Clustering of cardiometabolic risk factors in morbid obesity among Korean young adults

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Background:

In recent years, morbid obesity has escalated rapidly in Korea, particularly among young adults. This alarming trend is associated with an increased risk of various health complications, including metabolic and mechanical diseases. Therefore, the current study aims to explore the clustering patterns of cardiometabolic risk factors among morbidly obese young adults in Korea. By identifying the clustering of these risk factors, this research may contribute to a better understanding of the potential health consequences of morbid obesity in this population, which could help inform prevention strategies and public health interventions.

Method:

Study subjects were Korean young adults aged 19 to 39 years who participated in the 2016 to 2021 Korean National Health and Nutrition Examination Survey. Morbid obesity was defined as body mass index (BMI) 30kg/m^2 and above. Cardiometabolic risk factors included elevated blood pressure, elevated blood glucose, high low density lipoprotein cholesterol (LDL-C), high triglycerides, low high density lipoprotein cholesterol (HDL-C), hyperuricemia and high ALT. We analyzed the rate and odds ratios (ORs) (95% confidence intervals (CIs)) of clustering of cardiometabolic risk factors.

Results:

Among the total of 9047 participants, the prevalence of morbid obesity was 8.3% in males and 4.8% in females. The rate of comorbidity with more than two, three, four, and five cardiometabolic risk factors in morbid obesity was 83.4%, 68.1%, 51.2%, and 31.7% in males and 74.4%, 47.5%, 29.5% and 16.7% in females. Compared with normal weight (BMI 18.5– 22.9kg/m2), the ORs for comorbidity with more than two, three, four, and five cardiometabolic risk factors in morbid obesity were respectively 8.7(95% CI, 6.0-12.6), 11.7(95% CI, 8.4–16.2), 16.1(95% CI, 11.3–22.9), and 26.2(95% CI, 14.9-46.0) in males while 9.8(95% CI, 7.0-13.8), 11.31(95% CI, 8.0-16.0), 25.0(95% CI, 15.6-40.1), and 44.5(95% CI, 21.8–91.0) in females.

Conclusion:

Despite their relatively young age, a significant proportion of morbidly obese Korean adults exhibits clustering of three or four cardiometabolic risk factors, with over 40% and 20% affected, respectively. Therefore, it is crucial to prioritize the development and implementation of comprehensive public education initiatives and health policies to prevent and manage morbid obesity in Korea effectively.

Keywords : obesity, morbid obesity, cardiometabolic factor, young adults