



Nutrition Society Congress 2024, 2–5 July 2024

Overweight prevalence among incarcerated individuals: A systematic review and metaanalysis including data from developed and developing countries

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Incarcerated individuals are vulnerable and might face more health challenges as their dietary intake and physical activity are limited to what their national or institutional policies offer or allow. Excess weight might increase the risk of metabolic disorders, affecting the overall health status and increasing the financial burden on medical care within prisons and the community once incarcerated individuals are released after incarceration.⁽¹⁾ Some reports show a high prevalence of overweight and obesity among incarcerated individuals in developed countries.⁽²⁾ However, evidence from developing countries is underreported.⁽³⁾ The aim of this systematic review and meta-analysis was to assess the nutritional status of incarcerated populations in developing and developed countries.

Systematic searches were conducted in Embase, Medline and Cochrane databases for cross-sectional studies or baseline data from longitudinal or intervention studies of adults who were incarcerated. Studies that reported on nutritional status (body weight, body height, or BMI), as well as the prevalence of overweight or obesity, were included. Overweight and obesity proportions within studies were pooled into a meta-analysis and compared with national prevalence rates. First, the proportion of overweight and obesity within prisons in each study sample and the 95% confidence intervals (CI) were estimated by sex and stratified according to each country's income categories (World Bank 2023 fiscal year income⁽⁴⁾). Then, national overweight and obesity prevalence data were retrieved from the World Obesity Federation Global Obesity

Observatory⁽⁵⁾ for each country and adjusted for sex and year of data collection of the studies included in the meta-analyses. The proportion of incarcerated individuals with overweight and obesity was then compared with that of the general population using national data through a risk difference (RD) meta-analysis. The heterogeneity of studies included in the meta-analyses was assessed through I^2 , and a random or fixed-effect model was fitted accordingly.

Overall, 71 studies met the inclusion criteria, and 38 were included in the meta-analysis. Studies in high-income countries reported higher proportions of overweight and obesity (73.3%, CI 73.1, 73.5) compared to upper-middle-income countries (65.9%, CI 64.1, 67.7) and lower-middle-income countries (52.8%, CI 47.1, 58.1). The prevalence of overweight and obesity in female incarcerated individuals was higher than that in the general population (RD 11.7%, CI 9.1, 14.3), especially in low and middle-income countries (RD 35.1%, CI 29.4, 40.7). The prevalence of overweight and obesity in male incarcerated individuals was lower than that in the general population in all income categories (RD -10.8%, CI -13.2, -8.4).

Thus, the prevalence of overweight and obesity in incarcerated populations differed between developed and developing countries. Future research on managing overweight and obesity should consider female incarcerated individuals, especially in lower-middle-income countries.

PROSPERO registration no CRD42022320861

Acknowledgments

Funding and sponsorship. The authors acknowledge financial sponsorship for LM by The Commonwealth Scholarship Commission. The research of BdR, MA-M and AMJ is funded by the Scottish Government Rural and Environment Science and Analytical Services (RESAS).

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