ORIGINAL ARTICLE

Reform of the pricing system and evolution of the private medicines market in Morocco

Réforme du système de fixation des prix et évolution du marché privé des médicaments au Maroc

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Abstract

Objective: The study shows the evolution of the market for medicines sold in pharmacies following the price revisions published by the Ministry of Health after the reform of the pricing system adopted in December 2013.

Methods: This is a retrospective study carried out following the crossing of lists of official price review bulletins published on the website of the General Secretariat of the Government and sales data for medicines between 2010 and 2018.

Results: Between 2010 and 2018, the total private market for generic and originator medicines recorded an average annual growth of +3% in volume and +3.7% in turnover. Between 2015 and 2018 and after the implementation of the reform, it rose from +1.1% to +3.9%. Once the price revisions were applied, the sales volume of generic medicines recorded an average annual growth of +3.5%, compared to +5.1% for their turnover (2015 and 2018). However, the sales volume of originator medicines recorded negative average annual growth (-0.7%). As for the segment of medicines affected by price reductions, between 2015 and 2018 it experienced negative average annual growth in volume (-0.8%), while its growth in turnover was positive (+3.3%).

Conclusion: Following the adoption of the terms of Decree 2-13-852 and the application of the revisions, the private medicines market has seen variable growth.

Key words: Private medicines market, price, decline, Morocco.

Résumé

Objectif : L'étude dresse l'évolution du marché des médicaments commercialisés en pharmacies d'officine suite aux révisions des prix publiées par le Ministère de la Santé après la réforme du système de fixation de prix adopté en Décembre 2013.

Méthodes : Il s'agit d'une étude rétrospective réalisée suite au croisement des listes des bulletins officiels de révision des prix publiées sur le site du Secrétariat Général du Gouvernement et les données de vente des médicaments entre 2010 et 2018.

Résultats : Le marché privé total des médicaments génériques et princeps a enregistré entre 2010 et 2018 une croissance moyenne annuelle de +3% en volume et de +3,7% % en chiffre d'affaires. Entre 2015 et 2018 et après la mise en application de la réforme, elle est passée respectivement de +1,1% à +3,9%. Une fois les révisions de prix appliquées, le volume de vente des génériques a enregistré une croissance moyenne annuelle de +3,5% alors qu'elle était de +5,1% pour leur chiffre d'affaire (2015 et 2018). Toutefois, le volume de vente des princeps a enregistré une croissance moyenne annuelle négative (-0,7%). Quant au segment des médicaments touchés par la baisse de prix, il a connu entre 2015 et 2018, une croissance moyenne annuelle en volume négative (-0,8%) alors que sa croissance en chiffre d'affaires était positive (+3,3%).

Conclusion : Suite à l'adoption des modalités du Décret 2-13-852 et l'application des révisions, le marché privé des médicaments a enregistré des progressions variables.

Mots clés : Marché privé des médicaments, prix, baisse, Maroc.

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What is known?

- A reform of the pricing system was adopted in 2013 to address the shortcomings of the 1969 regulations.

- Price revisions have been published by the Ministry of Health since 2014, and reductions of up to 80% have been announced. Disruptions to the private medicines market have been noted.

What this article adds

- Medicines affected by price reductions did not record significant increases in sales volumes.

- Sales volumes of originator medicines declined after the application of pricing and review procedures.

Introduction

The pharmaceutical market delivers medicines to patients within one of the most regulated formal sectors (1). Governments adopt health policies to meet the different healthcare needs of their populations by focusing on strengthening pharmaceutical systems. These systems are reinforced by rapid and continuous access to affordable medicines (2). In some countries, medicines are considered a commodity to which access is guaranteed, regardless of ability to pay, and consumption remains relatively insensitive to price. However, inequalities in access to medicines demonstrate the failure of governments to implement equitable pricing strategies (3).

Internationally, the United States leads the global pharmaceutical market, followed by other developed countries and emerging markets, while Latin American countries account for the smallest share (4). In countries with comparable levels of development, medicine consumption can vary significantly in terms of both volume and value (5).

