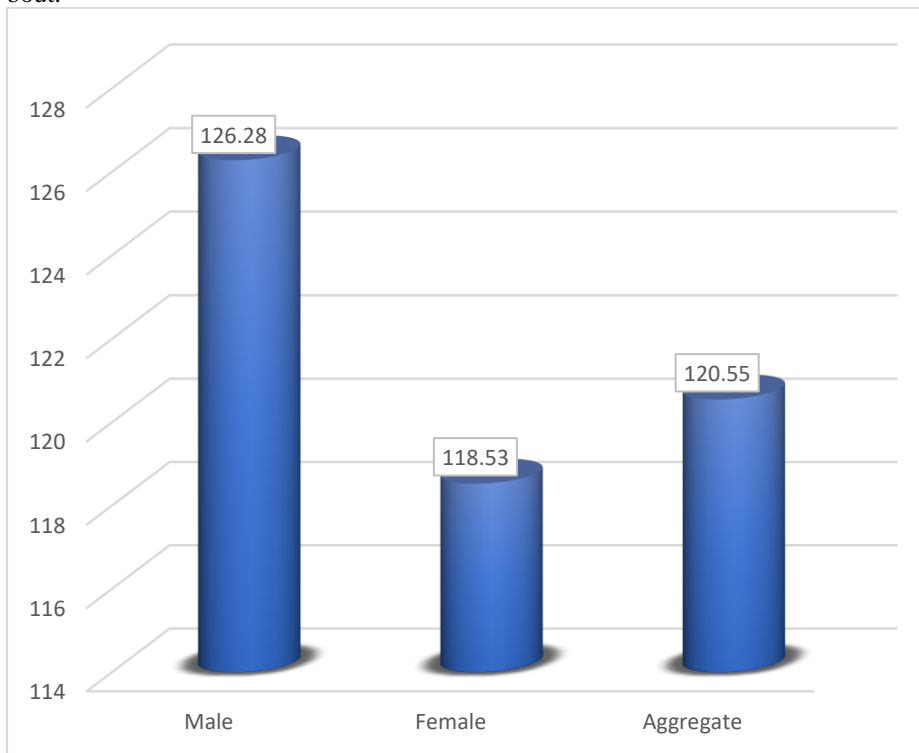


Figure 1: Mean Systolic Blood Pressure among Undergraduate Students

Figure 1 presents the result on the mean systolic blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The result showed the mean systolic blood pressure among male undergraduate students was 126.28mmHg; that of the female undergraduate students was 118.53mmHg; while the aggregated mean for the undergraduate student was 120.55mmHg.

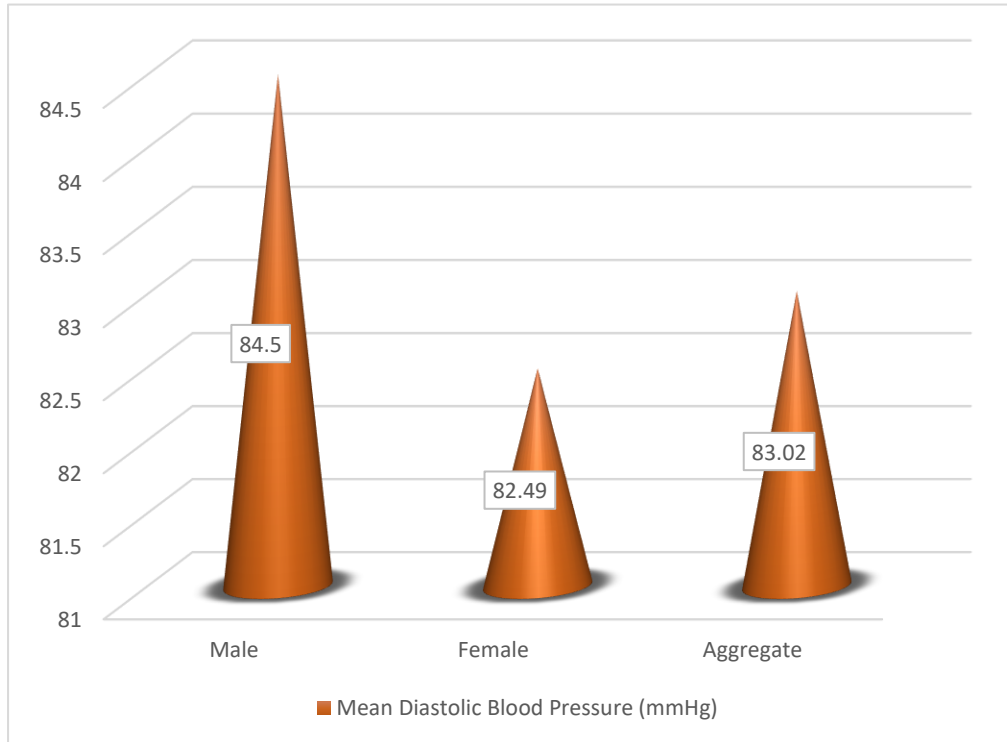


Figure 2: Mean Diastolic Blood Pressure among Undergraduate Students

Figure 2 presented the diastolic blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The result as presented showed the mean diastolic blood pressure among male undergraduate students was 84.50mmHg; that of the female undergraduate students was 82.49mmHg; while the aggregated mean for the undergraduate students was 83.02mmHg.

