

ORIGINAL RESEARCH

DEGREE OF SUSPICION OF PERIPHERAL ARTERY DISEASE AMONG GERIATRICS AND POLICEMEN IN ILIGAN CITY, PHILIPPINES

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Abstract

Background: Peripheral artery disease is a type of cardiovascular disease which belongs to vascular system disease and ranked the second most common non transmissible disease that cause death in the Philippines. The ankle brachial index (ABI) constitutes simple, non-invasive, cost-effective method for the early detection of peripheral artery disease (PAD) which complements assessment of cardiovascular risk.

Objective: The study aims to determine who are at risk of peripheral artery disease among the Geriatrics and Policemen in Iligan City.

Methods: It utilized descriptive-correlational-comparative research design and purposive sampling method. The data were gathered among 40 respondents: 20 Geriatrics and 20 policemen from Camp Tomas Cabili in Iligan City with the use of modified standardize questionnaire from Southern California Health Specialist Peripheral Artery Disease Patient Questionnaire.

Results: Results showed majority (50%) of respondents were 50 years old and above; most (65%) were male. Pearson Correlational Coefficient shows that, among the demographic profile of the respondents, only age and lifestyle (diet and exercise) had a significant relationship with their degree of suspicion of having PAD. On the other hand, there was no significant relationship between gender, history of heredo-familial diseases, smoking, alcohol drinking habits, and the respondent's degree of suspicion of having PAD. The result contradicts the nursing maxim that smoking is the most important risk factor for PAD; as in this case, even if most of the respondents were non-smokers and non-alcoholics, their poor diet and exercise alone increased their risk or degree of suspicion of having PAD.

Conclusion: While age is beyond the control of the respondents, there is much that they could do to improve their lifestyle (diet and exercise) to lessen their risks for PAD. An institutional cafeteria serving nutritious food and exercise gyms could greatly benefit both the geriatrics and the policemen.

KEYWORDS

peripheral artery disease; ankle-brachial index; demographic profile; heredo-familial disease

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INTRODUCTION

Cardiovascular disease is the number one cause of death in the world ([Mendis et al., 2011](#)). Peripheral artery disease is a type of cardiovascular disease; specifically it belongs to vascular system diseases, and it has ranked the second most common non transmissible disease that cause deaths in the Philippines ([Department of Health, 2013](#)). Peripheral arterial disease is

characterized by a gradual reduction in blood flow to one or more limbs secondary to atherosclerosis. Risk factors include smoking, diabetes mellitus, hyperlipidemia, and hypertension. The most common clinical manifestation is intermittent claudication ([Hilleman, 1998](#)). Patients with peripheral arterial disease including those with intermittent claudication have a

high risk for cardiovascular and cerebrovascular morbidity and mortality ([Lamina et al., 2005](#); [Norman et al., 2004](#)). Therefore, peripheral artery disease (PAD) is an important healthcare problem and early detection and intervention is vital to minimize the chances of further complication. Individuals eventually die mostly because of cardiac and cerebrovascular diseases (e.g., myocardial infarction and stroke, respectively), unaware that the possible reason for their mortality is peripheral artery disease that wasn't earlier diagnosed and treated ([Smeltzer et al., 2010](#)). Studies by Brevetti et al. ([Brevetti et al., 2003](#)) have even confirmed that the coexistence of CAD (coronary artery disease) and PAD is associated with a greater inflammatory status and more widespread coronary atherosclerosis. Basically, this disease involves the lower extremities and as geriatrics and policemen, considering their varying lifestyle, precipitated by stress, geriatrics and policemen are at risk of such disease.

Arterial insufficiency of the extremities occurs most often in men and is a common disability. PAD is mostly silent in its early stages, but when lesion obstruction exceeds 50%, it may cause intermittent claudication with ambulation ([Garcia, 2006](#)). The legs are most frequently affected; however, the upper extremities may be involved. In PAD, obstructive lesions are predominantly confined to segments of the arterial system extending from the aorta below the renal arteries to the popliteal artery. Distal occlusive disease is frequently seen in patients with diabetes mellitus and in elderly patients ([Smeltzer et al., 2010](#)).