Morocco is a North African country experiencing demographic change and an ageing population that requires appropriate drug treatments (6). In 2010, the national pharmaceutical industry ranked second in Africa, after South Africa, and accounted for 1.5% of the country's GDP, as reported by official sources for several financial years (7,8). Its strategic location in the Mediterranean region and stable political environment consolidate the pharmaceutical sector (9). The average annual expenditure on medicines was 372 Moroccan dirhams (MAD) in 2009 (10).

In December 2013, Morocco adopted Decree No. 2-13-852 on the pricing of locally manufactured and imported medicines. It implemented new calculation methods. Originally, various studies carried out by national and international organisations (7,10–12) concluded that medicines were expensive. This regulation is based on the introduction of a Benchmark of Manufacturer Prices Excluding Taxes (MPET) with Saudi Arabia, Belgium, Spain, France, Portugal and Turkey as well as the country of origin if it is not part of this list. For medicines marketed through pharmacies, the systems of pharmacy and distribution margins have also been revised and new margins have been applied (13). A first list of the new prices was published in the Official Bulletin (OB) No. 6245 bis in April 2014. The implementation of these price revisions came into force in June 2014 and several lists were subsequently published.

The objective of this study is to determine the growth of the private market for medicines (sold in pharmacies) in Morocco following the adoption of Decree No. 2-13-852 and the official price revisions published by the Ministry of Health. This is the first research that focuses on the evolution of sales in volume and value over a period of 9 years (2010-2018).

Methods

This is a retrospective study on the evolution of the market for medicines sold in pharmacies, carried out by cross-referencing data from price revision lists with data on medicine sales from IQVIA (formerly IMS Health). The year 2014 was a year of transition following the implementation of the reform of the pricing and revision system. It was also marked by the effects of relabelling medicines with the new prices. In this regard, we chose to study two distinct periods: the period with the old Public Price Morocco (PPM) applied until the end of 2013 (2010-2013) and the period with the new Public Selling Price (PSP) applied thereafter to the entire market (2015-2018).

The volume referred to the number of million packs, and the value including VAT represented the turnover in billions of MAD. The lists of PSP revisions appeared in 22 OBs published during the study period. They listed the prices before and after the revision, while the sales database showed the year, the sales volume of each medicine and its turnover. All the lists of medicines appearing in these OBs were recorded in an Excel database, which was cross-referenced with the sales database.

This database was then completed for each medicine with its generic/originator status in order to clearly show the evolution of their markets. For the evolution of the segment of medicines affected by the price decrease, a second database was developed listing exclusively drugs whose PSP had dropped, after excluding those that had undergone other price changes and those newly introduced to the market.

In order to assess the evolution of the private medicines market during the study period, we opted for the Average Annual Growth Rate (AAGR), according to the following two formulas:

- For sales volume (Vol) , the AAGR $= ((Vol_F - Vol_I) \times 100 / (Vol_I \times (n-1))$
- For sales turnover (TO) , the AAGR $= ((TO_F - TO_I) \times 100 / (TO_I \times (n-1))$

With :

Vol_F = Final volume or last year and Vol_I = Initial volume or first year

TO_F = Final turnover or last year and TO_I = Initial turnover or first year

n = Number of years in the period studied.
For statistical analysis, the data were entered in an Excel database, while the analysis was performed using Statistical Package for the Social Sciences (SPSS) V26.0.

Inclusion criteria

This study concerns exclusively medicines sold in retail pharmacies in Morocco.

Exclusion criteria

This study does not cover medicines sold in the public sector or other pharmaceutical products.

Results

Private medicines market

During the study period (2010-2018), the TO of the private medicines market rose from 6.92 billion MAD in 2010 to 8.95 billion MAD in 2018 with an average annual growth of +3.7%. Once the price revisions were applied, a regression was noted in 2014 with a declining TO (-1.9%) while the average annual growth between 2015 and 2018 was +3.9%. Sales continued to climb from 2015, reaching a peak in 2018 (Table 1).

