Knowledge of Patients and Their Accompanying Persons about Obliterative Arteriopathy of the Lower Limbs at Conakry University Hospital in 2022

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Abstract

Introduction: Obliterative arterial disease of the lower limbs is a marker of advanced atherosclerosis. It is one of the world's most common cardiovascular diseases, present in one in five people over the age of 60, and carries an increased risk of morbidity and mortality. The aim of this study was to assess the knowledge of patients and their carers about obliterative arteriopathy of the lower limbs at Conakry University Hospital. **Material and Methods:** We conducted a descriptive cross-sectional study lasting 3 months, from March 12 to June 12, 2022 in the hospitals of the University Hospital of Conakry (Donka and Ignace Deen). Following free and informed consent, they were interviewed on the basis of a pre-established questionnaire. Socio-demographic data (age, gender, level of education) were collected, and knowledge of obliterative arterial disease of the lower limbs. **Results:** The study involved 159 people, comprising 106 patients (66.66%) and 53 accompanying persons (33.34%) in the hospitals of the University Hospital of Conakry (Donka and Ignace Deen). The 60 to 79 age group was the most represented (44.7%), with an average age of 55.4 ± 15.9 years and extremes of 20 to 84 years. Half (47.8%) had not attended school, and almost all (96.4%) of those who had attended school had a low level of education (primary and secondary). Almost all of

them (91.2%) had never heard of AOMI. Only 5% identified at least one risk factor, diabetes, hypertension and smoking. Amputation was the most frequently identified complication. About 98% did not know that AOMI is associated with myocardial infarction and stroke, and 93.7% did not know of any complications. Almost all the participants (99.4%) had poor knowledge of the following complications. **Conclusion:** Obliterative arterial disease of the lower limbs could be prevented or delayed by screening and controlling risk factors. Our results show a huge deficit in knowledge of this pathology, including risk factors, preventive measures, clinical signs and complications among patients and their relatives. A study conducted outside the hospital environment would provide a better understanding of the extent to which the general population is unaware of this disease.

Keywords

Obliterative Arterial Disease of the Lower Limbs, Knowledge, Patients

1. Introduction

Obliterative arterial disease of the lower limbs is a marker of advanced atherosclerosis [1]. It is one of the world's most common cardiovascular diseases, present in one in five people over the age of 60, and carries an increased risk of morbidity and mortality [2].

Various studies have reported poor knowledge of the disease among the general population, including sufferers.

In the USA, Hirsch AT, *et al.* in 2007 reported that 75% of their study population had never heard of obliterative arterial disease of the lower limbs, with poor knowledge among those who claimed to know about the disease [3].

In Ireland Cronin CT, *et al.* in 2015, reported that obliterative arterial disease of the lower limbs was underdiagnosed and undertreated and that 81% of obliterative arterial disease of the lower limbs patients had never heard of the disease [4].

In Canada, Morr EC, *et al.* in 2017 reported 78.7% total unawareness of obliterative arterial disease of the lower limbs by the general population. In addition, 70.6% of those who said they had heard of the disease had poor knowledge of it [5].

A minority of patients with or at risk of OSA are aware of it [3].

In sub-Saharan Africa in general, data on the population's knowledge of obliterative arterial disease of the lower limbs are scarce, particularly in Guinea.

The correct knowledge of obliterative arteriopathy of the lower limbs by the population in general and hypertensive patients in particular would be a pledge for the application of preventive measures with the aim of considerably reducing morbimortality and the risk of amputation.

It is in this context that this study was carried out, the aim of which was to

describe the knowledge of patients and their relatives about obliterative arterial disease of the lower limbs at the Centre Hospitalier Universitaire de Conakry.

2. Material and Methods

We conducted a 3-month descriptive cross-sectional study from March 12 to June 12, 2022.

All inpatients and outpatients in the departments of Cardiology, Vascular Surgery, Neurology, Diabetology-Endocrinology, Orthopedics-Traumatology, General Surgery, Nephrology and Hemodialysis meeting at least one criterion of a patient at increased risk of obliterative arterial disease of the lower limbs according to the recommendations of the 2016 American Heart Association/ American College of Cardiology guideline on the management of patients with obliterative arterial disease of the lower limbs [6] and, on the other hand, their companions.