Table 5: Mean blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State based on gender

Gender	Blood Pressure (Systolic/Diastolic)					
	Low		Normal		High	
	Freq	%	Freq	%	Freq	%
Male	3	5.8	13	25.0	36	69.2
Female	1	0.7	87	58.8	60	40.5
Total	4	2.0	100	50.0	96	48.0

Source: Field Survey, 2024

Table 5 presented the summary of mean blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State based on gender. The categorisation and compilation of blood pressure was done by combining the systolic and diastolic blood pressure (measured in mmHg) using the American Heart Association (AHA) standardised blood pressure category. The result showed that 69.2% of male undergraduate students had high blood pressure, while 25.0% exhibited normal blood pressure; however, 58.8% of female undergraduate students exhibited normal blood pressure, while 40.5% had high diastolic blood pressure.

Table 6: Independent t-test on the difference between male and female blood pressure among undergraduate students

Gender	N	Mean	Std Error (Mean)	Df	t-value	p-value	Decision
Male	52	2.6538	0.08186	199	2.997	0.003	Significant
Female	148	2.3986	0.04151				
Total	200						

**Correlation is significant at 0.01 level (2 tailed)

Table 6 presents the summary of the Independent Sample t-test between male and female blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State. The result showed there is a significant difference ($t= 2.997$; $p= 0.003$) between male and female blood pressure among undergraduate students of IAUE, Port Harcourt, Rivers State. Therefore, the null hypothesis was rejected at 0.05 alpha level of significance.

Table 7: Correlation between exercise participation and blood pressure among undergraduate students based on gender

Correlation		Blood Pressure	Decision
Participate in exercise (Male)	Pearson Correlation (r)	-0.578**	Significant
	Sig. (2-tailed)	0.000	
	N	52	
Participate in exercise (Female)	Pearson Correlation (r)	-0.444**	Significant
	Sig. (2-tailed)	0.000	
	N	148	

**Correlation is significant at 0.01 level (2 tailed)

Table 7 presented the summary of Pearson's Product Moment Correlation between exercise participation and blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State Based on gender. The dichotomous result showed there is a significant negative correlation between male exercise participation and blood pressure ($r=-0.578$; $p=0.000$), and between female exercise participation and blood pressure ($r= -0.444$; $p=0.000$) among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State. Therefore the null hypothesis was rejected at 0.05 alpha level of significance.

Discussion

The rising rates of chronic non-communicable diseases such as heart attack, hypertension, and diabetes as occasioned by an increasingly sedentary lifestyle has made regular engagement in exercise for optimal health maintenance undeniably crucial (Lavie et al., 2019; Bell et al., 2023; Gariballa et al., 2023). Increasing sedentary lifestyle among undergraduate students necessitated the investigation of the correlation between exercise and blood pressure at rest among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt, Rivers State.

The average age of the study participants showed that the respondents were in their prime. More females than males participated in the study with a relative spread across the levels of study while the majority were observed to be unemployed. From the findings of the study, it was observed that a large population of the students participate in various forms of exercise however, in spite of the impressive rate of participation, the duration of exercise sessions was low as more than half of the students reportedly spent less than 30minutes per exercise session. This result is consistent with that of Okeke et al. (2020) who also reported a high prevalence of exercise participation but poor exercise frequency. A similar finding was made by Alkhateeb et al. (2019) who reported poor and declining exercise participation among university students despite knowing the benefits associated with regular exercise. Several factors may be responsible for this and may include time constraints due to lecture schedules and poor time management for extracurricular activities. Previous studies collaborate on this as it has been observed that time constraints due to academic pressure and inadequate facilities are one of the major limiting factors that have been reported to hinder exercise participation (Awotidebe et al., 2014; Alkhateeb et al., 2019; Pan et al., 2022).

