Short Communication

Price of medicines in a small market country: a comparative approach

Emilija Kochova, Janis Vella Szijj* and Lilian M. Azzopardi

Department of Pharmacy, Faculty of Medicine and Surgery, University of Malta, Msida, Malta

*Correspondence: Janis Vella Szijj, Department of Pharmacy, Faculty of Medicine and Surgery, University of Malta, Msida, Malta; Email: janis.vella@um.edu.mt

Received November 2, 2020; Accepted January 18, 2021.

Abstract

Objectives Affordability and availability of medicinal products depend on governmental policies, healthcare budgets and pricing. Pharmaceutical price regulation can improve the accessibility and affordability of essential medicinal products. In Europe, medicinal product prices are assigned individually by each country. The study aimed to compare prices of medicinal products indicated for cardiovascular ($n = 18$) and respiratory disease ($n = 9$) available for retail in community pharmacies in five European countries.

Methods Unit dose medicinal product prices in North Macedonia, Malta, Slovenia, Greece and the UK were compared.

Key findings Malta had the highest unit dose prices for the majority ($n = 11$) of medicinal products used for cardiovascular disease and the majority ($n = 8$) of the medicinal products indicated for respiratory disease.

Conclusion Variation in prices of commonly dispensed medicinal products exists. Having a more thorough knowledge about the prices of medicines in different countries can contribute to making policies that will ultimately make medicines more affordable and accessible to patients.

Keywords: medicinal product; cardiovascular disease; respiratory disease; external reference pricing; European countries

Introduction

Medicine affordability is a key parameter in healthcare in terms of accessibility to medicines. Affordability and availability of medicinal products, in turn, rely on governmental policies, healthcare budgets and pricing.

To facilitate national and international comparisons of prices of medicinal products, tools such as the External Reference Pricing (ERP) and Median Price Ratio (MPR) have been developed. The ERP tool that is also known as International Reference Pricing (IRP) is widely used to regulate prices of medicinal products and helps set the price of a medicinal product in a country by comparing prices of medicinal products in different countries. The MPR is a measure developed by the World Health Organization (WHO) and Health Action International (HAI) used to facilitate national and international comparisons of prices of medicinal products. The MPR is calculated by dividing the median local unit price with the international reference price (IRP).

The study aimed to compare prices of medicinal products indicated for the cardiovascular and respiratory disease available for retail in community pharmacy in five European countries. The pharmacotherapeutic classes were identified as they are directed towards conditions that are leading causes of morbidity and mortality worldwide.

Method

Methodology overview

The study setting was Malta and the four countries that were identified to be included in the study were: North Macedonia, Slovenia, Greece and the UK. Data on prices of medicinal products in included countries had to be accessible online and countries included either...
Discussion

The study showed variation in prices of commonly dispensed medicinal products in different European countries. Countries included in the study had different market sizes, socioeconomic statuses, policies. A small market size in a country like Malta, which has a particular geographical position, may face challenges such as high import and export prices, less power of negotiation and less interest.

Results

Comparison of medicinal products indicated for cardiovascular disease and respiratory disease

Medicinal products indicated for cardiovascular and respiratory disease which are dispensed in retail pharmacies and which are available in the five countries included in the study were compared. The final list included 27 medicinal products belonging to 13 different pharmacological classes.

Data management and statistics

Data were collected between January 2020 and March 2020. Retail unit prices of medicinal products were compared according to the active ingredient and rounded up to two significant figures. For each country, the cheapest product available for retail having the same active ingredient, dosage form and strength was compared. Prices of medicinal products in North Macedonia were collected using the official virtual medicine registry.[5] Retail prices of the selected medicinal products in Malta were collected from a community pharmacy in Valletta. Prices of medicinal products in Slovenia were collected from a list of published retail prices of medicinal products from the official virtual medicine registry.[6] Retail prices of the selected medicinal products in Greece were accessed through an online platform called 'Galinos'.[7] Prices of medicinal products in the UK were collected from the British National Formulary (BNF), 78th edition.[8]

Table 1: Prices of medicines indicated for cardiovascular disease (n = 18)

<table>
<thead>
<tr>
<th>Class of medicinal product</th>
<th>Active ingredient</th>
<th>North Macedonia-price per unit (€)</th>
<th>Malta-price per unit (€)</th>
<th>Slovenia-price per unit (€)</th>
<th>Greece-price per unit (€)</th>
<th>UK-price per unit (€)</th>
<th>Price range</th>
<th>Average price</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-arrhythmic</td>
<td>Amiodarone 200 mg tablets</td>
<td>0.08</td>
<td>0.36</td>
<td>0.27</td>
<td>0.10</td>
<td>0.28</td>
<td>0.28</td>
<td>0.22</td>
<td>0.12</td>
</tr>
<tr>
<td>Antiplatelet/antithrombotic</td>
<td>Clopidogrel 75 mg tablets</td>
<td>0.29</td>
<td>0.78</td>
<td>0.39</td>
<td>0.78</td>
<td>1.35</td>
<td>1.07</td>
<td>0.72</td>
<td>0.42</td>
</tr>
<tr>
<td>Calcium channel blockers</td>
<td>Amlodipine 5 mg tablets</td>
<td>0.05</td>
<td>0.26</td>
<td>0.13</td>
<td>0.11</td>
<td>1.21</td>
<td>0.65</td>
<td>0.23</td>
<td>0.26</td>
</tr>
<tr>
<td>Angiotensin converting enzyme inhibitors</td>
<td>Enalapril 5 mg tablets</td>
<td>0.05</td>
<td>0.45</td>
<td>0.07</td>
<td>0.14</td>
<td>0.17</td>
<td>0.40</td>
<td>0.17</td>
<td>0.16</td>
</tr>
<tr>
<td>Angiotensin II receptor blockers</td>
<td>Candesartan 8 mg tablets</td>
<td>0.20</td>
<td>0.36</td>
<td>0.13</td>
<td>0.11</td>
<td>0.11</td>
<td>0.17</td>
<td>0.14</td>
<td>0.07</td>
</tr>
<tr>
<td>Statins</td>
<td>Atorvastatin 10 mg tablets</td>
<td>0.07</td>
<td>0.66</td>
<td>0.17</td>
<td>0.29</td>
<td>0.53</td>
<td>0.58</td>
<td>0.34</td>
<td>0.25</td>
</tr>
</tbody>
</table>

