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# Prevalence and Associated Factors of Peripheral Arterial Disease in A Tertiary Health Center

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**ABSTRACT**

Peripheral arterial disease is one of the leading causes of cardiovascular morbidity. It is usually asymptomatic but remains a risk for the development of cardiovascular disease. Its incidence has been on rise due to fast population growth, aging and effect of urbanization.

The study was aimed at determining the prevalance and associated factors of peripheral arterial diseass in our environment.

**Method**

A total of 342 consenting men were recruited after obtaining informed consent. Participant underwent evaluation for socio-demographic data and clinical assessment for peripheral vascular disease {PVD]. PVD was diagnosed using ankle brachial index. The PVD status of each patient was noted. SPSS version 23 was used in analyzing the data. Association between peripheral arterial disease, sociodemographic data and clinical factors was determined by using Chi-Square test.

**Results**

Three hundred and forty two men completed the study. The mean age of the participants was 50.83+/ 8.3 SD. A total of number of 64 {18.28%} out of the participant was hypertensive while 32 subjects (12%) were diabetic. The prevalence of PAD was 14.9%. **The majority of the study group had mild PAD (39, 76.5%). Others were moderate (9, 17.6%) and severe (3, 5.9%) PAD was associated with educational level attained (p =0.042),** current employment status (p=0.028) and average monthly income (p=0.009). **PAD was also associated with exercise (p=0.010), those involved in exercise had lower prevalence of PAD.**

**Conclusion**

This study showed that the prevalence of peripheral arterial disease in our eveironment was 14.9%

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## INTRODUCTION

Peripheral arterial disease (PAD) is a disease of the abdominal aorta, iliac and lower extremity arteries caused by atherosclerosis which lead to stenosis /occlusion of the vessels.[1] It affects mainly the lower extremity. It is the third leading cause of atherosclerotic cardiovascular morbidity, following coronary artery disease and stroke.[2] It leads to poor quality of life, myocardial infarction and cerebrovascular disease and people with PAD have a higher rate of all-cause mortality compared with patients who do not have PAD.

In 2010, 202 million people were estimated to have PAD globally with 67.7% living in low and middle income countries.[3] In the United State of America, 8.5 million persons were reported to be affected.[4] A study done in Nigeria showed a prevalence of 24.8%.[5] PAD as a marker of adverse cardiovascular disease often remains asymptomatic or undiagnosed.[6] However, symptoms like intermittent claudication, ischemic rest pain, ischemic ulceration, and limb loss may be present. Age, cigarette smoking, obesity, diabetes, dyslipidemia and hypertension are risk factors for PAD and erectile dysfunction(ED).[7]

The diagnosis of PAD can be made using ankle brachial index (ABI). The Ankle-brachial index (ABI) is an affordable, effective, non-invasive and easy to use screening tool for evaluating PAD.[8] Other modalities for diagnosis include duplex ultrasonography, computed tomography, angiography and magnetic resonance angiography, which offer more anatomic information in cases where revascularization is required.

The effect of this endothelial dysfunction usually manifest first in the penis before other organs because of small size of penile arteries causing erectile dysfunction to precede cardiovascular disease like PAD Thus, because of this relationship that has been found to exist between ED and PAD, ED is seen to herald future PAD.[9]

This study was aimed at determining the prevalence of peripheral arterial disease and associating factors.

## MATERIALS AND METHODS

This was a hospital based prospective descriptive cross-sectional study that was conducted at the general outpatient department of university of Lagos teaching hospital (LUTH) Lagos. Lagos is a metropolitan state located in South Western Nigeria with a population of about 21 million. LUTH was established in 1962 and has since been involved in the training of both undergraduate and postgraduate medical, dental and paramedical students. It has 760 beds and provides care in the major specialties of medicine to a large selection of patients in Lagos and its environs.

