

## **Body mass index, height and morbidity in Italy: evidence from the union army records**

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The change in anthropometric indicators, height and weight, across generations provides information about the improvements in the biological standard of living of a population. In the recent decades, the relationship between the stature and obesity and the risk of adverse health conditions has been observed in several studies, attracting considerable attention. In particular, it has been shown a correlation between shorter stature and higher risk of hearth disease (*Silventoinen et al. 1999; Parker et al. 1998*), while obesity and overweight have been associated to an increased risk of respiratory disease, such as asthma (*Bråbäck et al. 2005*).

The main contribution of this paper is to empirically test the changes of the relationship between physical stature, body mass index and morbidity by using a large dataset of Italian conscripts. We collect information from the Italian military service register for two 18-year-old cohorts of conscripts born in 1951 and 1980, conscripted in 1969 and 1998, respectively. It is worth noting that height, weight, socio-demographic indicators and sanitary data were collected by a physician during medical examination.

Results from the multivariable logistic regression models confirm that high stature prevents from cardiovascular disease. We found that short conscripts are more likely to assess increased overall morbidity compared with taller conscripts, even after controlling for the influence of socio-economic variables. Furthermore, significant regional differences were found. The results provide support for the North-South gradient of the hearth disease risk.

Although the hypothesis that individual overweight increases propensity to be affected by respiratory disease is confirmed by the two cohort estimations, the increased risk changes over the three decades in young Italian men. A larger odds ratio for 1980 cohort is supported by the sustained growth of individual weight in the period.