



PHARMACEUTICAL INDUSTRY IN OIC MEMBER COUNTRIES PRODUCTION, CONSUMPTION AND TRADE



ORGANISATION OF ISLAMIC COOPERATION
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Pharmaceutical Industry in OIC Member Countries: Production, Consumption and Trade

Introduction

Today pharmaceuticals have become an indispensable part of health care system around the globe. Historically pharmaceuticals have played a vital role in the human development by improving the quality of life and reducing the time spent in the hospitals. Thanks to innovative pharmaceutical industry that almost all epidemics and chronic diseases are curable today.



Due to its direct link with the welfare and wellbeing of human beings pharmaceutical industry is of strategic importance for the development of a healthy and productive nation. Today, pharmaceutical industry is considered to be one of the largest and rapidly growing global industries. It is a major source of employment generation and foreign exchange earnings for many countries around the globe.

However, despite all these extraordinary achievements it's a harsh reality that every year millions of people die across the world, mostly in low income developing countries, due to unavailability and inaccessibility of necessary medicines. According to the World Health Organization (WHO), on average, 30% of the world population lacks access to life-saving medicines; whereas, in some countries in Asia and Africa, the number may be as high as 50% (Roger Bate, 2008). Many developing countries, including some OIC member countries, has insufficient or no manufacturing capacities in the pharmaceutical industry. Local industry covers a tiny fraction of domestic pharmaceutical demand and they rely heavily on imports and medicinal aid. In addition, the share of medicines in "Out-of-pocket" health payments (i.e. paid by the patient) is ranging between 40 to 60% in these countries. Consequently, medicines are neither available nor accessible to a large fraction of population and hundreds and thousands of people die of preventable and treatable diseases. This short report is a humble attempt to

investigate the availability of medicines in OIC member countries by focusing on the production, consumption and trade patterns of pharmaceuticals in these countries during the period 2005-2010.

Pharmaceutical Production and Consumption: Worldwide Trends

The global pharmaceutical industry has shown rapid growth over the years and emerged as one of the fastest growing industries in the world. However, world pharmaceutical production and consumption is still unevenly dispersed around the world with the developed countries as the leading producers and consumers of pharmaceuticals.

According to IMS Health (an international consulting and data services company), in 2010, world pharmaceutical market was valued at US\$ 875 billion with a growth rate of 4.1% over the previous year at the constant exchange rate. The volume of pharmaceutical industry has surged from US \$ 647 billion in 2005 to US\$ 875 billion in 2010, corresponding to an increase of 35.2%. During this period, the industry's growth rate has witnessed a declining trend from 7.2% in 2005 to 4.1% in 2010. This decline is mainly associated with the slowdown in economic activity, especially in the developed countries which consume a large chunk of global pharmaceutical products. In 2008, economic slowdown in developed countries culminated into one of the worst global financial and economic crisis since the Great Depression. The negative effects of this meltdown of historic magnitude were felt across the globe