The GOP Clinic of Family Medicine Department provides primary care for all categories of patients including enrollees of National Health Insurance Scheme, students and staffs of the institution as well as general outpatients. Appropriate referrals for specialized care are made when necessary. It is run by Consultant Family Physicians, residents in Family Medicine and Medical officers. It operates between the hours of 0800- 1600 hours from Mondays to Fridays. All patients are seen irrespective of the medical conditions, age, or gender. The average number of all patients seen in a month is 2,050 (650 men that are 40 years and above). A total of 342 consenting men were recruited after obtaining informed consent from Participants and ethical clearance from the institution review board. Participants that were 40 years and above were **recruited into the study while those with ankle brachial index of > 1.4 (non-compressible artery) and Patients with normal (1-1.4) and bordaline (0.91-099) were excluded from the** study. **Socio-demographic data of the patients was noted and clinical assessment for peripheral arterial disease was determined. The severity of peripheral vascular disease was graded as mild [0.71-0.9], moderate, [0.41-0.9] and severe [< 0.4] based on the American Heart Association Guidelines.** Data were analyzed using SPSS version 23 and chi-square tests were computed to determine an association between basic clinical and social demographic factors.

## RESULTS

A total of 342 men completed the study. The mean age of the participants was 50.83+/ 8.3 SD as shown in table 1. Majority of the respondent were skilled artisans as shown in table 1b. Majority of the study group were non –smokers as shown in table 2. A total of number of 64 {18.28%} out of the participant was hypertensive while a total number of 32 (12%) were diabetic. The prevalence of PAD was 14.9%. **The majority of the study group had mild PAD (39, 76.5%). Others were moderate (9, 17.6%) and severe (3, 5.9%)**. PAD was associated with highest educational level attained (p =0.042), (table 3) current employment status (p=0.028) and average monthly income (p=0.009), (table 4) that PAD was associated with exercise (p=0.010), with those involved in the exercise had lower prevalence of PAD. However, PAD was not associated with other lifestyle variables as shown in table 5. There was an association between PAD and previous diagnosis of chronic diseases (p=0.021) as shown in table 6

**Table 1: Socio-Demographic Characteristics of Respondents**

| Variable | Frequency (n=342) | Percentage |
|---|---|---|
| **Age group (Years)** | | |
| 40-44 | 84 | 24.6 |
| 45-49 | 94 | 27.5 |
| 50-54 | 64 | 18.7 |

| | | |
|---|---|---|
| 55-59 | 38 | 11.1 |
| 60-64 | 37 | 10.8 |
| ≥65 | 25 | 7.3 |
| Mean ± SD | 50.83 ± 8.3 | |

**Table 1b: Socio-demographic characteristics of respondents (contd)**

| Variable | Frequency (n=342) | Percentage |
|---|---|---|
| **Current employment status** | | |
| Un-employed | 25 | 7.3 |
| Employed | 281 | 82.2 |
| Retired | 26 | 10.5 |
| **Occupation** | | |
| Professional | 95 | 27.8 |
| Skilled | 147 | 43.0 |
| Unskilled | 100 | 29.2 |
| **Average monthly income(₦)** | | |
| <50,000 | 125 | 36.6 |
| 50,000-<100,000 | 112 | 32.7 |
| 100,000-<150,000 | 43 | 12.6 |
| 150,000-200,000 | 20 | 5.8 |
| >200,000 | 42 | 12.3 |

**Table 2: Lifestyle characteristics of subjects**

| Variable | Frequency (n=342) | Percentage |
|---|---|---|
| **Current tobacco smoking status** | | |
| Yes | 17 | 5.0 |
| No | 325 | 95.0 |
| **Ever smoked in the past** | | |
| Yes | 58 | 17.0 |
| No | 284 | 83.0 |
| **Description of alcohol intake** | | |
| Never drank alcohol | 144 | 42.1 |
| Previously drank alcohol (>6 months ago) | 61 | 17.8 |
| Currently drink alcohol | 137 | 40.1 |
| **Involved in any form of exercise** | | |
| Yes | 150 | 43.9 |
| No | 192 | 56.1 |
| **Exercise intensity (n=150)** | | |
| Light intensity | 112 | 74.7 |
| High intensity | 38 | 25.3 |

