ISSN 2475-5451

Research Article

International Journal of Diabetes & Metabolic Disorders

Assessment of Awareness of Coronary Artery Disease Patients Regarding Lifestyle Modifications

Wadeda Hassan

Shendi University, Sudan

*Corresponding author:
Wadeda Hassan, Shendi University, Sudan.

Submitted: 29 Apr 2022; **Accepted**: 07 May 2022; **Published**: 11 May 2022

Citation: *Wadeda Hassan. (2022). Assessment of Awareness of Coronary Artery Disease Patients Regarding Lifestyle Modifications. J Clin Rheum Res, 2022, 2(1), 40-45.*

Abstract

Objective: *To assess the awareness of patient with acute coronary syndrome (ACS) regarding life style modification.*

Methods: *A Descriptive cross-sectional study was conducted in a Sudan heart institute at Khartoum State- Sudan during a period from January 2020 to March 2020, the study population consisted of 100 consecutive coronary artery disease (CAD) patients aged less than 70 years who visit the outpatient clinic during the period of study. Physical examination, a careful medical interview with assessment for lifestyle habits, adherence to pharmacological therapy were performed.*

Results: *Overall, patients had a high level of awareness about coronary artery disease (CAD) (68%), its risk factors, including obesity (95%), smoking (91%), hypertension (84%), DM (69%). Also, there was a relationship between the level of education and the definition of coronary artery disease (CAD). However, the patients face the difficulty of modifying their lifestyle habits.*

Conclusions: *There were substantial disparities in the confidence levels associated with lifestyle modification and recognition/response to heart attack. These gaps need to be studied further and disseminated to improve cardiovascular care.*

Keywords: Coronary Artery Disease, Life-Style Modifications, Khartoum State.

Introduction

Cardiovascular Disease (CVD) is the leading cause of mortality worldwide [1]. heart disease is the most cause of mortality for most races in the United States, including African Americans [2]. Heart disease is a persistent public health concern in Africa, and also non-communicable diseases, maternal, neonatal, and nutritional disorders, are the second most prevalent cause of mortality in Sub-Saharan Africa (SSA), 34.5% of all deaths [3,4].

The common types of heart disease in the African region are those related to atherosclerosis, cardiomyopathies, hypertension and rheumatic heart disease [5,6]. In Sudan, the Federal Ministry of Health and Ministry of Health of the Government of southern Sudan reported that the prevalence of heart disease was 2.5% in 2017, with ischemic heart disease (IHD) and cardiomyopathy constitute more than 80% of cardiovascular disease (CVD) in Sudan [1].

Coronary Artery Disease (CAD) is also known as coronary heart disease (CHD) has been found to be the world-wide leading cause of death in both developed and developing countries [7]. It's an atherosclerotic disease of inflammatory nature [8]. Manifested by stable angina, unstable angina and Myocardial Infarction (MI) [9]. The prevalence of coronary artery disease (CAD) increases with age in both men and women [10].

In Sudan, coronary heart disease (CHD) account for 20.07% of total deaths according to the latest World Health Organization (WHO) data published in 2018. The age adjusted Death Rate is 279.01 per 100,000 of population ranks Sudan #13 in the world [11]. Interventions to reduce Lifestyle Related Risk Factors (LRFs) such as overweight, smoking, alcohol consumption and physical inactivity are recommended for the first-line management for coronary artery disease (CAD) [12]. Therefore, this study aimed to as-

sess the awareness of patient with acute coronary syndrome (ACS) regarding life style modification.

Method

The study was conducted in Sudan heart institute at Khartoum State- Sudan, this is a Descriptive cross-sectional study, aimed to assess the awareness of patient with acute coronary syndrome (ACS) regarding life style modification. The study was conducted during a period from January 2020 to March 2020. The study population consisted of 100 consecutive patients aged less than 70 years who visit the outpatient clinic during the period of study.

Data Collection

Patients were interviewed and examined while in hospital through standardized methods. Information about personal medical history, demographics, medications and lifestyle habits in relation to smoking habits, diet, physical exercise, and control of body weight, blood pressure, lipids and diabetes were obtained at the time of the interview.

Data Analysis

Data analysis was performed using SPSS V.19.0 in Windows. Categorical variables were summarized as percentages. For all statistical analyses, statistical significance was accepted at $P<0.05$.

