

Developmental trajectories of body mass index since childhood and health-related quality of life in young adulthood: Tehran Lipid and Glucose Study

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Abstract

Purpose The association between long-term BMI changes since childhood and health-related quality of life (HRQoL) in adulthood is still unclear. This study aimed to examine the association between identified BMI trajectories and HRQoL. **Methods** A population-based cohort of 1938 eligible children (3-18 years) and their parents have been repeatedly followed up for 18 years. Offspring BMI trajectories were identified using group-based trajectory models. HRQoL was evaluated in offspring aged 21-36 years using SF-12V2. Using quantile regression analysis, the associations of the identified BMI trajectories and HRQoL in young adulthood were examined. **Results** In males, persistent increasing overweight/obese group was negatively associated with 30th, 40th, 50th, and 60th percentiles of physical component summary (PCS) score distribution (beta = - 2.60, p = 0.006; beta = - 2.01, p = 0.005; beta = - 1.86, p = 0.001; beta = - 1.98, p = 0.009, respectively). A similar result was observed only in the 40th percentile of PCS distribution for the progressive overweight group (beta = - 1.03, p = 0.022). In addition, the progressive overweight group in males showed a positive association with the upper tail of mental component summary (MCS) score distribution specifically for the 90th percentile (beta = 1.15, p = 0.036). Regarding females, the current results indicated that the 90th percentile of MCS distributions was decreased in the persistent increasing overweight/obese group for females (beta = - 1.83, p = 0.024). In addition, the progressive overweight group in females had a positive association with lower (30th and 40th) percentiles of PCS distribution (beta = 1.29, p = 0.034, and beta = 1.15, p = 0.030, respectively). **Conclusion** A sex-specific conditional association between developmental BMI trajectories from childhood and HRQoL in young adulthood was observed in physical and mental HRQoL.

Keywords

Author Keywords: BMI trajectories; Lifespan; Health-related quality of life; Quantile regression analysis; Obesity

KeyWords Plus: TIME PHYSICAL-ACTIVITY; PATERNAL SMOKING; OBESE CHILDREN; CARDIOMETABOLIC RISK; WAIST CIRCUMFERENCE; LEPTIN LEVELS; WEIGHT STATUS; DISEASE RISK; OVERWEIGHT; ADOLESCENTS

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