Table 1. Evolution of the market in terms of value for medicines sold in pharmacies in billions of Moroccan dirhams between 2010 and 2018 (N = 4266).

Year	Turnover (MAD billion)
2010	6.92
2011	7.37
2012	7.82
2013	8.06
2014	7.91
2015	8.01
2016	8.2
2017	8.53
2018	8.95
Period	**Annual average growth rate (%)**
2010-2018	+3.7
2010-2013	+5.5
2015-2018	+3.9

However, its volume recorded an average annual growth of +3% with sales increasing from 251.1 million packs in 2010 to 311.4 million packs in 2018. It was +4.7% between 2010 and 2013 to reach +1.1% between 2015 and 2018, a period following the application of the reform of the price system. An annual change not exceeding +0.1% was recorded for 2016 (table 2).

Table 2. Evolution of the market volume of medicines sold in pharmacies in million packs between 2010 and 2018 (N = 4266).

Year	Volume (million packs)
2010	251.1
2011	266.3
2012	277.1
2013	286.2
2014	293.5
2015	301.5
2016	301.9
2017	306.8
2018	311.4
Period	Annual average growth rate (%)
2010-2018	+3.0
2010-2013	+4.7
2015-2018	+1.1

Generic and originator medicines

For generic medicines, the TO recorded average annual growth between 2010 and 2018 of +6.5%. It was 8.6% between 2010 and 2013, reaching +5.1% between 2015 and 2018. The smallest annual change in terms of value was recorded in 2015 (+2.8%) (Table 3).

Table 3. Evolution of the market in terms of value for medicines sold in pharmacies according to the status «Generic / Originator» in Billion Moroccan dirhams between 2010 and 2018 (N= 4266).

Year	Turnover (MAD billion)	
	Generic	Originator
2010	2.59	4.33
2011	2.83	4.54
2012	3.12	4.70
2013	3.26	4.80
2014	3.33	4.59
2015	3.42	4.59
2016	3.54	4.65
2017	3.75	4.78
2018	3.94	5.01
Period	Annual average growth rate (%)	
2010-2018	+6.5	+2.0
2010-2013	+8.6	+3.7
2015-2018	+5.1	+3.1

Regarding the volume of sales of generic medicines, it recorded an average annual growth of +5.4% between 2010 and 2018. It was higher between 2010 and 2013 (+6.6%) and then fall to +3.5% for the period 2015-2018. The number of packs sold recorded the largest annual change in 2018 for the period of the study that follows the price revisions (table 4).

Table 4. Evolution of the market volume of medicines sold in pharmacies according to the status «Generic / Originator» in million packs between 2010 and 2018 (N =4266).

Year	Volume (million packs)	
	Generic	Originator
2010	97.18	153.9
2011	104.48	161.77
2012	112.9	164.25
2013	116.28	169.94
2014	121.45	172.07
2015	126.12	175.37
2016	128.62	173.29
2017	133.44	173.4
2018	139.49	171.94
Period	Annual average growth rate (%)	
2010-2018	+5.4	+1.5
2010-2013	+6.6	+3.5
2015-2018	+3.5	-0.7

For originator medicines, their TO recorded an average annual growth of +2% between 2010 and 2018. It reached +3.1% after price revisions, compared to +3.7% between 2010 and 2013, when prices were calculated according to the old pricing system. The year 2014 saw a significant decline in their TO after the first reductions were applied (Table 3). In terms of sales volume, it recorded an average annual growth of +1.5% between 2010 and 2018. It was higher between 2010 and 2013 (+3.5%) before falling to (-0.7%) between 2015 and 2018, when it was at its lowest level over the entire study period. Two major declines were recorded in 2016 and then in 2018, with annual changes of (-1.2%) and (-0.8%) respectively (Table 4).

Medicines affected by the price decrease

For the segment of medicines with a price decrease, their TO experienced an average annual growth of +2% between 2010 and 2018. It was +4.4% between 2010 and 2013, falling to +3.3% once the pricing application and review procedures were implemented (2015-2018), with an annual change of (-0.3%) recorded in 2015. However, a decline in their TO was noted in 2014, with an annual change of (-6.5%) (Table 5).