**Table 3: Association between PAD status and socio-demographic characteristics**

| | PAD | | Total | $X^2$ | p-value |
|---|---|---|---|---|---|
| | Yes (n-51) | No (n=291) | | | |
| **Age group (Years)** | | | | 1.117* | 0.953 |
| 40-44 | 15(17.9) | 69(82.1) | 84(100.0) | | |
| 45-49 | 12(12.8) | 82(87.2) | 94(100.0) | | |
| 50-54 | 9(14.1) | 55(85.9) | 64(100.0) | | |
| 55-59 | 5(13.2) | 33(86.8) | 38(100.0) | | |
| 60-64 | 6(16.2) | 31(83.8) | 37(100.0) | | |
| ≥65 | 4(16.0) | 21(84.0) | 25(100.0) | | |
| **Marital status** | | | | 0.733* | 0.693 |
| Single | 2(12.5) | 14(87.5) | 16(100.0) | | |
| Married | 47(15.5) | 257(84.5) | 304(100.0) | | |
| Others | 2(9.1) | 20(90.9) | 22(100.0) | | |

| | | | | | |
|---|---|---|---|---|---|
| **Highest educational level atta** | | | | 9.906* | **0.042** |
| None | 1(25.0) | 3(75.0) | 4(100.0) | | |
| Primary | 15(27.3) | 40(72.7) | 55(100.0) | | |
| Secondary | 15(11.6) | 114(88.4) | 129(100.0) | | |
| Tertiary | 17(15.0) | 96(85.0) | 113(100.0) | | |
| Postgraduate | 3(7.3) | 38(92.7) | 41(100.0) | | |
| **Family type** | | | | 0.353 | 0.552 |
| Monogamous | 42(14.4) | 249(85.6) | 291(100.0) | | |
| Polygamous | 9(17.6) | 42(82.4) | 51(100.0) | | |

*Fischer exact test

**Table 4: Association between PAD and socio-demographics characteristics**

| | PAD | | Total | $X^2$ | p-value |
|---|---|---|---|---|---|
| | **Yes (n-51)** | **No (n=291)** | | | |
| **Current employment status** | | | | | |
| Un-employed | 1(4.0) | 24(96.0) | 25(100.0) | 7.144* | **0.028** |
| Employed | 40(14.2) | 241(85.8) | 281(100.0) | | |
| Retired | 10(27.8) | 26(72.2) | 36(100.0) | | |
| **Occupation** | | | | | |
| Professional | 15(15.8) | 80(84.2) | 96(100.0) | | |
| Skilled | 18(12.2) | 129(87.8) | 147(100.0) | 1.633 | 0.442 |
| Unskilled | 18(18.0) | 82(82.0) | 100(100.0) | | |
| **Average monthly income(~~N~~)** | | | | 13.506* | **0.009** |
| <50,000 | | | | | |
| 50,000-<100,000 | 24(19.2) | 101(80.8) | 125(100.0) | | |
| 100,000-<150,000 | 20(17.9) | 92(82.1) | 112(100.0) | | |
| 150,000-200,000 | 7(16.3) | 36(83.7) | 43(100.0) | | |
| >200,000 | 0(0.0) | 20(100.0) | 20(100.0) | | |
| | 0(0.0) | 42(100.0) | 42(100.0) | | |