The mean systolic blood pressure (126.28mmHg) among the male undergraduate students was observed to be higher than the standardised ideal systolic blood pressure as recommended by the American Heart Association

(AHA, 2021). However, the mean systolic blood pressure of 118.53mmHg recorded among female undergraduate students falls within the ideal blood pressure. It was also observed that the aggregated mean systolic blood pressure of 120.55mmHg was slightly higher than the recommended ideal. This finding is in consonance with that of Olotu et al. (2022) who reported high pre-hypertension and hypertension among students at the University of Port Harcourt. Similarly, Nwoke et al. (2024) also reported an increase in pre-hypertension and hypertension among young adults in Enugu State. The finding was however at variance with Ugochukwu et al. (2020) who reported a mean systolic blood of 105.8mmHg and 115.1mmHg for male and female secondary school students, respectively. The difference in these results could be attributed to the age and level of physical activity of the sampled population.

The mean diastolic blood pressure among male students and that of female students was higher than the standardised blood pressure recommended by the American Heart Association. The aggregated mean of 83.02mmHg was slightly higher than the recommended ideal, indicating a high prevalence of hypertension among the study population. This finding gave credence to Olotu et al. (2022) and Nwoke et al. (2024) who reported a rise in the prevalence of hypertension among students and other young adults. The burden of academic pressure which constricts time for physical activities and promotes sedentarism could be blamed for the rise in high blood pressure observed among students (Alkhateeb et al., 2019; Pan et al., 2022).

The observed difference in systolic blood pressure between participants and non-participants in regular exercise underscores its importance in the maintenance of ideal blood pressure. In addition, the correlation analysis revealed exercise has a significant negative correlation ($r = -0.311$; $p = 0.000$) with systolic blood pressure; indicating that increased exercise participation would reduce systolic blood pressure. The finding concurred with Cornelissen and Smart (2020) who investigated the influence of exercise on blood pressure across various populations and highlighted the consistent and significant reductions in blood pressure among individuals who regularly engaged in exercise. Teh et al. (2015) and Kolanowski et al., (2022) posited that systolic blood pressure levels usually showed marked improvements in response to exercise interventions, highlighting the broad applicability of exercise as an effective non-pharmacological strategy for blood pressure management.

More than three-quarters of undergraduate students who do not engage in exercise had high diastolic blood pressure, while about three-fifths of those who engaged in exercise had normal diastolic blood pressure. The tested hypothesis revealed that exercise had a significant negative correlation ($r = -0.312$; $p = 0.000$) with diastolic blood pressure. The negative correlation indicated that an increase in exercise participation would lead to a reduction in diastolic blood pressure among undergraduate students, and this underpinned the multifaceted beneficial effects of exercise on blood pressure (Saat et al., 2021). Studies have shown that regular exercise leads to immediate vasodilation and increased cardiac output, resulting in transient reductions in blood pressure during and after exercise sessions; which often contributes to sustained reductions in blood pressure over time (Cornelissen & Smart, 2020; Kolanowski et al., 2022). Studies have further shown that regular exercise stimulates an efficient cardio-respiratory system which in turn, promotes oxygen delivery to tissues and organs. The induced calorie expenditure and elevated metabolic rate facilitate lean muscle development and promote overall vitality (ACSM, 2021; Armstrong et al., 2022).

The results further showed that more than three-fifths (69.2%) of male students had high blood pressure which was much higher than two-fifths (40.5%) observed among female undergraduate students. It was also observed that only one-quarter of male students had normal blood pressure while more than half of the female students had normal blood pressure. In addition, the tested hypothesis showed a significant difference ($t = 2.997$; $p = 0.003$) between male and female student blood pressure, with the male having a higher mean incidence of elevated blood pressure than the female. The finding gave credence to Olotu et al., (2022) who reported a higher prevalence of high blood pressure among male students at the University of Port Harcourt, a population homologous to the current study. Nwoke et al. (2024) also reported significantly higher blood pressure among males than females, and the predisposition to hypertension was more than twice as high as their female counterparts. Although, the specific determinant of gender blood pressure disparity cannot be ascertained, however, factors such as hormonal variations, lifestyle choices, dietary habits, and socio-economic status were pivotal (Chen et al., 2023; Zhang et al., 2023). Similarly, Nwanaji-Enwerem et al., (2022) posited that psychological factors such as stress and anxiety in the university environment play a pivotal role in elevated blood pressure observed among male students. The high prevalence of high blood pressure observed underpinned the importance of stress management strategies in blood pressure regulation (Islam et al., 2023).

Conclusion

Based on the findings of the study, it was concluded that there is a high incidence of elevated blood pressure among undergraduate students of Ignatius Ajuru University of Education, Port Harcourt. Exercise exerted a significant but negative correlation on systolic and diastolic blood pressures among undergraduate students of the institution.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The administration of Universities should provide students with limitless access to exercise and fitness facilities on campus.
2. Periodic exercise recess should be scheduled and incorporated into academic learning to minimise sedentarism associated with prolonged lecture hours. Short exercise recess of 10minutes should be incorporated around their academic commitments to help reduce stress and encourage physical activity among these students.
3. Students should prioritise physical exercise and manage their time effectively to ensure their overall health and fitness.

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