Title: Metabolic Syndrome Distributions in Dietary Diversity Score Groups and Its Associated Factors among Adults in the Urban Community of Jimma, Southwest Ethiopia

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Background: Dietary diversity score has long been recognized as a key component of diets quality balances for healthy life status. However, diets with more variety of food items might increase calorie intake and body weight, which, in turn leads to central obesity (waist circumference).Therefore, this study aims to determine the prevalence of metabolic syndrome among dietary diversity score groups, and its associated factors among adults in the urban community of Jimma, Southwest Ethiopia.

Methods: A total of 915 adults aged $\geq$ 18 years were randomly recruited in this cross-sectional study.The study was undertaken from June 17, 2019, up to July 27, 2019. To this end, the collected data were entered to Epi Data 3.1 and analysed using and SPSS 25 version. What's more, a multivariable logistic regression was used to assess associated factors of the unrecognized metabolic syndrome; adjusted odds ratio (AOR) with its corresponding 95% CI, at P-value $\leq$ 0.05.

Results: The occurrence of metabolic syndrome was 14.4%, and it is more prevalent in females, 11.15% than males, and 3.25%. The most prevalent components of the metabolic syndrome were low level of high-density lipoprotein, elevated level of triacylglycerol, and waist circumferences. Even though metabolic syndrome is not significantly associated with any of the dietary diversity score groups, its prevalence distribution varies among the groups (6.6% in middle, 5.8% in high and 1.9% in low dietary diversity groups). With potential confounders adjusted, by 75% female was significantly associated with the occurrence of metabolic syndrome than male (102 vs. 29, AOR = 0.25 at 95%CI: 0.15–0.40, P = 0.001). Whereas, age $\geq$ 35 years old (104 vs. 27, AOR = 2.91 at 95%CI:1.78–4.86,P = 0.001), large family size > 5 (65 vs. 10,AOR = 2.43 95% CI: 1.10–5.36, P = 0.03), overweight and obesity (121 vs. 10, AOR = 6.97, 95% CI: 4.50 –10.83, P = 0.005), elevated total cholesterol (103 vs. 28,AOR = 2.46, 95% CI: 1.47–4.11, P = 0.001), and consuming (spices, condemns and beverages) $\geq$ 4 days per week (79 vs. 52, AOR = 0.52, 95% CI:0.33 –0.82, P = 0.005) were positively associated with the prevalence of metabolic syndrome as compared to their counterparts.

Conclusion: Unrecognized metabolic syndrome was relatively high in the study community. The prevalence of metabolic syndrome varied among dietary diversity groups. But any of the dietary diversity scoring categories was not significantly associated with the occurrence of metabolic syndrome. Thus, awareness needs to be made to practice healthy diet and regular physical activity to maintaining normal body weight. Moreover, early screening of metabolic syndrome should be promoted.

Keywords: Metabolic syndrome, Lipid profile, Dietary diversity, Ethiopia