*Fischer exact test

**Table 5: Association between PAD status and lifestyle**

| | PAD | | Total | $X^2$ | p-value |
|---|---|---|---|---|---|
| | **Yes (n-51)** | **No (n=291)** | | | |
| **Current tobacco smoking status** | | | | | |
| Yes | | | | 0.105* | 0.745 |
| No | 3(17.6) | 14(82.4) | 17(100.0) | | |
| | 48(14.8) | 277(85.2) | 325(100.0) | | |
| **Ever smoked in the past** | | | | | |
| Yes | 11(19.0) | 47(81.0) | 58(100.0) | 0.904 | 0.342 |
| No | 40(14.1) | 244(85.9) | 284(100.0) | | |
| **Description of alcohol intake** | | | | 0.246 | 0.884 |
| Never drink alcohol | 23(16.0) | 121(84.0) | 144(100.0) | | |
| Previously drank alcohol Currently | 9(14.8) | 52(85.2) | 61(100.0) | | |
| drink alcohol | 19(13.9) | 118(86.1) | 137(100.0) | | |
| **Involved in any form of exercise** | | | | | |
| Yes | | | | 6.554 | **0.010** |
| No | 14(9.3) | 136(90.7) | 150(100.0) | | |
| | 37(19.3) | 155(80.7) | 192(100.0) | | |
| **Exercise type (n=150)** | | | | | |
| Light intensity | 12(10.7) | 100(89.3) | 112(100.0) | 0.996* | 0.318 |
| High intensity | 2(5.3) | 36(94.7) | 38(100.0) | | |

*Fischer exact test

**Table 6: Association between PAD and clinical factors**

| | PAD | | Total | $X^2$ | p-value |
|---|---|---|---|---|---|
| | Yes (n-51) | No (n=291) | | | |
| **Previous diagnosis of chronic conditions** | | | | 0.536* | **0.021** |
| Yes | 21(22.1) | 74(77.9) | 95(100.0) | | |
| No | 30(12.1) | 217(98.9) | 247(100.0) | | |
| **Currently on Routine medication** | | | | | |
| Yes | | | | 0.761 | 0.383 |
| No | 15(17.9) | 69(82.1) | 84(100.0) | | |
| | 36(14.0) | 222(86.0) | 258(100.0) | | |
| **BMI class** | | | | 0.675* | 0.879 |
| Underweight (>18.5) | 1(16.7) | 5(83.3) | 6(100.0) | | |
| Normal(18.5-24.4) | 27(13.7) | 170(86.3) | 197(100.0) | | |
| Overweight(25.0-29.9) | 19(17.1) | 92(82.9) | 111(100.0) | | |
| Obese(≥30.0) | 4(14.3) | 24(85.7) | 28(100.0) | | |
| **Blood pressure status** | | | | 5.004* | 0.171 |
| Normal | 4(19.0) | 17(81.0) | 21(100.0) | | |
| Prehypertension | 14(10.8) | 116(89.2) | 130(100.0) | | |
| Stage 1 | 16(14.2) | 97(85.8) | 113(100.0) | | |
| Stage 2 | 17(21.8) | 61(78.2) | 78(100.0) | | |

***Fischer exact test**

## DISCUSSION

The mean age of the study group was similar to the findings of Oyelade et al who reported the mean age of 46.7 years in a population based study conducted among men in South-western Nigeria.[9] In addition, Yeboah et al reported mean an age of 54 years which was close to the finding of this study.[10] However, this was in contrast to the findings of Adeko et al who reported a mean age of 62.5 years among adults respondents in a hospital based study conducted in Sagamu, Nigeria. Adeko et al conducted the study among respondents who were 50 years and above unlike this study that was done among men 40 years and above, this might be responsible for the higher mean age reported by Adeko et al. The modal age group of the participants in this study was 45-49 years which accounted for 27% (94) of the participants. Oladiji et al and Adebusoye et al reported lower modal age groups of 40-45 years and 18-30 years respectivelyThis is contrary to what was found in their studies. They both reported lower modal age eventhough their studies were carried out in Ilorin and Ibadan, Nigeria. The difference in the age range used in the inclusion criteria for their studies could account for the variation.

This study showed that 14.9% of the participants had peripheral arterial disease with ABI≤0.9 suggesting a low prevalence of peripheral arterial disease. This was slightly similar to a hospital based cross sectional study conducted by Adeko et al in Sagamu who reported the prevalence of 24.8%. This slight variation might be as a result of larger sample size used in their study and age group studied was 50 years and above. **At an older age group also, there is a tendency for increase cardiometabolic diseases which in turn are risk factor for peripheral arterial disease[11]** Similarly, in a study conducted by Odenigbo et al in the southeast, Nigeria among adult hypertensive repondents revealed a prevalence of PAD to be 24.8%.This difference could be attributed to the peculiarity of the participants studied, as hypertension has been shown to predispose to peripheral arterial disease.

