

Production and consumption financial Process of drugs in Iranian healthcare market

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Abstract

Considering the important role of statistics and information on major policymaking decisions, this study examined financial trends of production and distribution of drugs in the health system of the Islamic Republic of Iran during the last decade. This was a cross sectional trend study. In order to collect the required data, raw form was designed according to the research objectives and required data were collected between the years of 2000 to 2008. Collected data was entered in the 2007 version of Excel software and descriptive diagrams were used to show the occurred changes process. Findings indicate that growth of the domestic pharmaceutical manufacturing from base year 2000 to year 2008 was ascending. Meanwhile, rate of drug sales in the country's pharmaceutical market over these years was steadily upward and finally, in the years 2000 to 2006, it has been faced with upward growth of domestic production sale. In a general conclusion it seems that despite increasing production rate in the country and upward procedure of consumption and sale of inside-produced medicine in the health care market, problems of paying out of pocket, especially in imported and single prescription drugs remain as before which this will require more extensive and more accurate research.

Keywords: drug production, drug consumption, health system, out of pocket, catastrophic health expenditure

Introduction

medicine industry is one of the strategically important industries in the world and also has a direct relationship with life. The industry has a significant turnover in worldwide and also in Iran (1). Historical review of records on the industry's growth process in the country suggests that despite a 25 percent pharmaceutical market contribution in the manufacture of drugs, not only completely independent, but also under foreign companies privileges, this figure in 2008, quantitatively has improved more than 95 percent and of the RIs (current unit of money in Iran) has improved approximately 64% (excluding subsidy) (2). However, it is predicted that in the year 2025, total value of Iran's drug market with 360 percent growth is equivalent of \$ 10 billion, total numerical volume of pharmaceutical market with 200% growth is equivalent to 60 billion number and pharmaceutical exports volume with 250% growth is equivalent to \$ 250 million (3).

On the other hand, evidence suggests that in 2008, the average price of domestically produced drugs was £ 485 and average price of imported drugs was £ 5750. Meanwhile, medical capitation in this year in Iran was estimated about 33 dollars. However, average of medical capitation in 2008 in the world was \$ 100 (2).

In addition to the monetary and numerical growth of pharmaceutical products in the categories of drug distribution, Iran has an advanced system of drug distribution, including more than 7,000 pharmacy and 15 major national dealers and many of main local vendors. In addition, there are more than 800 pharmacies in hospitals in the country; some of them are also allowed to sell drugs to outpatient (4).

But despite the growth and of the pharmaceutical production and distribution industry and achieving to the self-sufficiency boundary, statistics show that the paying proportion of patients out of pocket for drugs in the country is about 65% (5). In such circumstances it is essential that in dedicating the credit of the related proportion to health care services of the country and especially in the pharmaceutical sector, with a major revision, attempt to increase appropriately the health credit sources share of the national income, modify distribution of the components of resources, and reforms should be considered for the purposes of consumption according to the requirements. (6)

One of the important factors for supplying the health care costs in general and medicine in particular is increasing the level and portion of state financial participation and giving attention to its trusteeship to protect the public interest. In addition, other issues such as the creation of resources households' financial participation in payments

and pre-payment subject and coverage range of social services, in the social health insurance system, has special importance in financing mentioned costs (7).

So due to the crucial role of data and information in such major policy decisions making, this study examined the financial trends of drugs production and consumption in the health system of the Islamic Republic of Iran during the last decade, thereby be able to help policy makers and decision makers to improve financial policies of medicine section, to reduce out of pocket and to modify purchasing, paying and other mechanisms.

Methodology

This cross sectional study was conducted to analyze the process and trend. The process analysis seeks to uncover historical systematic patterns in financial records or other quantitative data sources (8). Such data analysis methods can have range of basic descriptive techniques to complex causal methods (9). In this study, according to the main objective, that is achieving to financial change trends in drug production and distribution system, descriptive method has been used.

Since the trend studies, usually a fiscal year is selected as the base period and the other quantities are then compared with the year, in the present study, the year of 2000 has been selected as the base year and the start of data collection and data related to the Iranian families drugs costs compared with total household expenditure as an indicator of drug use, the country's pharmaceutical market sales, growth in the number of drugs on the market and Rial sold domestically manufactured drugs were used as indicators of drug development over a decade (until 2008) . Also, due to the scattering of data in domestically produced drugs` discussion, mentioning merely overall descriptive statistics are enough.