Figure 1: Global Pharmaceutical Market, 2005-2010

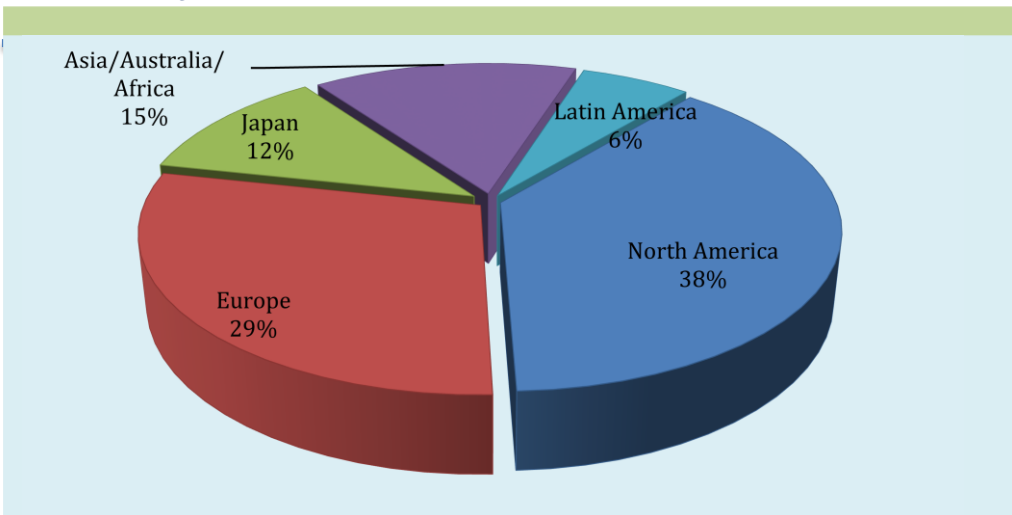


Source: IMS Health Market Prognosis, March 2011.

and all sectors were hard hit. The pharmaceutical industry was not an exception and it has witnessed one of the lowest year-on-year growth rates of 6.1% in 2008. In 2009, however, the negative effects of the crisis subsided and global economy has started to recover. These positive developments helped the global pharmaceutical industry to rebound to its pre-crisis level and its growth rate climbed to 7.1% in 2009 (Figure 1).

Global pharmaceutical market, both in terms of production and consumption, is highly concentrated in the developed regions. In 2010, North America (38%), Europe (29%) and Japan (12%) accounted for nearly 79% of global market. On the other hand, developing regions with a share of nearly 85% of world population, accounted for only 21% of global pharmaceutical consumption in 2010 (Figure 2). A breakdown of pharmaceutical market in developing world reveals that Asia, Australia and Africa represent nearly 15% whereas Latin America accounts for 6% of the global pharmaceutical market.

Figure 2: Regional Distribution of Global Pharmaceutical Market



Source: IMS Health Market Prognosis, March 2011

OIC MEMBER COUNTRIES

Like many other developing countries, the OIC members are facing many socio-economic challenges including the establishment of an efficient and effective health care system. In these economies, health sector is suffering from many problems ranging from poor health infrastructure to insufficient number of medical staff.

However the shortage of and inaccessibility to necessary medicines are among the most challenging problems. Due to the unavailability of the relevant data for most of the OIC member countries, comprehensive analysis on production capacity of pharmaceutical industry at the OIC level is not possible. However, an overview of pharmaceutical industry in the OIC member countries, for which data are available, in terms of their geographical regions is given in the following section.

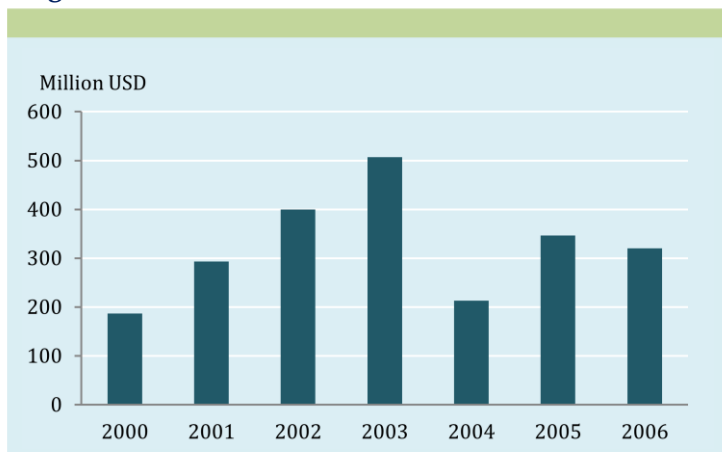
MIDDLE EAST AND NORTH AFRICA (MENA)

Pharmaceutical market in the MENA region accounted for about 1.8 per cent of the world market, or around US\$12 billion in 2006 [Pharmaceutical & Biotechnology Middle East (PABME)]. Most of the countries in MENA region are characterized by low domestic pharmaceutical base. According to the Arab Organization for Industry and Mining, local production accounts for 45 % of consumption, with more than 220 manufacturing units. In MENA region GCC countries have highest per capita medicines consumption estimated at US\$ 52 while in other countries, the figure is estimated at about US\$20 in 2004.

Among the GCC countries Saudi Arabia has the largest number of local pharmaceutical manufacturing plants totaling 27 with an investment of US\$ 619 million. As shown in Figure 3, Saudi Arabian pharmaceutical industry produced medicines worth of US\$ 320 million in 2006 compare to US\$ 187 million in 2000. However, local production satisfies only 15% of the demand and imports account for 85% of the domestic market.