In the same vein, Umuerri et al from Benin also found a higher prevalence of 35.6% and Yakubu et al from Zaria also reported a prevalence of 29%.[12] The variation from this study could be due to the fact that both studies were conducted among participants with diabetes mellitus. **This higher prevalence is expected as researches have shown that diabetes mellitus is an established risk factor for peripheral arterial disease.[13]** A sharp contrast was observed in the findings of Ismail et al in Kano who reported a very high prevalence of 87.2[14]. This finding was not surprising as the study was carried out amongst individuals with suspected peripheral arterial disease. This may have introduced some bias in the selection process in their study. Also, a dopplar ultrasound machine was used in the study as against this study where hand held Doppler was employed. This must have given them the opportunity to view the vessels directly and aided the diagnosis of peripheral arterial disease in the studied participants.

In Ghana, Yeboah et al found a prevalence of 26.7% among adult participants with diabetes. On the contrary, Bediako-Brown et alalso, from Ghana found a prevalence of 71% among participants undergoing lower limb amputation. Although the instrument used in assessing for PAD was the same as the one used in this study. However, this disparity observed could be ascribed to the participants studied. They already had critical limb ischemia which is one of the late presentations of PAD and is being managed by amputation. This was in contrary to relatively normal subjects used in this study. This study found a significant association between PAD and educational level (p=0.042). This implies that the educational level of the participants has an important role to

play between those who have PAD and those who do not. Education has to do with the search for the appropriate knowledge that will either predispose or prevent PAD. In line with this study, Weragoda et al reported that level of education and monthly income were associated with PAD.[15] However, Odenigbo et al from South east Nigeria recounted a different view that there was no association between peripheral arterial disease and level of education.[5] Also Piotrkowska et al from Poland had the same view as Odenigbo. This might be as a result of low level of education observed among their participants as most of them had elementary and vocational education.

Statistical analysis done between peripheral arterial disease and current employment status showed an association (p=0.028**). Employment status has been shown to play an important role as it enables those who are employed to have an active life or participate in rigorous activities that will help prevent against having PAD**.[16] Likewise, those who do not have any active employment or occupation tended to live a sedentary life that could predispose them to have PAD. Logistic regression showed that those who were retired are more likely to have PAD than those who are actively employed. This can be explained that those who are retired tend to be elderly and as a result have a more sedentary life than those who are yet to retire except those who were engaged in other activities.

Peripheral arterial disease has also been found to be associated with average monthly income (p=0.005) in this study. Also, an inverse relationship was found between the prevalence of PAD and monthly income in this study. Of note in the finding of this study is that none of the participants that earned 150,000 naira and above per month had peripheral arterial disease. Fowkes et al finding was similar to what was found in this study. They reported in their study that in low to medium income countries, poverty plays an important role in influencing the development of peripheral arterial disease. However, Piotrkowska et al in Poland had a different view in that they reported no significant association between peripheral arterial disease and average income. In respect to age and marital status, this study did not find an association with peripheral arterial disease, with p values of 0.953 and 0.693 respectively. After logistic regression was done retirement, and average monthly income less than 100, 000 naira were found to be independent predictors of PAD.

