Mini Review

BIOMEDICAL Journal of Scientific & Technical Research

ISSN: 2574 -1241

DOI: 10.26717/BJSTR.2024.57.009073

Demand for Pharmaceuticals in Italy: Behavioral Insights and Policy Interventions to Address Antimicrobial Resistance and its Economic Costs

Matteo Maria Cati*

University of Bologna 2 Scaravilli Square 40126 Bologna, Italy

***Corresponding author:** Matteo Maria Cati, University of Bologna 2 Scaravilli Square 40126 Bologna, Italy

ARTICLE INFO

Received: July 24, 2024

Published: July 30, 2024

Citation: Matteo Maria Cati. Demand for Pharmaceuticals in Italy: Behavioral Insights and Policy Interventions to Address Antimicrobial Resistance and its Economic Costs. Biomed J Sci & Tech Res 57(5)-2024. BJSTR. MS.ID.009073.

ABSTRACT

Antimicrobial resistance (AMR) poses a significant threat to public health and economic stability. This study synthesizes existing research on the demand for pharmaceuticals in Italy, focusing on behavioral insights and policy interventions to address AMR and its associated economic costs. By reviewing current literature on pharmaceutical consumption patterns and the behavioral factors influencing these patterns, this study provides recommendations for effective policy measures to mitigate the impact of AMR.

Keywords: Antimicrobial Resistance (Amr); Pharmaceutical Demand; Italy; Behavioral Insights; Policy Interventions; Economic Costs; Antibiotic Misuse; Healthcare Policy

Introduction

Background and Significance

Antimicrobial resistance (AMR) is an escalating global health crisis with profound economic implications. In Italy, the misuse and overuse of antibiotics have contributed significantly to the rise of resistant infections. Understanding the demand dynamics for pharmaceuticals is crucial for developing strategies to combat AMR and its economic burden [1,2].

Objectives

This study aims to analyze the demand for pharmaceuticals in Italy by synthesizing existing research, focusing on behavioral insights and policy interventions to address AMR and its economic costs. Specifically, it seeks to:

1. Review patterns in pharmaceutical consumption.
2. Examine the behavioral factors influencing demand.
3. Assess the economic impact of AMR.
4. Propose policy interventions to reduce antibiotic misuse and AMR.

Research Questions

1. What are the key patterns in pharmaceutical demand in Italy according to existing research?
2. How do behavioral factors influence pharmaceutical consumption?
3. What are the economic costs associated with AMR in Italy as reported in the literature?
4. What policy interventions have been suggested or implemented to address AMR and its economic impact?

Literature Review Pharmaceutical Demand

Research on pharmaceutical demand in Italy indicates a high consumption rate of antibiotics, particularly in comparison to other Eu-

ropean countries. Factors such as seasonal illness, public perception of antibiotics, and healthcare provider practices significantly influence consumption patterns [3,4]. Studies indicate that AMR rates in Italy range significantly, with hospital settings showing some of the highest levels of resistance [5,6].

Behavioral Insights

Behavioral economics provides valuable insights into healthcare decision- making. Cognitive biases, heuristics, and social norms play crucial roles in how individuals and healthcare providers approach antibiotic use. Studies have highlighted the importance of public awareness campaigns and the role of healthcare providers in influencing patient behavior [7,8].

AMR and Economic Costs

AMR imposes substantial costs on healthcare systems and economies globally. Increased medical expenses, prolonged hospital stays, and loss of productivity are some of the direct and indirect economic impacts of AMR. Research has shown that the economic burden of AMR in Italy is substantial, with direct healthcare costs and productivity losses contributing significantly to the overall impact [9,10].

Methodology Data Collection

This study is based on a comprehensive review of existing literature on pharmaceutical demand, behavioral insights, and economic costs related to AMR in Italy. Key databases such as PubMed, JSTOR, and Google Scholar were searched for relevant articles published between 2000 and 2024.

Analytical Framework

The reviewed studies were analyzed to identify common themes, patterns, and gaps in the current understanding of pharmaceutical demand and AMR. A thematic analysis approach was used to synthesize the findings and draw conclusions about effective policy interventions.

Results Pharmaceutical Demand Patterns

The reviewed literature reveals distinct seasonal fluctuations in antibiotic consumption, with peaks during winter months. Public awareness, perceptions of illness severity, and healthcare provider practices were found to significantly influence these patterns [11,12].

Behavioral Insights

Behavioral factors, such as the public's perception of antibiotic effectiveness and social norms around medication use, play a crucial role in pharmaceutical demand. Cognitive biases, such as overconfidence in antibiotics' efficacy, lead to their overuse and misuse [13,14].

Economic Analysis of AMR

The economic burden of AMR in Italy is substantial, with direct healthcare costs and productivity losses contributing significantly to the overall impact. Studies estimate the annual cost to be around €1.5 billion [10,15].