In order to collect the required data, the raw form was designed for research purposes and data needed in the years ahead was gathered from all primary and secondary information sources such as the Ministry of Health and Medical Education, the Food and Drug Administration, President Strategic Deputy and data center.

After the data were collected, they were entered in the 2007 version of Excel software and descriptive diagrams were used to show the occurred changes trends.

Results and Discussion

Summary of findings from the present study indicate that about 5000 kind of drugs are available in Iran`s pharmaceutical market which about 95% of them produced by the domestic industry and the rest is met through imports.

Chart A, in this field, indicate that growth of the domestic pharmaceutical manufacturing from base year 2000 to year 2008 was ascending, and from 2005 to 2006 it has been faced with upward growth.

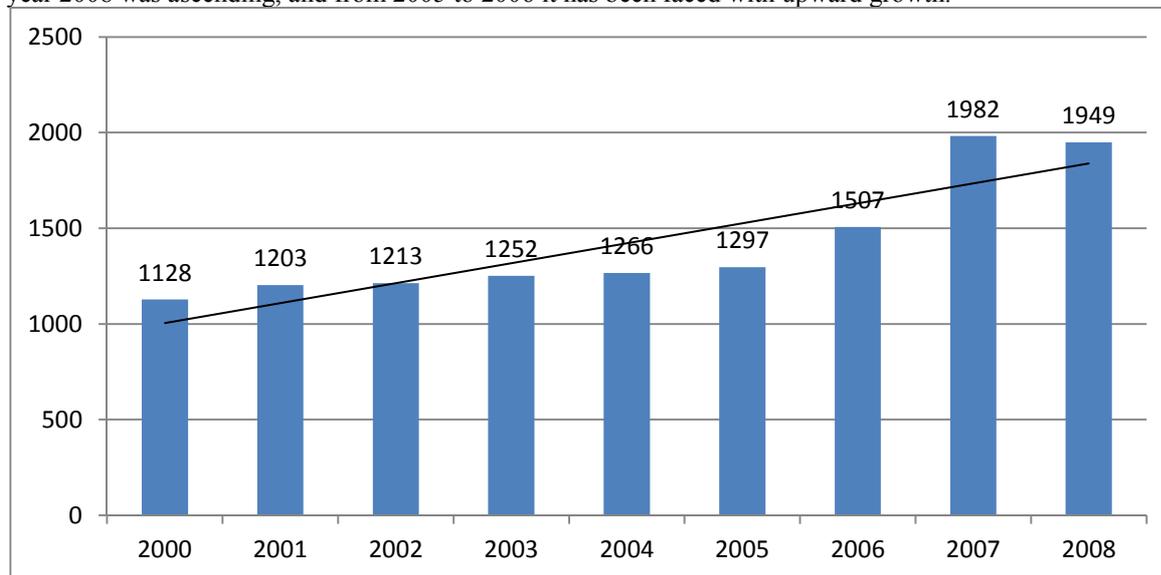


Chart A- the available drugs number growth In Iran`s market between 2000-2008

Other findings in the drug consumption in the country indicate that the average growth of drug use in our country is about 11 percent, which this figure is high compared with the whole world (9%) and developed countries (7%). In addition, other international research suggests that the number of drugs item per prescription in a country like Denmark is 1.9 and the number of antibiotic drugs is 16%, Injection drugs is 1.9 percent (11). World Health

Organization reported that the average number of drugs item per prescription is 1.3 to 1.5 items (12). However, the Annual Performance Report of rational drug consumption and prescribing National Committee and related committees in 2006, by processing a total of about 44 million copies of submissions across the country showed that average prescription items were 3.25, with 43% of prescriptions containing antibiotics, 42% containing injection drugs and 19% including corticosteroid (13).

The importance of present results comparison with other countries, and estimating the drug consumption trend in the country is very high that to overcome the exits crisis in the pharmaceutical sector, without considering Consumer behavior, has been known almost impossible (14). So it is recommended that design a study to examine the drug consuming detailed data and allocated proportion by the government and families to buy drugs.

The pharmaceutical market sale trend field, during 2000 up to 2008, is shown in Chart B (sold in billion rials), these findings also indicate that drug sales in the pharmaceutical market has been steadily upward from 2000 to 2008.