Managing patients with PAD requires an accurate assessment of the severity of the condition and the risk factors likely to predict disease progression. The spectrum of patient presentation ranges from asymptomatic to critical limb ischemia. Because about half of patients with PAD have coronary or cerebrovascular disease, the examination of presenting patients should be directed toward the entire cardiovascular system ([Abul-Khoudoud, 2006](#)). Pentoxifylline (Trental) and cilostazol (Pletal) are approved for the treatment of symptomatic claudication. Pentoxifylline increases erythrocyte flexibility, lowers blood fibrinogen concentrations, and has antiplatelet effects. Cilostazol, a phosphodiesterase III inhibitor, is a vasodilator that inhibits platelet aggregation ([Brener & Doyle, 2007](#)).

Males are at greater risk for peripheral artery disease because they only have minute levels of estrogen, the female sex hormone that has a dual function of developing the female secondary sex characteristics (i.e. breast and hip development) and protection against cardiovascular diseases by depositing cholesterol and lipids into adipose tissue instead of the vessel's lumen ([Smeltzer et al., 2010](#)). Also, in terms of alcohol drinking problem and cigarette smoking, males outnumber females ([Kasper et al., 2004](#)). The prevalence of PAD in the elderly is high ([Meijer et al., 1998](#); [Sesso et al., 2000](#)). People that are 50 years old and above tend to have arterial disorders like atherosclerosis (narrowing of the vessel lumen caused by the accumulation of atheroma or fat in the tunica intima) and arteriosclerosis (narrowing of the vessel lumen caused by the

degenerative hardening of the tunica media and tunica adventitia) ([Smeltzer et al., 2010](#)). More so, degenerative disorders like diabetes mellitus, hypertension, and cardiac diseases tend to manifest during old age (>50yo), making it a significant predisposing factor to PAD ([Black & Hawks, 2005](#)). In terms of history of heredo-familial disease; Diabetes Mellitus, Hypertension and Cardiac disease have a direct relationship with PAD ([Black & Hawks, 2005](#)). Diabetes Mellitus, a group of disorders characterized by hyperglycemia, increases the viscosity of the blood, causing blood stasis and arterial occlusion, both precipitating factors for PAD ([Heuther & Mccance, 2000](#)). Hypertension, the abnormally increased force of blood against the vessel wall, causes mechanical injury to the vessel wall's tunica intima and tunica media, precipitating PAD ([Kasper et al., 2004](#)). Parenthetically, cardiac diseases, characterized by decreased cardiac output to the tissues, causes faulty compensation mechanisms, like the activation of the renin-angiotensin-aldosterone system and myocardial hypertrophy, which could later decompensate and increase both blood volume and blood pressure, precipitating PAD ([Smeltzer et al., 2010](#)).

In terms of lifestyle: smoking contains nicotine, a vasoconstrictor, and free radicals which are capable of direct endothelial tissue injury, thus causing peripheral artery disease ([Lu & Creager, 2004](#)). Smoking, specifically the use of tobacco products, is the probably the most important risk factor for the development of atherosclerotic lesions ([Boyer, 2011](#); [Smeltzer et al., 2010](#)). A study ([Murabito et al., 2003](#)) involving more than three thousand respondents concluded in recommending that smoking cessation is an important goal in the aim to reduce PAD and its associated impact on quality of life, functional decline, and risk for subsequent cardiovascular disease.

