

Cost of Obesity and Economic Value of Obesity Surgery for Turkey (CEVOS-T)

PSY-24

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Introduction

- Obesity and its comorbidities are the primary challenges of the health systems that are faced globally. Obesity is rapidly becoming a problem in Turkey as well. Recent research has revealed that 30.3% of the population is obese (20.5% of males, 41% of females) of which 2.9% of the obese population is classified under the morbid obese category.¹
- The Burden of Disease Study also concluded that 26.006 deaths for males and 31.136 deaths for females could be averted by decreasing the ratio of obese population.²

Objective

- The objective of this study is to find out the economic impact of obesity and possible economic value of obesity surgery for Turkey.

Methodology

- Literature search and expert panel were the main methodologies that used in the study. A comprehensive literature search was undertaken with key words in PubMed to find out the extent of obesity and its comorbidities and treatment methods in Turkey.
- Cost of obesity for Turkey was calculated depending on the published literatures.
- An expert panel questionnaire form was designed after the literature search aiming to finding the cost. The form was sent to the experts in advance and a panel discussion was undertaken to reach a consensus.
- After the building phase of the consensus, the economic benefit of obesity surgery were estimated based on the price tariff declared by the Social Security Institution (SSI) in 5 years.

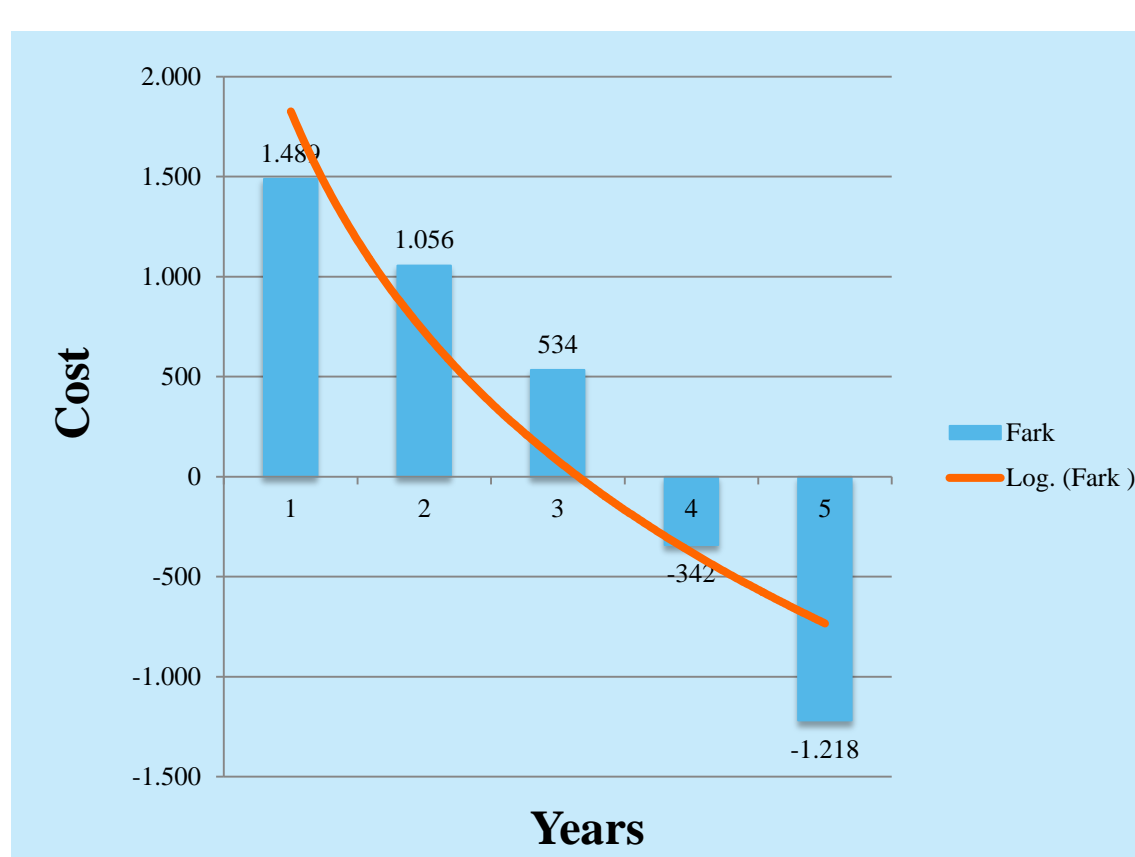
Results

DALY² and Economic Burden by Years

Cause	DALY	Total Economics Burden (2004) (US\$)	Population Influence based Total Economic Burden (Year 2012) (US\$)
Ischemic Heart Disease	346.294	2.009.825.330	5.980.104.427
Hypertensive Heart Disease	61.796	358.652.377	1.067.146.798
Ischemic Stroke	146.930	852.754.122	2.537.314.373
Diabetes Mellitus	152.240	883.572.364	2.629.012.047
Osteoarthritis	61.035	354.235.676	1.054.005.191
Breast Cancer	8.859	51.415.972	152.984.877
Colon and Rectum Cancer	7.300	42.367.829	126.062.716
Corpus Uteri Cancer	2.730	15.844.407	47.144.002
Total	787.184	4.568.668.076	13.593.774.432

Comorbidities Associated With High Body Mass Index	Pre-Operative	1st Year	2nd Year	3rd Year	4th Year	5th Year
Ischemic Heart Disease	20%	15%	15%	15%	15%	15%
Hypertensive Heart Failure	40%	20%	10%	5%	5%	5%
Diabetes Mellitus	60%	20%	15%	15%	15%	15%
Osteoarthritis	70%	60%	50%	50%	50%	50%
Ischemic Stroke	6%	3%	3%	3%	3%	3%

Cost of Operations and Non-Operations by Years



Results

- Burden of diseases, as shown by table, was 4.568.668.076 US\$ by the year 2004 and this was 1.16 times of GDP. This was 1.73% by the year 2012.
- As shown on the second table, the study has done totally Turkey's DALY(Disability-adjusted Life Years) numbers and a result of prevention of obesity DALY equals to 787.184.2
- Non-operative treatment costs for obese patients for only co-morbidities was 2.035 US \$. Operative and non-operative cost differences by years was shown at the chart.
- By the 4th year economic burden of the operation was disappeared and the cost of operation was regained.

Conclusion

- Cost of obesity for Turkey was estimated as US\$ 13.593.774.432 for 2012. It was the 1.73% of gross domestic product of Turkey. SSI pays US\$ 1707 weighted average for obesity surgery. It was estimated that return of investment on obesity surgery can be possible after the third year of the surgery.
- The study indicated that obesity has a great impact to Turkish economy. On the other hand, obesity surgery can serve economic benefits to Turkish health system.

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Conflict of Interests: The study, Cost of Obesity and Economic Value of Obesity Surgery for Turkey (CEVOS-T), was conducted by Polar Health Economics Consultancy with the unconditional sponsorship of Covidien Turkey. Mehtap Tatar, Gulpebe Ergin and Kagan Atikeler are the employees of Polar Health Economics Consultancy. Guvenc Kockaya is an employee of Covidien Turkey. Fatma Betül Yenilmez is a contractor for Covidien Turkey.



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