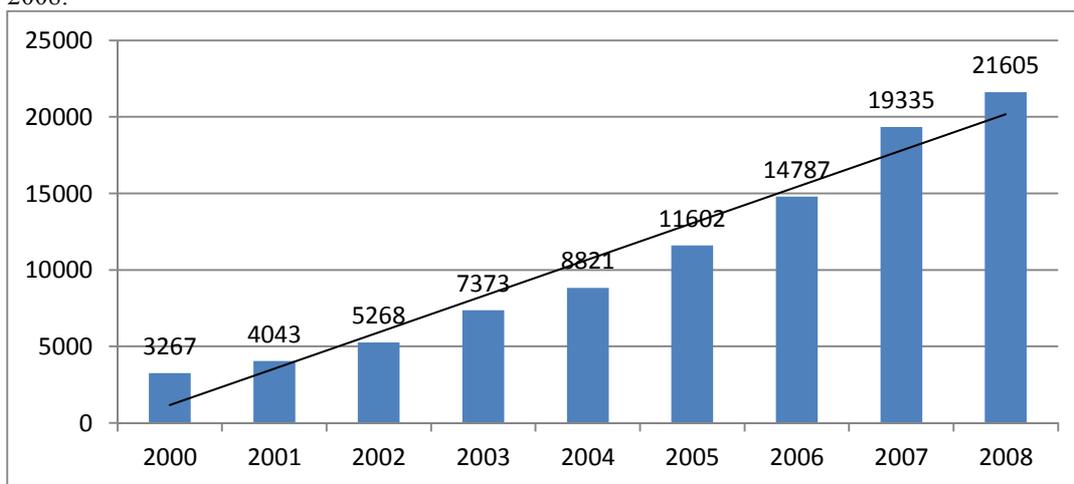


Chart B - The pharmaceutical market sale trend during 2000 till 2008 (billion rials)

These findings emphasized on increased production and sales of the drug in the past decade. Its importance will be more known when we know that the changes in the prices of imported drugs can have a huge impact on making catastrophic health expenditures of drugs, especially about patients who are refractory.

Chart C, will show domestic production Rial sales trend (from 2003 to 2008). As this chart comes on, in the years 2003 to 2008, Iran has been faced with rising growth in domestic production selling.

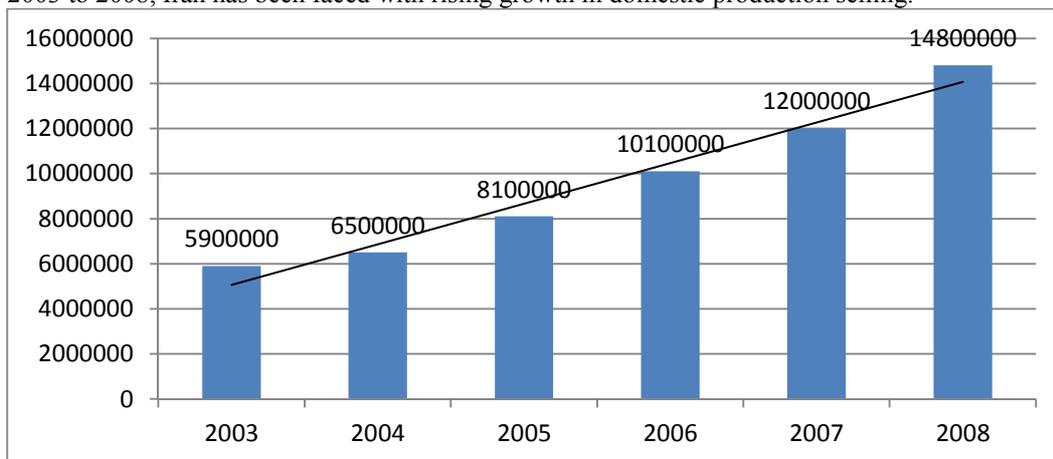


Chart C, domestic production Rial sales trend (from 2003 to 2008)

As it can be seen, Iran has experienced the growth in drug consumption and production in the years 2000 to 2008 such that statistics estimate 11 percent growth for drug consumption in the country.

Other relevant data estimate that drugs' consumption capitation is about 370 units per year, equivalent to approximately U.S. \$ 20.