Results

Baseline characteristics of the study population are shown in **table 1.** Most of the participants were men and Majority of them had received primary School education and had 1-5 years' duration of illness. Smoking was reported among 21% of the study group with 18% have trail to stop smoking. **Table 2** Source of information about ischemic heart disease (IHD).

Figure 1 showed that 52% of Study population of low socioeconomic status while **figure 2** showed the exposure to passive smoking. **Table 3,4** showed patients' knowledge regarding coronary artery disease (CAD) and Lifestyle Modifications. **Table 5** showed the relationship between educational level and definition of coronary artery diseases.

Table 1: baseline characteristics of study population

	Variables	Frequency	Percentage
Gender	Males	59	59%
	Females	41	41%
Educational Level	Illiterate	14	14%
	Primary	44	44%
	Secondary	23	23%
	University	19	19%
Duration of Illness	less than one year	37	37%
	1 - 5 years	45	45%
	5 - 10 years	8	8%
	more than 10 years	10	10%
Smoking	Yes	21	21%
	No	79	79%
Trail to Stop Smoking	Yes	18	18%
	No	3	3%
Regulation of Blood Pressure	Always	59	59%
	Often	32	32%
	Never	9	9%
Regulatory of Weigh redaction regimen	Often	40	40%
	Always	14	14%
	Never	46	46%
Uses of prescribed medication	When feeling chest pain	6	6%
	Regular use	92	92%
	Irregular use	2	2%
Exposure to stress	More stress	22	22%
	Moderate stress	25	25%
	Slight stress	53	53%

Regularity of follow up	Regular	85	85%
	Irregular	7	7%
	When feel symptoms of IHD	8	8%

Table 2: Source of information about ischemic heart disease (IHD)

	Variables	Frequency	Percentage
Source of information about Ischemic Heart Disease (IHD)	Health care worker	88	88%
	Mass media	10	10%
	Neighbour and family member	2	2%