Egyptian pharmaceutical market, which is estimated at around US\$ 1.7 billion in 2007, is one of the major flourishing markets in the MENA region. According to some reports, Egyptian pharmaceutical industry comprised of about 30 companies and local production satisfies more than 90% of domestic

Figure 3: Pharmaceutical Production in Saudi Arabia



Source: National Commercial Bank of Saudi Arabia.

demand .On the other hand, Egypt is contributing 30% of supply in the MENA pharmaceutical market.

Jordan is another major market in the MENA region. Jordanian pharmaceutical industry consists of 17 factories and accounts for 3.5% of the total workforce employed in the country's industrial sector and is second largest export earning industry after garment manufacturing. In 2005, Jordanian pharmaceutical industry produced US\$ 350 million worth of medicines compare to US\$ 185 million in 2003. Local production satisfies about 50 % of domestic market.

In the MENA region, UAE is one of the most expensive pharmaceutical markets with per capita medicine expenditure estimated at about US\$ 80. There are eight pharmaceutical manufacturing units in UAE which presently satisfy around 10 % of local demand (Dubai International Pharmaceuticals and Technologies Conference and Exhibition, DUPHAT December 2008).

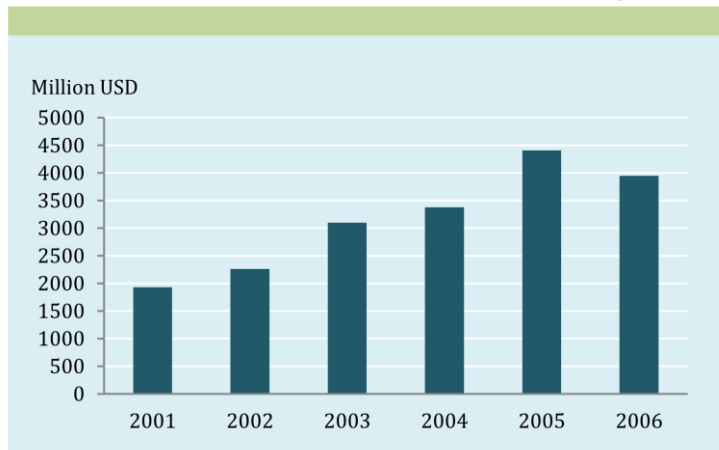
ASIA

In the Central Asian region, Turkey emerged as a promising pharmaceutical market. Today, Turkey is the largest pharmaceuticals producer in the OIC and is ranked 16th among the world's 35 leading producers. There are 134 pharmaceutical companies operating in Turkey and domestic industry meets 90% of local demand. In 2006, Turkey produced US\$ 3947 million worth of medicines compared to US\$ 1932 million in 2000 (Export Promotion Centre of Turkey). Turkish pharmaceutical industry and market has great growth potential and is placed in a group of countries called

"Pharmerging Markets" which represents fastest growing pharmaceutical markets in the world.

In the Asia Pacific, Malaysia is one of the fastest growing pharmaceutical market valued around US\$ 1027

Figure 4: Pharmaceutical Production in Turkey



Source: Export Promotion Centre of Turkey.

million in 2007 [Frost & Sullivan estimates 2008]. According to Malaysian Drug Control Authority, in 2006, there were 246 registered pharmaceutical companies in the country and local manufacturer produced about 25-30% of domestic demand. Provided the rich natural resources (flora and fauna), Malaysia is envisaged as an important biogeneric (herbal medicines and vitamins) market in the region.

Indonesia is another growing pharmaceutical market in the region estimated at US\$ 1.29 billion in 2006. According to Drug and Food Control Agency (BPOM), Indonesia has a strong pharmaceutical manufacturing industry based on 108 companies. In 2005, local companies accounted for 90% of sales of medicines in the country.

