Patterns of Non-communicable disease multi-morbidity among persons with non-communicable diseases in Addis Ababa, Ethiopia

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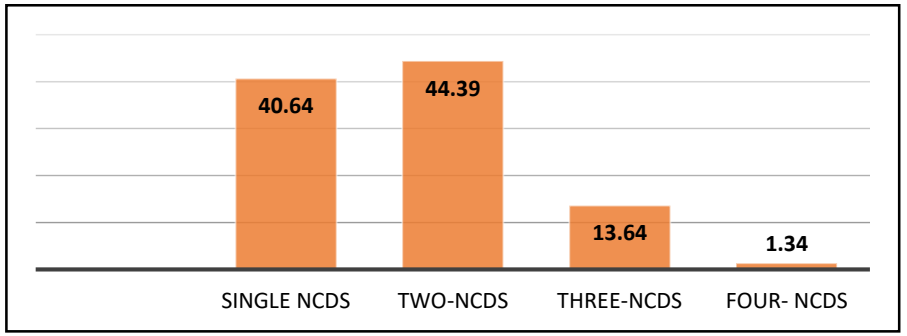
Background: Multi-morbidity; the coexistence of two or more Non-communicable diseases is now considered as one of the global healthcare priorities and it has become a major challenge for Noncommunicable diseases management. The impact of multi-morbidity diseases is much higher and rising fastest among lower-income countries. The prevalence and associated factor for multi-morbidity of cardiovascular disease, cancers, diabetes, and chronic respiratory disease was not adequately investigated in Ethiopia.

Objective: To assess the pattern of multi-morbidity and associated risk factors of the common NCDs in patients attending hospitals in Addis Ababa, Ethiopia, in 2021.

Methods: A cross-sectional study was conducted at the Outpatient Departments (OPDs) of three public and one private hospital in Addis Ababa from October to December 2021. Hospitals were selected by using simple random sampling techniques and 389 eligible participants were sequentially recruited at the time of their visit to the selected hospital. The required data was collected using a pre-tested, structured interviewer-administered questionnaire. Data were entered using epi data version 3.1 and analyzed using STATAV 14. Binomial logistic regression analyses were used for identification of the potential risk factors associated with multi-morbidity of NCDs

Result: 374 participants were included for the final analysis. Out of these 40.6% of them had only one NCD while 59.4% of them were diagnosed with multi-morbidity of cardiovascular disease, cancers, diabetes, and chronic respiratory disease. These include 44.4% with co-morbidity of two common NCDs and 13.6percentage with three NCD conditions. Hypertension was the leading contributor to multi-morbidity. A higher prevalence of multi-morbidity was observed in the elderly whose age are > 65 years (AOR =4.9; CI=2.7-8.7) and current cigarette smokers (AOR =3.2 CI =1.2- 8.7). A lower prevalence was observed in those who practiced vigorous physical exercise (AOR = 0.5; CI=0.3-0.9).



Conclusion: More than half of the NCD patients on follow-up were diagnosed with multimorbidity of the four common NCDs; where HTN and DM were highly connected with comorbidity of other chronic conditions. Age of participants, history of smoking, and physical exercise were significantly associated with multi-morbidity of common NCDs.

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