Excluded from the study were all those working in a medical or paramedical profession, and all those who did not agree to take part in the questionnaire.

All patients enrolled in this study freely signed a consent form before answering the questions. after being informed about the study's objectives and procedures.

They were questioned on the basis of a pre-established questionnaire including socio-demographic data (age, sex, level of education) and knowledge of obliterative arterial disease of the lower limbs, which was assessed through the 4 domains of the disease which are:

- Risk factors (n = 7): Age, male sex, personal or family history, smoking, diabetes, hypertension, dyslipidemia.
- Clinical features (n = 7): Asymptomatic, claudication, pain at rest, ulcer, coldness, numbness, paralysis.
- Potential complications (n = 7): Local complications (thrombus formation, amputation, inability to walk), systemic complications (myocardial infarction, ischemic stroke, renal artery stenosis, death).
- Preventive measures (n = 7): Smoking cessation, dietary change, activity/walking, diabetes control, hypertension control, dyslipidemia control (statins), antiplatelet agents (aspirin).

The level of knowledge was classified according to the total score obtained by the participant. It is considered:

- Poor: Any patient with less than 70% correct answers in all areas of knowledge of obliterative arterial disease of the lower limbs;
- Good: Any patient with 70% or more correct answers for all areas of knowledge of obliterative arterial disease of the lower limbs;

Data were collected using Kobocollect version 30.1 and exported to SPSS version 25.0 for analysis. Quantitative variables were expressed as means and standard deviations, while qualitative variables were presented as numbers and percentages.

Free and informed consent was obtained from each participant after being

fully briefed on the objectives and conduct of the study.

3. Results

3.1. Epidemiological Aspects and Socio-Demographic Characteristics of Patients

The study involved 159 people, comprising 106 patients (66.66%) and 53 accompanying persons (33.34%) at Conakry University Hospital (Donka and Ignace Deen).

The 60 - 79 age group was the most represented (44.7%), with an average age of 65.4 ± 14.8 years.

Half (47.8%) had not attended school, and almost all (96.4%) of those who had attended school had a low level of education (primary and secondary).

Socio-demographic characteristics are illustrated in Table 1.

3.2. Areas of Knowledge about Arteriopathy Obliterans of the Lower Limbs Identified by Participants

Almost all participants (91.2%) had never heard of Arteriopathie Obliterante des Limbes inferior. Only 5% identified at least one risk factor, diabetes, hypertension and smoking.

The majority of participants (86.6%) considered medical staff as sources of information on knowledge of arteriopathy obliterans of the lower limbs, and only 13.6% used the internet and the media.

Table 1. Distribution of participants by socio-demographic characteristics.

Characteristics	Numbers	Percentage
Age groups		
20 - 39	29	18.2
40 - 59	52	32.7
60 - 79	71	44.7
80 et plus	7	4.4
Average age	55.4± 15.9 ans	
Extreme	20 to 80 ans	
Sex		
Male	75	47.2
Female	84	52.8
Level of education		
No schooling	76	47.8
Primary	20	12.6
Secondary	40	25.2
University	23	14.5

Amputation was the complication most frequently identified by our participants on the questionnaire.

Some 98% of participants were unaware that arteriopathy obliterans of the lower limbs is associated with myocardial infarction and stroke, and 93.7% were unaware of any complications.

Almost all participants (99.4%) had poor knowledge of the complications of obliterative arteriopathy of the lower limbs: arterial thrombosis, amputation, walking disability, myocardial infarction, stroke.

These different areas are illustrated in Table 2.

Table 2. Breakdown of knowledge areas identified by participants.

	Numbers	Percentage
Participants who have heard of obliterative arterial disease of the lower limbs		
Yes	14	8.8
No	145	91.2
Information sources		
Internet	1	6.7
Medical Staff	13	86.6
Média	1	6.7
Risk factors (FDR)		
Old age	1	.6
Male gender	0	0
Personnal/Family history AOMI	0	0
Smoking	2	1.3
Diabetes	7	4.4
Hypertensions	5	3.1
Dyslipidémia	1	0.6
Don't know	151	95
Clinical signs		
Asymptomatic	0	0
Claudication	0	0
Pain at rest	7	4.4
Leg ulcer	4	2.5
Cooling of limb	2	1.3
Numbness	2	1.3
Paralysis	1	0.6
Don't know	152	95.6