Similarly, Mwebaze et al [17] in Uganda also, found that age was not significantly associated with peripheral arterial disease. This similarity can be attributed to the fact that both studies are hospital-based studies and they have closely related mean age range. Mwebaze et al reported the mean age in their study as 53.9±12.4 years, while this study's mean age was 50.83±8.3 years. However, Cassar reported a contrasting view that age was significantly associated with peripheral arterial disease.[18] Likewise, Paquissi et al in south Angola also found significant association between age and peripheral arterial disease.[19] Futhermore, Abdulhannan et al in their study reported that age predispose to atherosclerosis which is implicated in the pathophysiology of peripheral arterial disease**.** The reason why this study did not find association between age and PAD is however not clear. This study showed that being involved in exercise was significantly associated with peripheral arterial disease (p=0.010), Logistic regression revealed that those who are involved in exercise are less likely to have peripheral arterial disease compared to those who do not engage in any form of exercise at all. This could be implied that those who are actively involved in exercises or rigorous activities that stretch their muscles tend to be less likely to have peripheral arterial disease than those who are not actively involved in any form of exercises or those who have a sedentary lifestyle.

This finding was in consonance with findings from other studies carried out in different parts of the world. Stein et al in the United States of America observed an association between physical activities and PAD and that those who were actively involved in physical activities were less likely to have PAD.[20] Also, Pessinaba et al in Senegal reported that having sedentary lifestyle increased the chance of developing PAD.[21] This finding is expected as literatures have shown that increase physical activity plays a positive role in the management of cardiometabolic diseases such as hypertension, diabetes mellitus which are risk factors for peripheral arterial disease.[22] This study revealed that there was no association between cigarette smoking and peripheral arterial disease (p=0.745). This finding contrasted reports from literatures which implicated cigarette smoking in the development and acceleration of atherosclerosis which is the underlining pathogenesis in peripheral arterial disease. However some authors reported similar findings with this study. Paquissi et al in South Angola found that smoking had no significant association with PAD. Bediako-Bowan et al in Ghana and Odenigbo et al in South- south also reported the same findings.[23] This similarity can be ascribed to the fact that these studies were hospital based as respondents might not divulge their true smoking habit.

A Sri Lankan study carried out by Weragoda et al reported a divergent finding from this study that tobacco smoking was significantly associated with PAD. This finding of association may be attributable to higher number of respondents as the former reported using 2912 participants while latter used 342 participants. Piotrkowska et alalso stated in their study conducted among respondents suffering from peripheral arterial disease that smoking was associated with peripheral arterial disease. This finding is not surprising as smoking predisposes to PAD and could be responsible for the association found between them. In same vein, Criqui and Aboyans [24] reported in their study carried out in the US, that smoking was a strong risk factor to peripheral arterial disease.

There was no association found between alcohol consumption and peripheral arterial disease in this study (p=0.884). This finding is comparable to what Yeboah et al found in a study conducted in a tertiary hospital in Ghana among diabetics that alcohol intake was not associated with peripheral arterial disease. It is also in tandem with the findings of Weragoda et al that did not find a significant association between peripheral arterial disease and alcohol intake. The similarity of these studies can be attributed to the