Alcohol is a gastrointestinal tract irritant which could decrease the absorption of vitamin B complex and the removal of homocysteine—both conditions could predispose to PAD. Parenthetically, exercising irregularly and eating a high fat diet could increase the cholesterol, triglycerides, low density lipoprotein, and very low density lipoprotein levels in the body, increasing the risk of atherosclerosis, and consequently—peripheral artery disease ([Smeltzer et al., 2010](#)). People who are overweight (25-29.9) and obese (30 and above) are at increased risk for peripheral artery disease (PAD) as these conditions are associated with increased cholesterol deposition in the lumen of blood vessels (i.e. atherosclerosis) ([Black & Hawks, 2005](#)). Moreover, adipose tissue has relatively less vasa vasorum (small arteries distributed to the outer and middle coats of the larger blood vessels), such that in obese individuals, there is delayed healing of vessel wall injuries, leading to PAD ([Kasper et al., 2004](#)). Studies ([Diehm et al., 2004](#)) found that patients with PAD were slightly older than patients without PAD, suffered more frequently from diabetes, hypertension, lipid disorders and other coexisting atherothrombotic diseases.

For early and independent detection of PAD, a feasible and noninvasive procedure, in the form of ankle-brachial index (ABI) measurement, is used ([Papamichael et al., 2000](#); [Wild et al., 2006](#)). The ABI value is inversely associated with other

cardiovascular risk factors ([Kweon et al., 2005](#)). An ankle-brachial index (ABI) of less than 0.9 is a noninvasive measure of lower extremity arterial disease and a predictor of cardiovascular events ([Kennedy et al., 2005](#)), like peripheral artery disease, stroke, coronary disease and death ([Murabito et al., 2003](#); [Sukhija et al., 2005](#)). ABI is even considered as a marker of atherosclerosis in patients with high cardiovascular risk ([Hasimu et al., 2006](#); [Resnick et al., 2004](#)). ABI is calculated by dividing the ankle systolic blood pressure (SBP) by the brachial systolic blood pressure (SBP), both in mmHg (i.e. left ankle SBP/ left brachial SBP, and right ankle SBP/right brachial SBP) ([Smeltzer et al., 2010](#)). The systolic blood pressure is used in measuring ABI because with advancing age, there is a decline in DBP (diastolic blood pressure) and in the role of DBP in predicting CHD risk ([Franklin et al., 1999](#)). On the other hand, SBP (systolic blood pressure) has been proven in studies to be a determinant strongly and independently associated with PAD ([Meijer et al., 1998](#)). The ankle brachial index (ABI) constitutes a simple, non-invasive, cost-effective method for the early detection of PAD which complements the assessment of cardiovascular risk. This examination has been recommended for routine clinical use, with the aim of measuring the patency of the arterial circulation of the lower as well as the upper limbs ([Fischbach, 2004](#)).

METHODS

Study Design

This study utilized descriptive-correlational-comparative research. Descriptive research seeks to describe the current status of an identified variable; correlational research attempts to determine the extent of a relationship between two or more variables using statistical data, while comparative research compares two or more groups on one or more variable ([Boswell & Cannon, 2011](#)). This research design was used in this study to describe the demographic profile of the respondents, to correlate the respondents' demographic profile with their degree of suspicion of having peripheral artery disease (PAD) using ankle brachial index (ABI), and to compare the respondents' ankle brachial indices (ABI) when grouped according to demographic profile.

Setting

This study was conducted in Iligan City; specifically in: Bishop Bienvenido Tudtud Home for the Aged in Barangay Santiago; Barangay Bagong Silang; Barangay Tubod; and Iligan City Police Office – Camp Tomas Cabili. The study was conducted from January to March, 2018.

Sample/Participants

The researcher utilized Purposive sampling method in this study. Only the Geriatrics (above 60 years old) from the aforementioned home for the Aged; and the Policemen of Camp Tomas Cabili Police Office in Iligan City were chosen as subjects for the study. The geriatrics were chosen because old age is a predominant risk factor for Peripheral Artery Disease (PAD) ([Smeltzer et al., 2010](#)), and the researcher wanted to determine whether the activity level and the lifestyle in general