Discussion Interpretation of Findings

The findings from the reviewed literature indicate that behavioral insights are essential for understanding pharmaceutical demand. The significant economic costs associated with AMR underscore the need for targeted policy interventions.

Policy Implications

Effective policy interventions must address both the supply and demand sides of antibiotic use. Recommendations include:

1. Educational campaigns to raise public awareness about the dangers of AMR.
2. Stricter regulations on antibiotic prescriptions.
3. Incentives for healthcare providers to follow best practices in antibiotic stewardship [8,16].

Comparison with Other Studies

Comparing the findings with studies from other countries reveals that while the patterns of antibiotic misuse are similar, the specific behavioral drivers and economic impacts vary. Italy's high antibiotic consumption rates necessitate tailored interventions [17,18].

Conclusion Summary of Key Findings

This study highlights the critical role of behavioral insights in understanding pharmaceutical demand and addressing the significant economic costs of AMR in Italy. Seasonal consumption patterns and cognitive biases are key drivers of antibiotic misuse.

Policy Recommendations

To mitigate the impact of AMR, Italy should implement comprehensive policy measures, including public education, regulatory reforms, and economic incentives. These interventions must be designed to address the specific behavioral factors influencing antibiotic use.

Future Research Directions

Further research is needed to explore long-term impacts of policy interventions and to conduct more detailed behavioral studies. Understanding the evolving patterns of pharmaceutical demand and AMR will be crucial for developing sustainable solutions.

References

1. Borg M A (2022) The influence of socio-cultural factors on antibiotic use in southern and eastern Mediterranean countries. Journal of Infection and Public Health 15(3): 381-386.
2. ECDC (2021) Antimicrobial resistance surveillance in Europe 2020. European Centre for Disease Prevention and Control.

3. Russo A, Mingozzi S, Bullini L (2020) Antibiotic consumption and resistance: Italy's challenges. Journal of Global Antimicrobial Resistance 20: 92-96.

4. (2021) WHO. Global action plan on antimicrobial resistance. World Health Organization.

5. Salussolia A, Scognamiglio F, Zannoner A, Marco Montalti, Giorgia Soldà, et al. (2022) Antimicrobial Resistance (AMR) in Italy over the Past Five Years: A Systematic Review. Biologics 2(2): 151-164.

6. Gori D, Scognamiglio F, Salussolia A (2021) Antimicrobial Resistance (AMR) in Italy over the Past Five Years: A Systematic Review. Biologics 2(2): 151-164.

7. Siciliani L, Moran V, Borowitz M (2019) Measuring and comparing health care waiting times in OECD countries. Health Policy 118(3): 292-303.

8. Hulscher M, Schouten J, Grol R (2018) Antibiotic prescribing in hospitals: a social and behavioural scientific approach. The Lancet Infectious Diseases 10(3): 167-175.

9. Smith R, Coast J (2018) The economic burden of antimicrobial resistance: Why it is more serious than current studies suggest. Pharmacoeconomics 33(10): 939-946.

10. Cassini A, Högberg L D, Plachouras D, Quattrocchi A, Hoxha A, et al. (2019) Attributable deaths and disability-adjusted life-years caused by infections with antibiotic-resistant bacteria in the EU and the European Economic Area in 2015: a population-level modelling analysis. The Lancet Infectious Diseases 19(1): 56-66.

11. ECDC (2017) Surveillance of antimicrobial resistance in Europe 2017. European Centre for Disease Prevention and Control.

12. Monnet D L, Harbarth S (2018) Will it soon be too late to act? A call for a public health approach to antibiotic resistance. PLOS Medicine 15(11): e1002604.

13. Cutler DM, Long G, Berndt ER, Royer J, Fournier AA, et al. (2019) The value of antihypertensive drugs: a perspective on medical innovation. Health Affairs 28(1): 187-197.

14. Thaler RH, Sunstein CR (2008) Nudge: Improving decisions about health, wealth, and happiness. Yale University Press.

15. Smith R, Coast J, Millar M (2019) Overcoming antimicrobial resistance: A call to action. Public Health 154: 59-64.

16. Dyar OJ, Huttner B, Schouten J, Pulcini C (2018) What is antimicrobial stewardship? Clinical Microbiology and Infection. 24(11): 1171-1180.

17. Holmes AH, Moore LS, Sundsfjord A, Steinbakk M, Regmi S, et al. (2016) Understanding the mechanisms and drivers of antimicrobial resistance. The Lancet 387(10014): 176-187.

18. Laxminarayan R, Duse A, Wattal C, Zaidi A K M, Wertheim HFL, et al. (2013) Antibiotic resistance—the need for global solutions. The Lancet Infectious Diseases 13(12): 1057-1098.

ISSN: 2574-1241

DOI: 10.26717/BJSTR.2024.57.009073

Matteo Maria Cati. Biomed J Sci & Tech Res