

The relationship between obesity, annual GDP per capita, and life expectancy – A panel analysis on 202 countries through 41 years

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Abstract

Background: Obesity levels have increased significantly around the world. Earlier studies showed that obesity was a disease of the socioeconomic elite—those who were wealthier, had easier access to more food, who in the process consumed high calories, leading to obesity. In contrast, recent studies show a negative correlation between high socioeconomic conditions and obesity levels. A limitation with these studies is that they rely on a small sample of countries.

Aims: In this study we determine the effects of a country's income and life expectancy rates on obesity rates for both men and women.



Material and Methods: We ran a fixed effect panel regression analysis on a sample of 202 countries over 41 years.

Results and Significances: We find, that if a country's GDP per capita increased by a \$1,000, the number of women who are obese would decrease by .02%. Interestingly, for men, the findings did not match: an increase in GDP per capita increased obesity rates among men. We also find that as the obesity rate of a given country increases, its life expectancy decreases, however, this effect is twice as strong for men than for women. These results shed light on the fact that our current approaches to reducing obesity may work for women but may not be working for men. Future policies to tackle obesity should take into account behavioral differences across gender.

Biography:

Ayush Malhotra is a grade 8 student at Centennial Public School in Waterloo, Ontario. Over the last year he has worked on this research project and had the pleasure of presenting his

work at the Annual Canadian Wide Science Fair (CWSF) held in New Brunswick. Shavin Malhotra helped guide Ayush on this project and Ayush hopes to continue expanding this line of research in future.

Speaker Publications:

1. American Medical Association AMA Adopts New Policies on Second Day of Voting at Annual Meeting [Internet] 2013.
2. Stevens GA, Singh GM, Lu Y, Danaei G, Lin JK, Finucane MM, et al. National, regional, and global trends in adult overweight and obesity prevalences. *Popul Health Metr.* 2012;10(1):22.
3. Hu FB. *Obesity epidemiology.* Oxford University Press; Oxford; New York: 2008. p. 498.
4. Hill JO, Wyatt HR, Peters JC. Energy Balance and Obesity. *Circulation.* 2012 Jul 3;126(1):126–32.
5. 2008 Physical Activity Guidelines for Americans [Internet] [cited 2014 Apr 21].

[5th World Congress on Public Health and Nutrition;](#) London, UK- February 24-25, 2020.

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