of the geriatrics in their respective homes for the aged are adequate in preventing peripheral artery disease (PAD), or whether it is putting them at risk. The policemen of Camp Tomas Cabili Police Office in Iligan City were chosen because the researcher wanted to determine whether they may have any degree of suspicion of peripheral artery disease (PAD) which may hamper their ability to pursue criminals; also, the researcher is a close acquaintance with the Chief of police in Iligan City, thus providing a readily available research respondents for purposive random sampling. The total sample size is 40: 20 Geriatrics and 20 policemen from Camp Tomas Cabili in Iligan City. The 20 geriatrics were the only respondents able and willing to participate; the rest were bedridden. The 20 policemen were the only ones present in Camp Tomas Cabili willing to participate; the rest were on patrol duty. The researcher opted for similar number of the two respondents to prevent the number of one class from influencing the statistical results. Slovin's formula was not used because this is a non-experimental research.

Instrument

The researcher used the questionnaire in collecting data used to determine the correlation between the demographic profile of geriatrics and the policemen and their degree of suspicion of their having Peripheral Artery Disease (PAD). The questionnaire included two parts. Part I, adapted or borrowed from the Southern California Health Specialist Peripheral Artery Disease Patient Questionnaire ([Southern California Heart Specialists, 2010](#)), aimed to gather information on the respondent's personal and demographic data as to his/her name (optional), age, gender, heredo-familial diseases, lifestyle. The original questionnaire was in English. Part I was filled up by the respondents. Part II, which covered the Blood Pressure (BP) in mmHg of each extremity, from which the Ankle Brachial Index (ABI) is derived, is developed from Fischbach's Ankle Brachial Index (ABI) Scale ([Fischbach, 2004](#)). Ankle Brachial Index (ABI) was calculated by dividing the ankle pressure by the brachial pressure. The normal value of ABI is >1.0 . On the other hand, an ABI < 1.0 is suspicious for disease. The lower the numeric value for this index, the more severe the disease may be. The degrees of suspicion for PAD are as follows: Mild (ABI 0.71-0.99), Moderate (ABI 0.41-0.70), or Severe (ABI 0.00-0.40) ([Fischbach, 2004](#)). Fischbach's Ankle Brachial Index (ABI) Scale was in English. Part II was filled up by the researcher after examination of the respondents. The instrument was previously checked by an adviser of the research (Prof. Vivian L. Ceballos) and it was validated by a panel of experts (i.e., one [1] with a master of arts in medical-surgical nursing (Prof. Delia V. Realista), one [1] with a Ph.D in statistics (Dr. Jofi V. Mahilum), and one [1] with a Ph.D in management (Dr. Teresita Tumapon)) who did the content relevance and validity to the research problem. In terms of reliability the research instrument has a Cronbach's alpha of 0.706.

Data Analysis

Firstly, the respondents signed an informed consent form. The test purpose, benefits, and procedures were explained. The respondent was instructed to refrain from smoking or

consuming caffeine for at least 2 hours before the study. The respondent was assured that no radiation is employed, no contrast medium is injected, and no pain is involved, although some discomfort may be experienced from lying with extremity extended or when pneumatic cuffs are inflated. The respondent was then asked to lie on a table with extremity extended. The pneumatic cuffs were then placed at each extremity in interval at 2 inches above the antecubital space for the upper extremity and the area just above the ankle for the lower extremity. The formula is: Left ankle SBP/left brachial SBP and right ankle SBP/right brachial SBP. The cuff was then inflated to suprasystolic values and then slowly deflated at 2-4mmHg/second until flow resumed. The pressure at which flow resumes was then recorded. After this, the test outcomes were interpreted. The respondent was then provided support, and counselled appropriately if an abnormality was detected (i.e., the need for possible further testing [arteriogram] and treatment [medical or surgical]). For the degree of suspicion of peripheral artery disease (PAD) using ABI (ankle-brachial index), the scoring was as follows: a) 0 for No degree of suspicion (ABI >1.00), b) 1 for Mild degree of suspicion (ABI 0.71-0.99), c) 2 for Moderate degree of suspicion (ABI 0.41-0.70), and d) 3 for Severe degree of suspicion (ABI 0.00-0.40). Frequency and percentage distribution were used to present and analyze the demographic profile of the respondents and their degree of suspicion of PAD. Pearson correlational relationship was used to determine if there is a significant relationship between the degree of suspicion of having PAD using ABI and the respondents' demographic profile. The strength of this study is the objectivity of the research instrument in assessing the degree of suspicion of PAD: Fischbach's Ankle Brachial Index (Fischbach, 2004) is capable of detecting any possible arterial occlusion in the lower extremities. The limitation of the study is that, being a nursing research, it was not able to employ more accurate and invasive means of assessing peripheral artery disease (PAD) like an arteriogram.

