

Which depots of body fat impair health-related quality of life the most

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Background/Aims: We aimed to assess the relative impact of overall adiposity and regional adiposity on health-related quality of life (HRQOL) by analyzing the relationship between several fat indicators and HRQOL. **Methods:** We used data of 15,465 adults in the Korean National Health and Nutritional Examination Survey. Body mass index (BMI); waist circumference (WC); and fat mass in their trunk, leg, arm, and head regions, measured using dual-energy X-ray absorptiometry, were used as fat indicators. HRQOL was assessed using EQ-5D-3L, a standardized measure of health status developed by the EuroQol Group, which was further separated into physical and mental domains. **Results:** In multivariate logistic regression analysis, increased WC, leg, arm, and head fat were associated with increased risk of having an impaired HRQOL, but BMI and trunk fat were not. All the fat indicators, including BMI, were positively associated with an impaired physical domain; only WC was associated with impaired mental domain. In subgroup analyses, the relationship between WC and impaired HRQOL was evident only in groups with central obesity and insulin resistance. In a subgroup analysis in which participants were grouped according to WC and trunk fat combined, only the group with low trunk fat and a high WC had an increased risk of impaired HRQOL relative to the reference group with low trunk fat and a low WC. **Conclusions:** WC was consistently associated with impaired HRQOL, in both physical and mental domains. Visceral adiposity and insulin resistance may be underlying determinants of obesity-associated impaired HRQOL.