The MPR was determined where possible.
being attracted for a wider range of medicinal products of the same class or generic equivalents.

North Macedonia which although is not a small as Malta is a relatively small country, has a relatively lower cost of living when compared to other European countries included in the study and a large pharmaceutical manufacturing industry which can be a reason why prices of medicinal products are cheaper. Slovenia which had lower prices for medicinal products uses measures of cost-containment to control public pharmaceutical expenditure and reduce prices of medicinal products.[9]

Although the UK is used as a reference country, prices of medicinal products in the UK are high. In 2018, the UK National Health Services (NHS) highlighted the difficulty with keeping a balance between providing timely and effective treatment to patients, encouraging the pharmaceutical sector to develop novel medicinal products and ensuring medicinal product affordability.[10]

Although the majority of countries included in the study use the ERP system, the process and availability of the system could vary between countries due to lack of transparent price databases that may lead to errors in published prices. ERP revisions can occur on an irregular basis where price reductions in referencing countries do not occur following price reductions in reference countries.

Conclusion

This study can be developed to include more countries to generate comprehensive findings in terms of medicinal product pricing in different European countries. Having a thorough knowledge about the prices of medicines in different countries can contribute to making policies that will ultimately make medicines more affordable and accessible to patients.

Author contributions


Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors

Conflict of Interest

This work has not been previously published and no other submission or publications will be made. All of the authors listed participated in the study and have agreed to the content of the manuscript.

References


Table 2 Prices of medicines indicated for respiratory disease (n = 9)

<table>
<thead>
<tr>
<th>Class of medicinal product</th>
<th>Active ingredient</th>
<th>North Macedonia-price per unit (€)</th>
<th>Malta-price per unit (€)</th>
<th>Slovenia-price per unit (€)</th>
<th>Greece-price per unit (€)</th>
<th>UK-price per unit (€)</th>
<th>Price range</th>
<th>Average price</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corticosteroids</td>
<td>Mometasone 50 µg nose spray</td>
<td>0.06</td>
<td>0.10</td>
<td>0.03</td>
<td>0.10</td>
<td>0.06</td>
<td>0.08</td>
<td>0.07</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>Fluticasone 50 µg suspension for inhalation</td>
<td>0.06</td>
<td>0.10</td>
<td>0.04</td>
<td>0.08</td>
<td>0.10</td>
<td>0.06</td>
<td>0.14</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>Prednisolone 5mg tablets</td>
<td>0.07</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>0.14</td>
<td>0.04</td>
<td>0.07</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>Fluticasone furoate, vilanterol 92 µg/22 µg powder for inhalation</td>
<td>0.73</td>
<td>1.65</td>
<td>1.21</td>
<td>1.43</td>
<td>0.84</td>
<td>0.92</td>
<td>1.17</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>Fluticasone, salmeterol 100 µg/50 µg powders for inhalation</td>
<td>0.41</td>
<td>0.56</td>
<td>0.27</td>
<td>0.34</td>
<td>0.27</td>
<td>0.19</td>
<td>0.39</td>
<td>0.39</td>
</tr>
<tr>
<td>Corticosteroid + antihistamine</td>
<td>Fluticasone/azelastine 50 µg/137 µg nose spray</td>
<td>0.14</td>
<td>0.17</td>
<td>0.11</td>
<td>0.16</td>
<td>0.11</td>
<td>0.11</td>
<td>0.14</td>
<td>0.02</td>
</tr>
<tr>
<td>Short acting beta agonists</td>
<td>Salbutamol 100 µg suspension for inhalation</td>
<td>0.01</td>
<td>0.02</td>
<td>0.02</td>
<td>0.01</td>
<td>0.02</td>
<td>0.02</td>
<td>0.01</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>Salbutamol 2 mg/5 ml syrup</td>
<td>0.03</td>
<td>0.06</td>
<td>0.03</td>
<td>0.02</td>
<td>0.06</td>
<td>0.03</td>
<td>0.03</td>
<td>0.02</td>
</tr>
<tr>
<td>Leukotriene receptor antagonist</td>
<td>Mometasone 10 mg tablets</td>
<td>0.42</td>
<td>0.56</td>
<td>0.42</td>
<td>0.71</td>
<td>0.42</td>
<td>0.56</td>
<td>0.71</td>
<td>0.35</td>
</tr>
</tbody>
</table>