Ethical Consideration

The researcher ensured that ethical protocols were followed before and during the data gathering process. Data gathering started after the approval of College Research and Ethics Committee (CREC). Communication letters were given to each selected barangays and Municipal Health Office in the selected municipalities of Lanao del Norte, as well as Camp Tomas Cabili Police Office in Iligan City. This study utilized respondents that were amenable to be part of the study after voluntarily signing the informed consent form given during orientation. The respondents were assured that the data collected will be treated with full confidentiality and that it cannot be disclosed elsewhere, except for the intended study and indeed will not be used against them.

RESULTS

Problem 1: What is the demographic profile of the respondents in terms of age, gender, history of heredo-familial disease and lifestyle?

Table 1 shows the percentage distribution of the respondents in terms of age. Majority of the respondents are 50 year old-and-above and constitute 50% (20) of the total number of respondents. Meanwhile, 17 or 42.5% of the respondents belong to the 20-29 year old age bracket, 3 or 7.5% belong to the 30-39 year old age bracket, and 0 or 0% belong to the 40-49 year old age bracket. This is so because people 50 years old and above tend to have arterial disorders like atherosclerosis (narrowing of the vessel lumen caused by the accumulation of atheroma or fat in the tunica intima) and arteriosclerosis (narrowing of the vessel lumen caused by the degenerative hardening of the tunica media and tunica adventitia) (Smeltzer et al., 2010). More so, degenerative disorders like diabetes mellitus, hypertension, and cardiac diseases tend to manifest during old age (>50yo), making it a significant predisposing factor to PAD (Black & Hawks, 2005).

Table 1 Percentage distribution of the respondents according to age

Age	Frequency Distribution	Percentage Distribution
20-29 y.o.	17	42.5
30-39 y.o.	3	7.5
40-49 y.o.	0	0
50 & above	20	50.0
TOTAL	40	100

Table 2 Percentage distribution of the respondents according to gender

Gender	Frequency Distribution	Percentage Distribution
Males	26	65.0
Females	14	35.0
TOTAL	40	100

Table 2 shows the percentage distribution of the respondents according to gender. In terms of gender, majority or 65% (26) of the respondents are the at-risk group, the males. The females, constitutes only 35% (14). Males are at greater risk or have greater degree of suspicion for peripheral artery disease because

they only have minute levels of estrogen, the female sex hormone that has a dual function of developing the female secondary sex characteristics (i.e. breast and hip development) and protection against cardiovascular diseases by depositing cholesterol and lipids into adipose tissues instead of the vessel's

lumen ([Smeltzer et al., 2010](#)). However, by 50 years old and above, the female's estrogen level decreases due to the age-

related deterioration of the ovaries, making the female's risk for PAD equal to that of the male ([Kasper et al., 2004](#)).