SUB-SAHARAN AFRICA (SSA)

The region of SSA accounts for 24% of global burden of disease and represents less than 1% of global health expenditures. Nearly 50% of SSA's total health expenditures are being financed by the patients. According to World Health Survey 2003, the average share of medicines in out-of-pocket health payments in SSA (14 countries) is 37%, while at country level, this share varies from 11% in Chad to 62.2 % in Burkina Faso. In 2006, pharmaceutical market in SSA



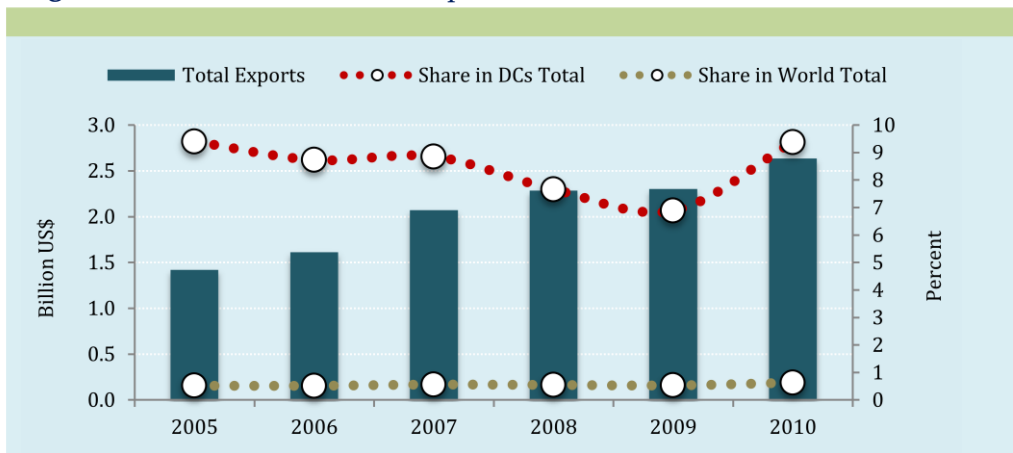
was valued at US\$ 3.8 billion, corresponding to 0.6 % of global market. In SSA, 37 out of 44 countries have some pharmaceutical production and local manufacturer account for 25-30% of local demand. However, pharmaceutical production is highly concentrated among a few countries. In 2006, SSA produced US \$ 1.07 billion worth of pharmaceuticals out of which more than 70% (i.e. US\$ 735 million) was contributed by South Africa alone. Nigeria was the second leading producer with a share of 10% (i.e. US\$ 107 million). Among other OIC member countries, Senegal produced US\$ 22 million, Côte d'Ivoire produced US\$ 14 million and Uganda produced US\$ 9 million worth of medicines in 2006.

PHARMACEUTICAL TRADE

Global pharmaceutical trade has shown an upward trend during the period 2005-2010. According to the available data, world trade volume has increased from US\$ 556 billion in 2005 to US\$ 824 billion in 2010. This corresponds to an increase of

over 48%. In 2010, Global pharmaceutical exports were valued at US\$ 417 billion while pharmaceutical imports were valued at US\$ 407 billion. However, like the production, pharmaceutical trade also remained highly concentrated in developed world which accounted for about 93 % of world exports and absorbed nearly 82% of pharmaceutical imports in 2010. As a group, developed countries are net exporters of pharmaceutical products. On the other hand, the share of developing countries in global pharmaceutical trade remained very low and they accounted for only 7% of exports and 18 % of pharmaceutical imports in 2010. As a group, developing countries are net importers of pharmaceutical products.