Continued

Complications		
Arterial thrombosis	2	1.3
Amputation	10	6.3
Inability to walk	1	0.6
Heart attak	2	1.3
Ischemia stroke	1	0.6
Renal artery stenosis	0	0
Death	4	2.5
Don'k know	149	93.7
Preventives measures		
Smoking cessation	2	1.3
Dietary changes	2	1.3
Physical activity	1	0.6
Diabetes control	2	1.3
Control of hypertension HTA	2	1.3
Control dyslipidemia	1	0.6
Antiplatelet therapy	1	0.6
Don't know	156	98.1

4. Discussion

The aim of this study was to describe the knowledge of patients and their carers about obliterative arteriopathy of the lower limbs.

The first of its kind in Guinea, this study illustrates the major problems involved in the management of obliterative arteriopathy of the lower limbs. On the other hand, the participants (patients and their carers) are largely unaware of this vascular pathology, with its many disabling complications and socio-economic consequences.

We collected information from 106 patients (66.66%) and 53 participants (33.34%).

The 60 - 79 age group was the most represented (44.7%), with a mean age of 65.4 ± 14.8 years. Builyte IU, *et al.* in 2019 in Lithuania found a mean age of 68.3 ± 11.8 years, with extremes of 63 to 94 years [7]. This difference can be explained by the high proportion of young subjects in our population.

Almost half had no schooling (47.8%), and almost all (96.4%) of those with schooling had a low level of education (primary and secondary). An ANOVA test showed no link between level of education and poor knowledge of obliterative arteriopathy of the lower limbs.

Almost all 91.2% had never heard of obliterative arteriopathy of the lower limbs. This result differs from that of Ayeed SB, *et al.* in Saudi Arabia in 2016,

who found that 66% had never heard of obliterative arteriopathy of the lower limbs [8]. The difference could be explained by the low level of education of the populations surveyed.

Only 5% identified at least one risk factor, with diabetes, hypertension and smoking remaining the most widely recognized risk factors. Hirsch AT, *et al.* in the USA in 2007 also found the same result [3]. Obliterative arteriopathy of the lower limbs patients generally have extensive arterial disease, and are therefore at significant risk of stroke, myocardial infarction and cardiovascular death; various studies have shown a reduction in this undesirable outcome through treatment of AOMI risk factors [9], hence the importance of patients and their accompanying personsbeing aware of them in order to optimize their control and slow the prevalence of the disease.

Amputation was the most identified complication, with around 98% unaware that obliterative arteriopathy of the lower limbs is associated with myocardial infarction and stroke, and 93.7% unaware of any complication. Ayeed SB, *et al.* in 2016 in Saudi Arabia found that around 70% of participants identified amputation, stroke and coronary artery disease as complications of AOMI [8]. This may be explained by the fact that this is the final local and systemic stage of the disease, and by the fact that it is poorly recognized, as these are late situations in its discovery. Obliterative arteriopathy of the lower limbs is an independent predictor of coronary heart disease and stroke, with a 3-fold increase in mortality [10], and is also a systemic manifestation of atherosclerosis. Complications are debilitating, with considerable impairment of quality of life, and the cost of management is enormous [11]. This is why knowledge of the outcome of obliterative arteriopathy of the lower limbs by patients and their families could help reduce the prevalence and burden of this disease.

However, the use of a questionnaire with predefined answers that could lead to bias, and the generalization of results due to the fact that the survey was carried out in the two largest hospitals and on a population carrying or at risk of the disease, constitute the weaknesses of the study.

5. Conclusions

Occlusive arteriopathy of the lower limbs is one of the most frequent cardiovascular diseases in the world, responsible for the leading causes of cardiovascular death. It could be prevented or delayed by screening and controlling risk factors.

Despite the availability of several data on obliterative arteriopathy of the lower limbs, our results show a huge deficit in knowledge of this pathology, including risk factors, preventive measures, clinical signs and complications among patients and their relatives. This trend could be reversed by raising public awareness and systematically involving patients and their families in the management of risk factors and the disease.

A study conducted outside the hospital environment would provide a better understanding of the extent to which the general population is unaware of this

disease.

Limits of the Study

The sample size is small, as the survey was carried out in two national hospitals. A more extensive survey of patients, carers and even the country's population as a whole would be more representative.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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