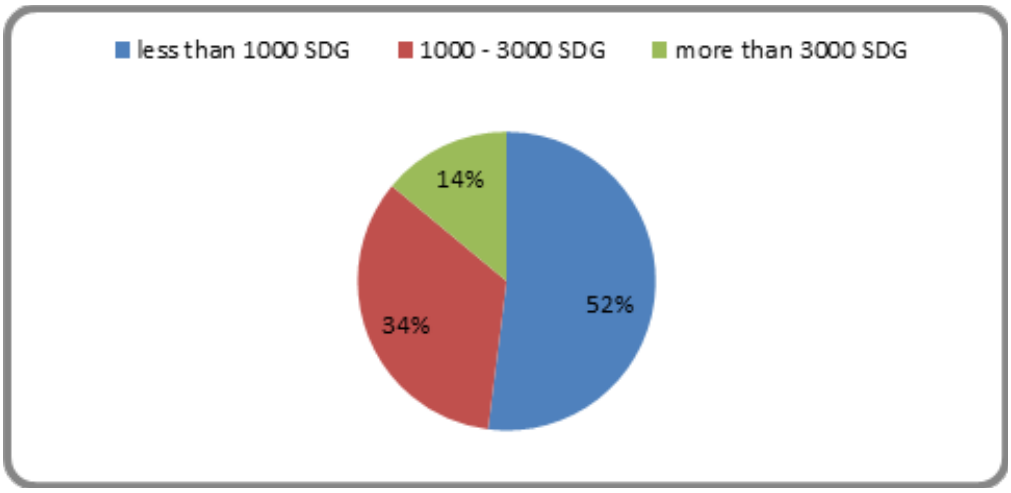

Figure 1: Show distribution of population according Family income per month

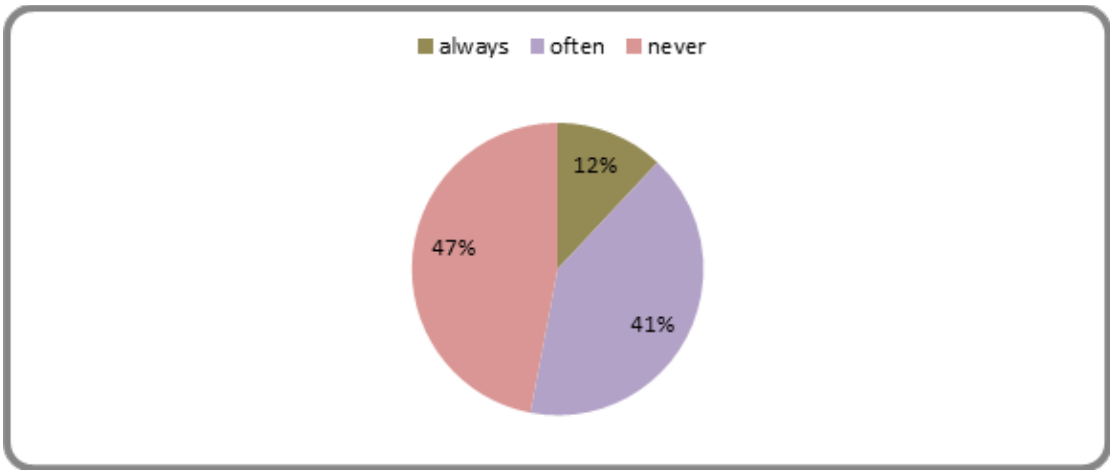

Figure 2: response to passive smoking exposure

Table 3: Showed patients knowledge regarding coronary artery disease (CAD)

knowledge		Percentage	
		Yes	NO
1.	Definition of coronary artery diseases	86	86%
A.	disease affected arteries	7	7%
B.	disease affect valves	7	7%
C.	disease affected heart muscles		
2.	Non-Modifiable risk that can increase the risk of acute coronary syndrome		
A.	age	77%	23%
B.	Family history	63.6%	36.4%
3.	modifiable risk that can increase the risk of ischemic heart daises		
A.	Smoking	91%	8%
B.	Hypertension	84%	16%
C.	DM	69%	31%
D.	Increase of cholesterol level	92%	8%
E.	Obesity	95%	5%
4.	Exercise is important to heart health	89%	11%
5.	Exercise should start gradually and stop gradually	80%	20%
6.	Continuous uses of prescribed drug prevent heart attack	94%	6%
7.	Control of blood glucose decrease risk of IHD	75%	25%

Table 4: Assessment of patient's knowledge regarding lifestyle modifications

variables	Frequency	Percentage
knowledge of population regarding Causes of stopping exercise		
Knowledgeable	18	18%
Sufficient knowledge	31	31%
Poor knowledge	51	51%
knowledge of population regarding Diet content		22%
Knowledgeable	22	45%
Sufficient knowledge	45	33%
Poor knowledge	33	
knowledge of population regarding Regain of weigh reduction combos		
Knowledgeable	34	34%
Sufficient knowledge	31	31%
Poor knowledge	35	35%

Table 5: Relationship between educational level and definition of coronary artery disease (CAD)

		Definition of coronary artery diseases			Total
		Disease affected arteries	Disease affect valves	Disease affected heart muscles	
Educational level	Illiterate	11	3	0	14
	Primary	39	1	4	44
	Secondary	18	2	3	23
	University	18	1	0	19

Discussion

Sudan is one of the high cardiovascular risk African countries, according to data from the last WHO report [11]. The present study was descriptive cross-sectional Study carried out in the Sudan heart institute to assess the awareness of patient with coronary artery disease (CAD) regarding lifestyle modifications in period extend from January 2020 to March 2020. The study involves 100 patients with coronary artery disease (CAD), of them (59%) were males and the remaining (41%) were females. Regarding educational levels, only (19%) of them had universal education.

In Addition, the study also showed that more than half of the study population (52%) were of low socioeconomic status due to military insurances but most of them was on regular follow up and take the prescribed medication and gaining most of most of their (88%) knowledge from health care worker. Also, most of the cases had 1-5 years' duration of coronary artery disease (CAD) and only 10% of more than 10 years.

At Baseline, most patients under study (86%) aware about his disease, but (15%) of them being confused about coronary disease, valve disease and heart muscle disease. The study also clarifies patient Knowledge about non-modifiable risk factors (Age, family history and gender) of coronary artery disease (CAD) and found that it was good. This finding is supported BY study done by the world health organization (WHO) who reported that sex contributes to approximately 40% of the variation in sex ratios of coronary heart disease mortality [13].

