

INTRODUCTION

- Dyslipidaemia, obesity and vitamin D insufficiency are risk factors for cardiovascular disease and increase the risk for severe COVID-19 in patients with diabetes mellitus (DM) ^{1,2}
- The Prevalence of Dyslipidaemia, obesity and vitamin D status has not been well-evaluated in Malawi, a sub-Sahara African Country
- Such data is essential in addressing dyslipidaemia, obesity and ensuring optimal vitamin D status in patients with DM

OBJECTIVES

- To investigate the prevalence of dyslipidaemia, obesity and vitamin D status among patients attending the DM clinic at a tertiary hospital in Blantyre, Malawi
- To evaluate the risk factors associated with dyslipidaemia and low vitamin D status among the patients

METHODS

This was a cross-sectional study. Participants were recruited from the DM clinic at Queen Elizabeth Central Hospital, a tertiary-level university teaching hospital in Blantyre, Malawi.

Inclusion criteria

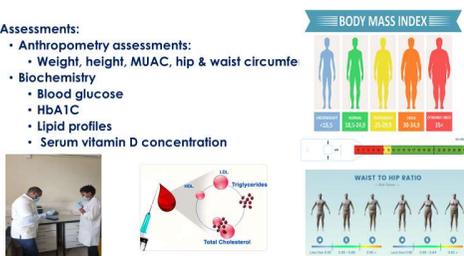
Patients 18 years and above attending the DM clinic

Exclusion criteria

Pregnancy
No health passport book containing previous medical hx
Active or signs of active infections
No consent

Sample size = 100 participants

- Assessments:
 - Anthropometry assessments:
 - Weight, height, MUAC, hip & waist circumfe
 - Biochemistry
 - Blood glucose
 - HbA1C
 - Lipid profiles
 - Serum vitamin D concentration



RESULTS

- A proportion of 58% of the participants had dyslipidaemia. Table 1 shows the distribution of dyslipidaemia by type

Table 1. Distribution of dyslipidaemia by type. Prevalence of dyslipidaemia = 58%

Lipids outside target	Parameter	n (%)	Total
No dyslipidaemia	TC/LDL/TG/HDL	26 (26%)	42 (42%)
	Isolated TC	1 (1%)	31 (31%)
	LDL	16 (16%)	
	TG	6 (6%)	
Combined dyslipidaemia	HDL	8 (8%)	
	LDL+TG	14 (14%)	23 (23%)
	LDL+HDL	3 (3%)	
Mixed Dyslipidaemia	HDL+TG	6 (6%)	
	LDL+TG+HDL	4 (4%)	4 (4%)

- Overweight and obesity were prevalent in 58% of the participants
- The median (IQR) HbA1C level was 11% (9-14 %)
- Overweight or obesity and age over 30 years were risks for dyslipidaemia (RR 1.3 (95% CI 1.1 – 1.6), $p=0.04$, and RR 2.2 (95% CI 1.2 – 4.7) $p=0.003$, respectively.

RESULTS

Figure 1 shows the vitamin D status among the patients.

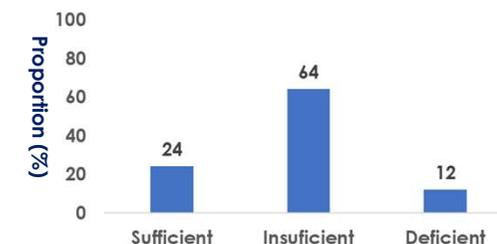


Figure 1. Vitamin D Status among patients with DM

- HbA1C of > 7% was positively associated with vitamin D insufficiency and deficiency (RR 1.6 (CI 1.0 – 2.8), $p=0.02$).

CONCLUSIONS

Dyslipidaemia, obesity, and low vitamin D levels were highly prevalent in the study group and are possible precipitating factors for the increasing rates of cardiovascular events and COVID-19 severity among patients with diabetes in sub-Saharan African countries such as Malawi.

REFERENCES

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- Weir, E.K., Thenappan, T., Bhargava, M. and Chen, Y., 2020. Does vitamin D deficiency increase the severity of COVID-19?. *Clinical Medicine*, 20(4), p.e107.

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