Table 3 Percentage distribution of the respondents according to history of heredo-familial diseases

History of Heredo-Familial Diseases	Frequency Distribution		Percentage Distribution
With History of Heredo-Familial Diseases	18		45.0
	Diabetes Mellitus	5 of 40	12.5
	Hypertension	14 of 40	35.0
	Cardiac Disease	3 of 40	7.5
No History of Heredo-Familial Diseases	22		55.0
TOTAL	40		100

Table 3 shows the percentage distribution of the respondents according to history of heredo-familial diseases. In terms of history of heredo-familial diseases, only 18 or 45% of the respondents have history of heredo-familial diseases, while 22 or 55% have no history of heredo-familial diseases. 5 or 12.5% of respondents have Diabetes Mellitus, 14 or 35% have Hypertension, and 3 or 7.5% have cardiac disease. All these disorders have a direct relationship with PAD ([Black & Hawks, 2005](#)). Diabetes Mellitus, a group of disorders characterized by hyperglycemia, increases the viscosity of the blood, causing blood stasis and arterial occlusion, both precipitating factors for

PAD ([Heuther & Mccance, 2000](#)). Hypertension, the abnormally increased force of blood against the vessel wall, causes mechanical injury to the vessel wall's tunica intima and tunica media, precipitating PAD ([Kasper et al., 2004](#)). Parenthetically, cardiac diseases, characterized by decreased cardiac output to the tissues, causes faulty compensation mechanisms, like the activation of the renin-angiotensin-aldosterone system and myocardial hypertrophy, which could later decompensate and increase both blood volume and blood pressure, precipitating PAD ([Smeltzer et al., 2010](#)).

Table 4 Percentage distribution of the respondents according to lifestyle

Lifestyle	Frequency Distribution		Percentage Distribution
Unhealthy Lifestyle	27		67.5
	Smokers	9 of 40	22.5
	Alcoholics	11 of 40	27.5
	Irregular Exercise	19 of 40	47.5
	High Fat Diet	3 of 40	7.5
Healthy Lifestyle	13		32.5
TOTAL	40		100

Table 4 shows the percentage distribution of the respondents according to lifestyle. In terms of lifestyle, 27 or 67.5% of the respondents have an unhealthy lifestyle, while only 13 or 32.5% of the respondents have a healthy lifestyle. 9 or 22.5% of the respondents are cigarette smokers, 11 or 27.5% are alcohol drinkers, 19 or 47.5% exercise irregularly, and 3 or 7.5% eat a high fat diet. Smoking contains nicotine, a vasoconstrictor, and free radicals which are capable of direct endothelial tissue injury. Alcohol is a gastrointestinal tract irritant which could decrease the absorption of vitamin B complex and the removal of homocysteine—both conditions could predispose to PAD. Parenthetically, exercising irregularly and eating a high fat diet could increase the cholesterol, triglycerides, low density lipoprotein, and very low density lipoprotein levels in the body, increasing the risk of atherosclerosis, and consequently—PAD ([Smeltzer et al., 2010](#)). These unhealthy lifestyle habits are not mutually exclusive of each other; to elucidate, the nicotine of cigarette causes vasoconstriction which delays the ataxia

induced by the hypotension of alcohol ([Kasper et al., 2004](#)); and people who are smokers, alcoholics, or exercise irregularly usually eat a high fat diet ([Grodner et al., 2004](#)).

Problem 2: What is the degree of suspicion of peripheral artery disease (PAD) among the respondents using ankle brachial index (ABI)?

Table 5 shows the percentage distribution of the respondents according to left and right ankle brachial indices. In terms of degree of suspicion of having peripheral artery disease (PAD) using Left Brachial Index (ABI), 2 or 5% of the respondents have mild risk, 38 or 95% of the respondents have no risk, 0 or 0% of the respondents have moderate risk, and 0 or 0% of the respondents have severe risk. In terms of degree of suspicion of having PAD using Right Brachial Index (ABI), 5 or 12.5% of the respondents have mild risk, 35 or 87.5% of the respondents have no risk, 0 or 0% of the respondents have moderate risk, and 0 or 0% of the respondents have severe risk.