In terms of sales volume, average annual growth of +1.74% was recorded between 2010 and 2018, compared with +4.7% for the period 2010-2013. However, a decline in packs sold was noted between 2015 and 2018 (-0.8%), recording the lowest growth during the periods covered by this study. In fact, annual declines in volume were recorded in 2016 and then in 2018, with -2.1% and -1.2% respectively (Table 6).

Table 5. Evolution of the market for medicines sold in pharmacies affected by the price decrease in billion Moroccan dirhams between 2010 and 2018 (N= 1704).

Year	Turnover (MAD billion)
2010	3.54
2011	3.74
2012	3.94
2013	4.01
2014	3.75
2015	3.74
2016	3.78
2017	3.89
2018	4.11
Period	Annual average growth rate (%)
2010-2018	+2.0
2010-2013	+4.4
2015-2018	+3.3

Table 6. Evolution of the market volume of medicines sold in pharmacies affected by the price decrease in million packs between 2010 and 2018 (N= 1704).

Year	Volume (million packs)
2010	90.14
2011	95.19
2012	98.44
2013	102.83
2014	101.67
2015	105.28
2016	103.10
2017	103.91
2018	102.71
Period	Annual average growth rate (%)
2010-2018	+1.7
2010-2013	+4.7
2015-2018	-0.8

Discussion

The results of this study showed that growth variations were recorded for the periods 2010-2013 and 2015-2018 in terms of both volume and value, influencing overall sales, sales of generic and originator medicines, and sales in the segment of drugs affected by price decreases.
Following the implementation of the provisions of Decree 2-13-852, the publication of the new price revision lists in April 2014 and their implementation in June 2014, the private market for medicines recorded average annual growth of +3.9% between 2015 and 2018, compared with average annual growth of +5.5% between 2010 and 2013, with annual growth of +3.7% between 2010 and 2018. The year 2014 showed the largest negative change in TO during the nine years covered by the study (-1.9%). According to a study conducted in Morocco, the market

experienced a 2.7% decline in 2014 compared to 2013 (14).

Another study revealed that the national market was growing before 2010, with cumulative growth of +44%, representing annual growth of +11% between 2005 and 2009. Growth was slower between 1991 and 2005, before the introduction of compulsory health insurance (AMO) in 2005 (15). According to an analysis of the evolution of the market, 2014 was a year of stagnation, 2015 was a year of decline, while in 2016 the market in value resumed an upward trend (16).

However, the year 2014 recorded the largest number of medicines affected by price decreases. A study conducted in 2015 concluded that Morocco had adopted price reductions to meet the objectives of the national health strategy, namely improving financial accessibility to medicines and their availability in pharmacies, however the market in terms of value contracted by 4.7% during the same period (17).

According to IQVIA data, the Moroccan medicine market recorded a 5% increase in 2018 (18). For this study, annual growth of +4.9% was recorded in 2018, while average annual growth for the period 2015–2018 was +3.9%. The growth noted in 2018 corresponds to a market correction after the stagnation of the years following the largest decline in prices in 2014 and the disturbances recorded in this case, the decrease in direct orders and the shortage of certain medicines.

After the application of decreases, the volume of the private market for medicines recorded an average annual growth of +1.1% (2015-2018) whereas it was +4.7% between 2010 and 2013. Part of the strategy for universal access to healthcare consisted of applying reductions in medicine prices in Morocco, and volumes recorded a 2.8% increase in 2014 (17). For that same year, according to the results of our study, they experienced an evolution of +2.6%. However, the increase in volume sales was more contrasted, 2014 is considered a year of stagnation compared to growth in 2015 in packs sold before declining in 2016, trend explained by the instability of the market following price revisions and the effects of destocking and relabelling of medicines with the new prices (16). A 2018 study mentioned that price reductions recorded in Morocco since 2014, in the absence of an extension of health insurance, have had no impact on consumption volume. (15).

