

Dietary habits and cardio - metabolic risks in ethnic minorities from all over the world.

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Introduction

Cardio metabolic disorders are the leading cause of morbidity and mortality around the world. In 2019, it was predicted those three major cardio metabolic diseases: ischemic heart disease, stroke, and diabetes account for about 25% of global disability-adjusted life-years (DALYs) in the older population.

Cardio metabolic disease mortality has decreased steadily in high-income countries (HICs) over the last few decades, but has risen fast in low- and middle-income countries (LMICs), as well as in populations with low socioeconomic status (SES) and racial/ethnic minorities. Reducing SES and racial/ethnic disparities in cardio metabolic disorders has thus become a growing public health concern around the world, as well as a key goal for achieving UN Sustainable Development Goal (SDG). The leading modifiable risk factor for cardio metabolic illnesses is a poor diet. Both randomised trials and long-term cohort studies reveal that eating a healthy diet based on whole foods has a major impact on cardio metabolic disorders, while that managing single isolated nutrients has little impact. Dietary patterns also have public health consequences since they make dietary advising easier and reduce commercial manipulation. For these reasons, the US Department of Agriculture and the American Heart Association have recommended and used healthy food-based dietary patterns such as the Dietary Approaches to Stop Hypertension (DASH) and Mediterranean (MED)-style diets to reduce the risk of cardio metabolic diseases around the world [1,2].

Despite this, nearly all well-known dietary pattern advice is based on Western-style meals from developed countries. The question then becomes whether Western dietary advice can be generalised to other populations, particularly racial/ethnic minorities in less-developed locations, where the burden of cardio metabolic disease is quickly increasing and food patterns are significantly different. Furthermore, because the aforementioned populations have been examined infrequently, another critical topic is what lessons we may glean from their diverse dietary patterns, which may aid in the prevention of cardio metabolic disease. However, there is a scarcity of reliable evidence from large-scale epidemiological investigations on this topic [3].

Associations of dietary patterns with cardio metabolic risks

In the CMEC study's baseline survey, we discovered 12803 new instances of hypertension, 3527 new cases of diabetes, 16342 new cases of hyperlipidemia, and 8198 new cases of Meets. After controlling for relevant confounders, this graph shows the estimated relationships between food patterns and cardio metabolic risks. Overall, dietary patterns were found to have significant relationships with the risks of hypertension and mets, but very minor associations with the risks of diabetes and hyperlipidemia. When the highest and lowest quintiles were compared, the DASH score had the strongest inverse associations with hypertension risks and met, whereas the score of the a posteriori Yunnan-Guizhou plateau dietary pattern had the strongest positive associations with hypertension risks and met, with all P values for trend 0.001. Other dietary patterns, such as Qinghai-Tibet and Yunnan-Guizhou Plateau food patterns, revealed similar but lesser links with various cardio metabolic hazards than DASH.

Despite the fact that DASH and aMED have some food group components in common, aMED had a very different influence on cardio metabolic risks. When the top and lowest quintiles were compared, aMED was found to have a 14% lower risk of hypertension but a 14% higher risk of meets. Single-component analyses confirm the differences in results between DASH and aMED. The dairy product components included in DASH (but not in aMED) contributed the majority of the positive benefits of DASH on hypertension (41.9%) and met the criteria for aMED (100.5%). The monounsaturated fatty acids: saturated fatty acids (MUFA: SFA) ratio contained in aMED (but not in DASH) exhibited deleterious consequences, accounting for a large percentage of aMED's favourable correlations with hypertension (62.7%) and meets (83.1%). Single food group analysis revealed comparable findings, particularly for the largest adverse relationship between dairy products and cardio metabolic risks [4].

The results solely show relationships between DASH and Yunnan-Guizhou plateau food patterns with hypertension and MetS for the sake of simplicity. With the exception of ethnic area and urban city, the negative relationships of DASH and the positive associations of the Yunnan-Guizhou plateau dietary pattern with hypertension and MetS were constant across

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Received: 16-Mar-2022, Manuscript No. AAJPHN-22-114; Editor assigned: 18-Mar-2022, Pre QC No. AAJPHN-22-114(PQ); Reviewed: 21-Mar-2022, QC No. AAJPHN-22-114; Revised: 24-Mar-2022, Manuscript No. AAJPHN-22-114(R); Published: 31-Mar-2022, DOI: 10.35841/aaiphn-5.3.114

subgroups in stratified analysis. When compared to ethnic minorities in other places, these food patterns had greater links with hypertension among the Han majority in Sichuan Basin. Dietary patterns were more likely to show a riskier link among ethnic minorities on the Qinghai-Tibet Plateau than among others, likely due to the Tibetan population's extremely high prevalence of central obesity. Because nearly all ethnic minority groups lived in rural areas, the stratified results of urbanicity closely matched those of ethnic regions. These percentage mediated (PM) by overweight differed significantly between hypertension and meats but remained generally steady for hypertension or meats, regardless of the type of dietary patterns, when total relationships were decomposed into natural direct and indirect effects. The PM was 10% for DASH and 10% for the Yunnan-Guizhou plateau dietary pattern in terms of hypertension correlations. In terms of meat associations, these PM climbed to 35% for DASH and 33% for the Yunnan-Guizhou plateau dietary pattern [5].

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