fact that they were all hospital-based studies and reporting bias is expected as respondents may not disclose their true alcohol status.
The finding of this study regarding the association between peripheral arterial disease and clinical factors show that there was a significant association between peripheral arterial disease and history of chronic diseases (p=0.021). However, other clinical factors such as BMI, routine medication, blood pressure status were not significantly associated with peripheral arterial disease.
History of chronic diseases such as hypertension, diabetes, and other forms of cardiovascular diseases could predispose one to have peripheral arterial disease. Hypertension, Diabetes mellitus and dyslipidemia are recognized risk factors for peripheral arterial disease as they predispose to atherosclerosis, which is an underlying pathology for PAD
The finding in this study is comparable to what Mehta et al in Nairobi, Kenya found in a study done to determine the associated risk factors of asymptomatic peripheral arterial diasease.[25] They reported that a history of chronic diseases such as hypertension, diabetes was associated with peripheral arterial diseases. Similar to what Pessinaba et al reported that there was a significant association between history of chronic disease and peripheral arterial disease. The finding of association between chronic diseases and PAD in these studies may be attributed to the age group studied which was 40 years, in whom there is increased risk of developing chronic diseases as age advances. Criqui and Aboyans reported a similar finding. They stated that the history of chronic diseases was associated with peripheral arterial disease which was in agreement with the result found in this study.
Likewise, Fowkes et al and Stein et al reported same findings to what was obtained in this study. Odenigbo et al in Nnewi who carried out their study among the hypertensive population, found that people who have a history of hypertension and diabetes have a higher chance of having peripheral arterial disease compared to those in the control group who do not have this conditions. All the above studies had similar report with the finding of this study. This may be due to the fact that they were all hospital-based studies and participants could have presented with one or more of these diseases.
However, in contrast to this study, Paquissi et al in South Angola reported that there was no significant association between hypertension and peripheral arterial disease. This difference can be attributed to the difference in the number of participants sampled as the study used a lower number of the participants (115) compared to that of 342 participants used in this study. Also, In Ghana, Bediako-Bowan et al did not find a significant association between history of chronic disease and peripheral arterial disease. This can be ascribed to the number of participants in their study which were 76. They also used smaller number of participants, in addition their respondents were surgical patients that were booked for amputation as opposed to this study where participants were with undifferentiated diseases.
Peripheral arterial disease was not found to be associated with body mass index in this study (p=0.879). This same finding was reported by Mwebaze et al in Uganda where clinical characteristics such as body mass index was not associated with peripheral arterial disease. In the same vein, Oyelade et al reported that obesity and overweight was not associated with peripheral arterial disease. The observation in similarity was explained by older age group studied in both studies. Body mass index has been reported not to be a good a measure of obesity in the older age groups due to reduction in lean tissues, muscle mass and bone density. However, Yeboah et al from Ghana had a different view and reported that BMI was significant associated with peripheral arterial disease
Likewise, Yakubu et al in Zaria reported that the prevalence of peripheral artery disease was significantly higher among obese and overweight compared to normal and underweight diabetic subjects. The larger sample size used by Yeboah et al 623 participants was twice the sample size used in this study and this may be responsible for the association
Also, increase body mass predispose to artherosclerosis which implicated in the pathogenesis of PAD.

## CONCLUSION

This study showed that the prevalence of peripheral arterial disease in our eveironment was 14.9% and there was statistically significant association of peripheral arterial disease with some clinical factors such as educational status, exercise and previous chronic illness among others.

## REFERENCES

1. Aboyans V, Canonico ME, Chastaingt L, Anand SS, Brodmann M, Couffinhal T, et al. Peripheral artery disease. Nature Reviews Disease Primers. 2025;11(1):68.
2. Nedkoff L, Briffa T, Zemedikun D, Herrington S, Wright FL. Global trends in atherosclerotic cardiovascular disease. Clinical therapeutics. 2023;45(11):1087-91.
3. Fowkes FGR, Aboyans V, Fowkes FJ, McDermott MM, Sampson UK, Criqui MH. Peripheral artery disease: epidemiology and global perspectives. Nature Reviews Cardiology. 2017;14(3):156-70.
4. Eid MA, Mehta KS, Goodney PP, editors. Epidemiology of peripheral artery disease. Seminars in Vascular Surgery; 2021: Elsevier.
5. Odenigbo CU, Ajaero C, Oguejiofor OC. Prevalence of peripheral artery disease in adult hypertensive patients in Nnewi, Nigeria. Sahel Medical Journal. 2013;16(1):15-8.