Table 5 Percentage distribution of the respondents according to Left and Right Ankle Brachial Indices

Left Ankle Brachial Index (ABI)	Frequency Distribution	Percentage Distribution
No degree of suspicion (≥ 1.00)	38	95.0
Mild degree of suspicion (0.71-0.99)	2	5.0
Moderate degree of suspicion (0.41-0.70)	0	0.0
Severe degree of suspicion (0.00-0.40)	0	0.0
TOTAL	40	100
Right Ankle Brachial Index (ABI)	Frequency Distribution	Percentage Distribution
No degree of suspicion (≥ 1.00)	35	87.5
Mild degree of suspicion (0.71-0.99)	5	12.5
Moderate degree of suspicion (0.41-0.70)	0	0.0
Severe degree of suspicion (0.00-0.40)	0	0.0
TOTAL	40	100

The left lower extremity has greater risk for peripheral artery disease (PAD) because 8 out of 10 people in the world are right hand and right leg dominant (Kozier, 2004). Activity of the quadriceps, gastrocnemius and other muscles of the thighs and legs causes vasodilation, and consequently increased blood supply, to the lower extremities by stimulating the sympathetic component of the autonomic nervous system through the peroneal nerves and other lower extremity nerves. Consequently, the lesser-used extremity would have lesser muscle activity, which means lesser blood flow—and this places the non-dominant or the lesser-used extremity at a relatively higher risk for PAD than the dominant or often-used extremity (Kasper et al., 2004).

Problem 3: Is there is significant relationship between the respondents' demographic profile and their degree of suspicion of having Peripheral Artery Disease using Ankle-Brachial Index (ABI)?

Table 6 presents the Pearson Correlational Coefficient of the variables, indicating that there is a significant relationship between the degree of suspicion of having PAD using both Left or Right ankle-brachial indices and most of the demographic profile. As to the relationship between demographic profile and degree of suspicion of having PAD, considering the left and right ankle brachial indices (ABI): age and lifestyle (diet and exercise) have a significant relationship with their degrees of suspicion of having PAD.

Table 6 The relationship between the respondents' degree of suspicion of having Peripheral Artery Disease (PAD) using Ankle-Brachial Index (ABI) and their demographic profile using Pearson Correlational Coefficient

	Pearson Correlational Coefficient	P-value (at $p < 0.05$)	Interpretation
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Right) and their Age	-0.687	< .00001 (significant)	Strong inverse relationship between Right ABI (ankle brachial index) and Age of the respondents
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Left) and their Age	-0.614	.000025 (significant)	Strong inverse relationship between Left ABI and Age of the respondents
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Right) and their Gender	0.102	.531128 (not significant)	Small Direct relationship between the Right ABI and Gender of the respondents
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Left) and their Gender	0.201	.213623 (not significant)	Small direct relationship between the left ABI and Gender of the respondents
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Right) and their history of Heredo-familial diseases.	-0.304	.056507 (not significant)	Medium inverse relationship between Right ABI and the history of heredo-familial diseases of the respondents
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Left) and their history of Heredo-familial diseases	0.026	.873471 (not significant)	Small direct relationship between Right ABI and alcohol drinking habit of the respondents

Table 6 Continued

Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Right) and their Lifestyle (smoking habit)	0.208	.197769 (not significant)	Small direct relationship between Right ABI and smoking habit of the respondents
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Left) and their Lifestyle (smoking habit)	0.208	.197769 (not significant)	Small direct relationship between Right ABI and smoking habit of the respondents
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Right) and their Lifestyle (Alcohol drinking habit)	0.208	.197769 (not significant)	Small direct relationship between Right ABI and alcohol drinking habit of the respondents
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Left) and their Lifestyle (Alcohol drinking habit)	0.085	.602028 (not significant)	Small direct relationship between Left ABI and alcohol drinking habit of the respondents
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (Right) and their Lifestyle (Diet and Exercise)	0.700	< .00001 (significant)	Strong direct relationship between Right ABI and healthy non-fat diet and regular exercise of the respondents
Relationship between the respondents' degree of suspicion of having PAD using ankle-brachial index (ABI) (left) and their Lifestyle (Diet and Exercise)	0.629	.000014 (significant)	Strong direct relationship between Left ABI and healthy non-fat diet and regular exercise of the respondents

DISCUSSION

In this study, as to the relationship between demographic profile and degree of suspicion of having PAD, considering the left and right ankle brachial indices (ABI), age and lifestyle (diet and exercise) have a significant relationship with their degrees of suspicion of having PAD.