On the other hand, because the various studies noted the significant association between the capitation GDP variables and total drug costs and total health expenditure with drug per capita rial use variable (15) it can be said that increment in per capita consumption of medicines can increase health sector costs and the need of careful planning for it, will be the department's priorities.

Other statistics on the financing of the country's pharmaceutical sector suggests that the pharmaceutical financing from the public sector and out of pocket payments are equivalent to 55% and 45% respectively, that the amount paid out from pocket in the pharmaceutical sector have been reported up to 65% (4) so it can be said that despite the importance of accurate determination of medication financing channels in the country, highly accurate and reliable information is not available.

On the other hand, the rest of the financial ratios in pharmaceutical sector in the country suggest that drug costs proportion is a tiny proportion in household spending basket (chart D).

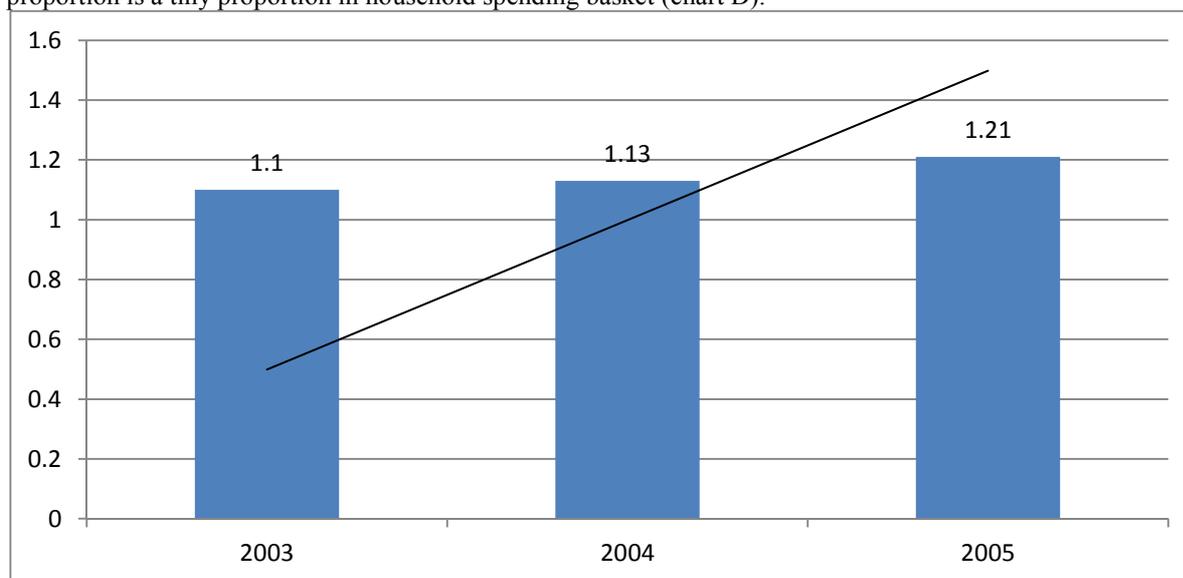


Chart D- proportion of drug costs from the total household spending

In this context, the present study estimated that the paying from household pocket on pharmaceuticals is equal to 45%. Davari et al believed that, amount of insured direct payments for delivering services in various insurance had significant differences such that highest amount of this payment was 70% and related to the health services insured and the lowest amount was related to the Relief Committee in the General Insurance (16). This subject shows a necessity to perform a comparative study between based organizations insurer, and while establishing Iranian health insurance organizations can greatly help to resolve this problem. On the other hand, this study showed that 70 percent of health services and social security insured were in lower-middle socioeconomic status (16) which top -pocket payments can make them driven to lower income deciles and creating crippling situation. However, recent studies indicate that 2.32 percent of households are faced with catastrophic health expenditures (17) therefore, the current rate of patients' pocket payments may encounter families with chronic and Refractory patients with catastrophic health expenditures. So in this regard, serious efforts must be done by the Ministry of Health and Medical Education.

Conclusion

In a general conclusion it seems that despite the increasing trend of drug production in the country and the consumption and sale of inside produced drugs in the health care market, Problem of pay out of households' pocket especially in imported and single copies drugs and remains as before which this subject demand more extensive and more accurate studies.

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