For generic medicines, the TO experienced an average annual growth of +6.5% between 2010 and 2018. It was less significant after the application of revisions with +5.1% between 2015 and 2018. For this last period, the most significant change was noted in 2017 with +5.9%. For their volume, the average annual growth recorded over the 9 years of the study was +5.4%. Growth decreased between 2015 and 2018 to reach +3.5%, while the smallest annual change was recorded in 2016 with +2%. Regarding the market for originator medicines, between 2015 and 2018 the TO recorded an average annual growth of +3.1%, whereas it was +3.7% between 2010 and 2013. After the application of price revisions, their volume recorded a decline in packs sold with an average annual growth of (-0.7%) (2015-2018). Indeed, it experienced two negative trends in 2016 and 2018 with respectively (-1.2%) and (-0.8%).

A study conducted in Morocco reported an improvement in the penetration rate of generic drugs over the period 2009-2018, with cumulative growth of 63% in volume and a TO climbing from 28.5% to 40% (8). Generic medicines have a stronger growth than originators, a recovery in sales was noted in 2017 with a 7% growth in the value of generics compared to an overall market growth of 4.6% and also 7% in volume compared to 3.1% for the entire market (16). Current regulations stipulate that no generic medicine may be marketed at a PSP higher than that of its originator. However, generic pricing policies remain essential to ensure their effectiveness in the medicines market (19).

The segment of medicines affected by price reductions saw average annual volume growth of +1.7% between 2010 and 2018. It was +4.7% between 2010 and 2013 before falling to (-0.8%) between 2015 and 2018. Medicines with reduced PSPs did not record any increases in sales volume. In terms of value, average annual growth was +2% between 2010 and 2018. It was +4.4% between 2010 and 2013 and +3.3% between 2015 and 2018. The TO experienced the most negative evolution in 2014 with a decline of (-6.5%). There are potentially irrational factors driving up drug prices and the use of more expensive medicines, which may lead to lower consumption of drugs affected by price reductions (20). The power of marketing to promote expensive products, its influence on medical prescriptions, and the absence of substitution rights for pharmacists are among these factors.

For the limitations of the study, the research is only interested in the private medicines market. It establishes the general evolution of sales in volume and value without considering the brand, presentation or ATC classification. Only the segment of PSP decreases was considered, without including the other factors in this case financial and Out of Pocket, sociocultural, reimbursement and stock shortages.

Conclusion

The price of medicines in Morocco has recorded several revisions and adjustments, but the financial accessibility to treatments still represents a burden for patients. Decrease prices alone cannot improve access. A revision of the national medicine pricing strategy introducing new measures for price setting and review remains a priority for the health sector. The improvement of reimbursement policies represents an essential lever for an optimal health system that is both efficient and sustainable.

Medicines with the cheapest PSPs are naturally accessible to a wide segment of the population whereas drugs belonging to price ranges T3 (929 < PSP ≤ 2100 MAD) and T4 (PSP > 2100 MAD), innovative treatments and originator medicines without generics continue to weigh on purchasing power. To support the latter and control inflation, a financial measure adopted by the government in 2024 allowed for the VAT exemption of medicines

initially subject to a 7% VAT. Also, as part of its national social protection policy, Morocco embarked in 2022 on a broad project based on the progress towards universal health coverage (UHC), a measure likely to improve access to medicines.

The growth of the national private medicines market is based on two levers, namely the optimization of the use of generic drugs and biotechnology within the framework of a reasonable price policy. Its development is also based on the improvement of accessibility by ensuring a balance between the gouvernmnt budget and the reimbursement policies by the concerned organizations. The prioritization of the use of generic medicines and biosimilars is relevant for the sustainability of the health insurance system within the framework of UHC. New levers must be developed to improve the situation of competition in the market.

Pharmacoeconomic studies, integrated into the Health Technology Assessment (HTA), will have an important role in medicine pricing. The implementation of complementary policies to the ERP is necessary to facilitate access to treatments and strengthen the efficiency of reimbursement.

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