It is interesting that, based on the results of this research; it is not smoking that is the most significant risk for PAD, but diet and exercise. Results show lifestyle (diet and exercise) plays the only modifiable significant factor for increasing the degree of suspicion of having PAD in both the geriatrics and the policemen despite the difference in their respective settings and presumed activity levels. This result differs from or contradicts the main stance of the medical-surgical nursing authority (Smeltzer et al., 2010), which holds that smoking is the most important risk factor for peripheral artery disease, to wit: "the use of tobacco products is the probably the most important risk factor for the development of atherosclerotic lesions" (Smeltzer et al., 2010). Thus, the results of this study proves that even without smoking, or nicotine in the smoke, as a significant risk factor, diet and exercise, or poor diet and exercise to be precise, is alone sufficient to increase the degree of suspicion of PAD. This could be because, as observed by the researcher, the policemen just eat in the nearby cafeterias, eating whatever is available; the food served, often high in sodium, sugar and cholesterol. As for the geriatrics, they have no standardized diet as well. The researcher also notes the lack of gym or exercise

facilities in both the geriatrics' home for the aged and the policemen's station. Exercising irregularly and eating a high fat diet could increase the cholesterol, triglycerides, low density lipoprotein, and very low density lipoprotein levels in the body, increasing the risk of atherosclerosis, and consequently—peripheral artery disease (Smeltzer et al., 2010).

The strength of this study is the objectivity of the research instrument in assessing the degree of suspicion of PAD. The ankle brachial index constitutes a simple, non-invasive, cost-effective method for the early detection of PAD which complements the assessment of cardiovascular risk. This examination has been recommended for routine clinical use, with the aim of measuring the patency of the arterial circulation of the lower as well as the upper limbs (Fischbach, 2004). Through ABI, this research has shown that the respondents' lifestyle (diet and exercise) have a significant relationship with their degree of suspicion of having PAD, despite the difference in their respective settings, i.e., homes for the aged, and police stations.

The limitation of the study is that, being a nursing research, it was not able to employ more accurate and invasive means of assessing PAD like an arteriogram. An experimental research taking into consideration the cholesterol and/or triglyceride levels of the respondents would no doubt produce more comprehensive results. Nevertheless, this research was able to highlight imperativeness of not underestimating the likelihood that poor diet and exercise can increase the risk or degree of

suspicion of PAD even if most of the respondents are non-smokers, or in this case, not even frequent alcohol drinkers.

CONCLUSION

In light of the findings derived from this study, it is concluded that some of the demographic profile does have a significant effect on the degree of suspicion of having PAD, to wit: age and lifestyle (diet and exercise). It is interesting that, based on the results of this research; it is not smoking that is the most significant risk for PAD, but diet and exercise. Results show lifestyle (diet and exercise) plays the only modifiable significant factor for increasing the degree of suspicion of having PAD in both the geriatrics and the policemen despite the difference in their respective settings and presumed activity levels. This result differs from or contradicts the main stance of the medical-surgical nursing authority, which holds that smoking is the most important risk factor for peripheral artery disease. Thus, the results of this study proves that even without smoking, or nicotine in the smoke, as a significant risk factor, diet and exercise, or poor diet and exercise to be precise, is alone sufficient to increase the degree of suspicion of PAD. The implication of this finding in nursing knowledge or nursing practice is the highlighting of the imperativeness of not underestimating the likelihood that poor diet and exercise can increase the risk or degree of suspicion of PAD even if most of the respondents are non-smokers, or in this case, not even frequent alcohol drinkers. A more standardized nutritious and healthy diet might benefit the policemen and geriatric respondents.

Declaration of Conflict of Interest

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Author Contribution

This study is an original work of the corresponding author.

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