One the other hand, the study demonstrated that patients with coronary artery disease (CAD) had good awareness about non-modifiable risk factors (blood pressure, exercise, diet, obesity and diabetes militias) and were no confident in adhering to its after discharge. Also study demonstrated that most responders understood the risk of smoking and 18% of them were confident in restricting these activities. These findings supported by study done in Johns Hopkins University [14]. That proved an awareness of the health-related benefits of regular physical activity, prudent diet, and cessation of cigarette smoking are some of the mechanisms by which risk factors for coronary heart disease (CHD) and the incidence of complications of atherosclerosis have declined in the American population.

In parallel with these circumstances, the research showed that more than half of the population under study were in regular follow up and exposed to slight stress based on medical evidence that stress can aggravate symptom of ischemic heart disease (IHD).

Finlay the study showed there was a good relationship between level of education and definition of ischemic heart disease (IHD) in which illiterate's patient was less known than others while a patient of primary education was more aware about coronary artery disease (CAD).

Conclusion

This Study Concluded that most patient under study aware about coronary artery disease (CAD) and its modifiable and non-modifiable risk factors. The most of the population were oriented that control of lifestyle modifications and regular follow-up assist in decreasing the probability of ischemic heart disease (IHD).

Ethics approval and consent to participate

Authors were sure that this study was conducted in accordance with the standards set out in the Declaration of Helsinki. The study was approved by the Ethics Committee of Khartoum University: KHU:19/R/1/20). Written and verbal informed consent was obtained from each participant and from a next of kin and/or legal guardian. after an explanation of the study proposes, assuring them that their participation was voluntary.

Funding

This study has not received any funding.

References

1. Suliman A. The state of heart disease in Sudan. Cardiovascular Journal of Africa. 2018, 22 (4): 190-196.
2. Heron M. Deaths: Leading causes for 2017pdf icon. National Vital Statistics Reports;68(6). Accessed November 19, 2019.
3. Ezzati M, Riboli E. Behavioral and Dietary Risk Factors for Noncommunicable Diseases. N Engl J Med. 2019;369(10):954–64.
4. Yuyun, M. F., Sliwa, K., Kengne, A. P., Mocumbi, A. O., & Bukhman, G. (2020). Cardiovascular diseases in sub-Saharan Africa compared to high-income countries: an epidemiological perspective. Global Heart, 15(1)..
5. Opie LH, Mayosi BM. Cardiovascular disease in sub-Saharan Africa. Circulation 2019; 112: 3536–3540.
6. Regional Committee for Africa, 55. (2017) ⁉. Cardiovascular diseases in the African region: current situation and perspectives: Report of the Regional Director. https://apps.who.int/iris/handle/10665/1871.
7. Naghavi M, Wang H, Lozano R, Davis A, Liang X, Zhou M, Abdallah F. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 2018, A systematic analysis for the Global Burden of Disease Study. 385(9963), 117–171.
8. Ross, R. (1999). Atherosclerosis—an inflammatory disease. New England journal of medicine, 340(2), 115-126.
9. Alvarez MM, Zanetti D, Carreras TR, Moral P, Athanasiadis GA. Survey of sub-Saharan gene flow into the Mediterranean at risk loci for coronary artery disease. European Journal of Human Genetics, 2019, 25, 472–476.
10. Benjamin EJ, Virani SS, Callaway CW, et al. heart disease and stroke Statistics-2018 update: a report from the American heart association. Circulation 2018;137: e67–492.
11. Coronary Heart Disease in Sudan [Internet]. World Life Expectancy. 2018. Available from: https://www.worldlifeexpectancy.com/sudan-coronary-heart-disease
12. Iepoli MF, Hoes AW, Agewall S, et al. European Guidelines

on cardiovascular disease prevention in clinical practice, Eur Heart J 2019;37:2315–81.
13. Nishiyama M, Chagas A. Drugs and lifestyle for the treatment and prevention of coronary artery disease: comparative analysis of the scientific basis. Brazilian Journal of Medical and Biological Research. 2018;44(10):973-991.
14. Nick GE, Geoffrey HT, David MC, Stephen JB, David MC, David LH, Ian BH, David RT, Maree GB. Psychosocial risk factors, Med J Aust 2020; 199 (3):179–180.