6. Mohler III ER. Peripheral arterial disease: identification and implications. Archives of internal medicine. 2003;163(19):2306-14.
7. You Y, Wang Z, Yin Z, Bao Q, Lei S, Yu J, et al. Global disease burden and its attributable risk factors of peripheral arterial disease. Scientific Reports. 2023;13(1):19898.
8. Herraiz-Adillo A, Cavero-Redondo I, Alvarez-Bueno C, Pozuelo-Carrascosa DP, Solera-Martinez M. The accuracy of toe brachial index and ankle brachial index in the diagnosis of lower limb peripheral arterial disease: a systematic review and meta-analysis. Atherosclerosis. 2020;315:81-92.
9. Akorede B, Hassan S, Akhigbe R. Penile erection and cardiovascular function: effects and pathophysiology. The Aging Male. 2024;27(1):2336627.
10. Yeboah K, Puplampu P, Ainuson J, Akpalu J, Gyan B, Amoah AG. Peripheral artery disease and exertional leg symptoms in diabetes patients in Ghana. BMC Cardiovascular Disorders. 2016;16(1):68.
11. Sinclair AJ, Abdelhafiz AH. Cardiometabolic disease in the older person: prediction and prevention for the generalist physician. Cardiovascular Endocrinology & Metabolism. 2020;9(3):90-5.
12. PD Y, Khanna N, Bakari A, Garko S, Abubakar A, Adeiza M, et al. Assessment of Predictors and Prevalence of Peripheral Artery Disease among Type 2 Diabetic Patients in Zaria, Northern Nigeria. 2018.
13. Jude E, Eleftheriadou I, Tentolouris N. Peripheral arterial disease in diabetes—a review. Diabetic medicine. 2010;27(1):4-14.
14. Ismail A, Saleh MK, Tabari AM, Isyaku K. Clinical and Doppler ultrasound evaluation of peripheral arterial diseases in Kano, North-Western Nigeria. Nigerian Postgraduate Medical Journal. 2015;22(4):217-22.
15. Weragoda J, Seneviratne R, Weerasinghe MC, Wijeyaratne M, Samaranayaka A. A cross-sectional study on peripheral arterial disease in a district of Sri Lanka: prevalence and associated factors. BMC Public Health. 2015;15(1):829.
16. Haas TL, Lloyd PG, Yang HT, Terjung RL. Exercise training and peripheral arterial disease. Comprehensive Physiology. 2012;2(4):2933-3017.
17. Mwebaze RM, Kibirige D. Peripheral arterial disease among adult diabetic patients attending a large outpatient diabetic clinic at a national referral hospital in Uganda: a descriptive cross sectional study. PLoS One. 2014;9(8):e105211.
18. Goncalves-Martins G, Gil-Sala D, Tello-Díaz C, Tenezaca-Sari X, Marrero C, Puig T, et al. Prevalence of peripheral arterial disease and associated vascular risk factors in 65-years-old people of northern Barcelona. Journal of clinical medicine. 2021;10(19):4467.
19. Paquissi FC, Cuvinje ABP, Cuvinje AB. Prevalence of peripheral arterial disease among adult patients attending outpatient clinic at a general hospital in South Angola. Scientifica. 2016;2016(1):2520973.
20. Stein RA, Rockman CB, Guo Y, Adelman MA, Riles T, Hiatt WR, et al. Association between physical activity and peripheral artery disease and carotid artery stenosis in a self-referred population of 3 million adults. Arteriosclerosis, thrombosis, and vascular biology. 2015;35(1):206-12.
21. Pessinaba S, Mbaye A, Yabeta G-A-D, Kane A, Ndao CT, Harouna H, et al. Prevalence and determinants of hypertension and associated cardiovascular risk factors: data from a population-based, cross-sectional survey in Saint Louis, Senegal. South African Journal of Diabetes and Vascular Disease. 2016;13(1):27-30.
22. Parmenter BJ, Dieberg G, Smart NA. Exercise training for management of peripheral arterial disease: a systematic review and meta-analysis. Sports medicine. 2015;45(2):231-44.
23. Bediako-Bowan AA, Adjei GO, Clegg-Lamptey JN, Naaeder SB. The burden and characteristics of peripheral arterial disease in patients undergoing amputation in Korle Bu Teaching Hospital, Accra, Ghana. Ghana Medical Journal. 2017;51(3):108-14.
24. Criqui MH, Aboyans V. Epidemiology of peripheral artery disease. Circulation research. 2015;116(9):1509-26.
25. Mehta N, Ogendo S, Awori M. Prevalence, Progression and Associated Risk Factors of Asymptomatic Peripheral Arterial Disease. Annals of African Surgery. 2017;14(1).