Figure 5: OIC Pharmaceutical Exports 2005-2010



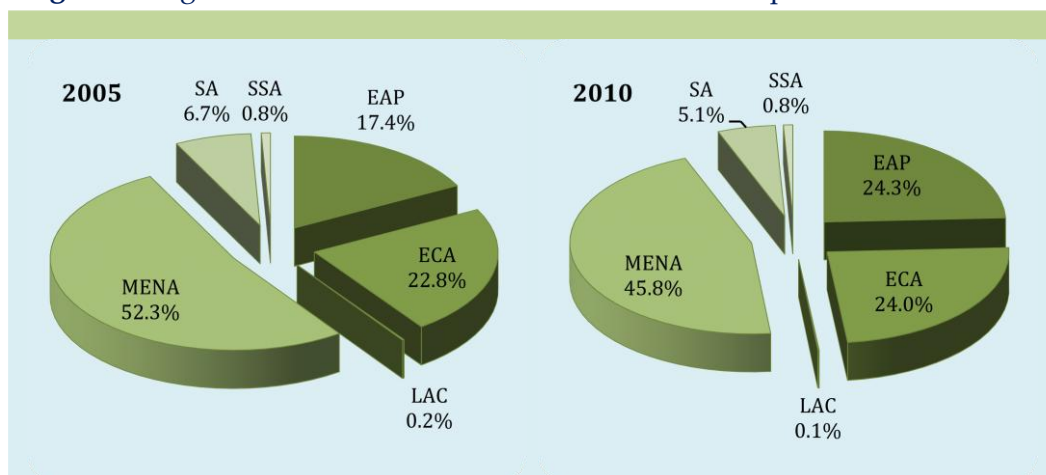
Source: UN Comtrade online database.

Being a substantial part of the developing countries, majority of the OIC member countries is net importer of pharmaceuticals and their share in global pharmaceutical trade remained very low. As shown in Figure 5, OIC pharmaceutical exports witnessed an increasing trend during the period 2005-2010. In 2010, OIC pharmaceutical exports valued at US\$ 2.6 billion compared to US\$ 1.4 billion in 2005, corresponding to an increase of 85%. During the period under consideration, on average, OIC member countries as a group accounted for about 7% of developing countries and about 1% of world total pharmaceutical exports.

OIC Pharmaceutical exports remained highly concentrated and a large share of these exports come from the member countries located in Middle East & North Africa (MENA), Europe & Central Asia (ECA) and East Asia & Pacific (EAP) regions. These three regions, collectively accounted for over 90% of OIC total pharmaceutical exports during 2005-2010. As shown in Figure 6, MENA remained

the top OIC exporting region with a share of 45.8% in 2010. However, its share in OIC total exports has witnessed decrease of 6.5 percentage points since 2005. Meanwhile, share of EAP and ECA region witnessed some improvement and recorded at 24.3% and 24.0% respectively in 2010. Among the other regions, South Asia (SA) accounted for over 5%, Sub-Saharan Africa (SSA) around 1% and Latin America & Caribbean less than 1% of OIC pharmaceutical exports during 2005-2010.

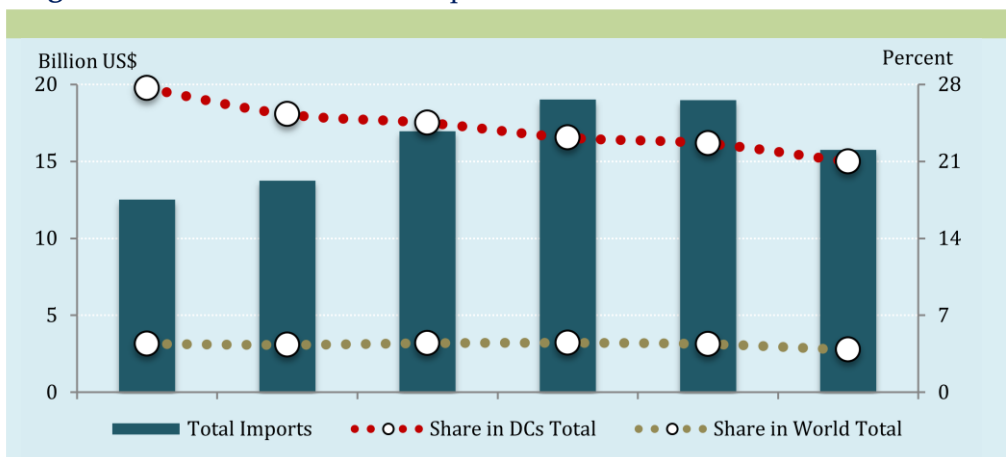
Figure 6: Regional Distribution of OIC Pharmaceutical Exports



Source: UN Comtrade online database.

Provided the weak production capacity and limited technological know-how, majority of member countries are unable to locally produce sufficient amount of pharmaceuticals needed to meet their domestic needs. As a result, they have to import from other countries. During the period under consideration, OIC pharmaceutical imports have witnessed an upward trend and increased from US\$ 13 billion in 2005 to US\$ 19 billion in 2009 before declining to US\$ 16 billion in 2010 (Figure 7). Compared to the pharmaceutical exports, OIC share in developing countries and world total pharmaceutical imports remained much higher. On average, member countries accounted for 24% of developing countries total and 4% of world total pharmaceutical imports during 2005-2010. This clearly shows that member countries are heavily dependent on imports to meet their local pharmaceutical demand. In addition, it also gives some insights about the issues of inaccessibility and unavailability of necessary medicines especially in the least developed member countries.

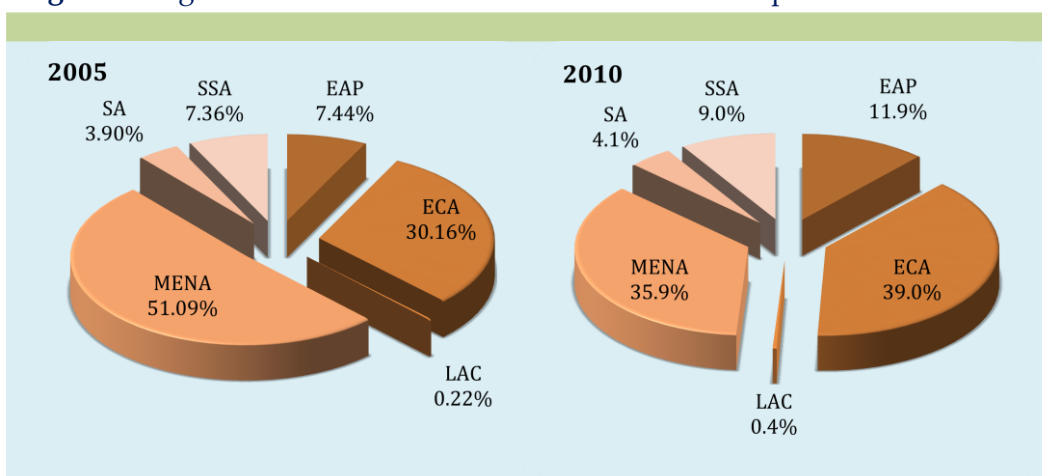
Figure 7: OIC Pharmaceutical Imports 2005-2010



Source: UN Comtrade online database.

OIC Pharmaceutical imports also remained highly concentrated and a large share of imports is consumed by the member countries located in MENA, ECA and EAP regions. These three regions, collectively accounted for over 85% of OIC total pharmaceutical imports during 2005-2010. As shown in Figure 8, ECA remained the top import consuming region with a share of 39.0% in 2010. Since 2005, its share in OIC total imports has witnessed an increase of 9 percentage points. Meanwhile, share of MENA region witnessed significant decline and recorded at 35.9% in 2010 compared to 51.1 % in 2005. Among the other regions, EAP accounted for 11.9%,

Figure 8: Regional Distribution of OIC Pharmaceutical Imports



Source: UN Comtrade online database

SSA for 9%, SA for 4% and LAC less than 1% of OIC pharmaceutical imports in 2010.

Very much like their regional distribution, OIC pharmaceutical exports remained highly concentrated at the individual country level as well. In 2010, more than 90% of the OIC pharmaceutical exports were contributed by only ten member countries (Table 1). Jordan remained the top OIC pharmaceutical exporter with exports of US\$688 million which constituted 26% of OIC total pharmaceutical exports in 2010. Among the top ten OIC exporters, first five member countries namely: Jordan, Turkey, Indonesia, Malaysia and Egypt accounted for 83% of OIC total pharmaceutical exports in 2010.

A similar trend can be observed in case of pharmaceutical imports as well. In 2010, top ten importers accounted for more than 80% of OIC pharmaceutical imports (Table 1). Turkey remained the top pharmaceutical importer with imports of US\$ 4778 million which constituted 30% of OIC total pharmaceutical imports in 2010. Among the top ten importers, top five importers namely: Turkey, Algeria, UAE, Egypt and Malaysia accounted for more than 60% of OIC pharmaceutical imports in 2010.

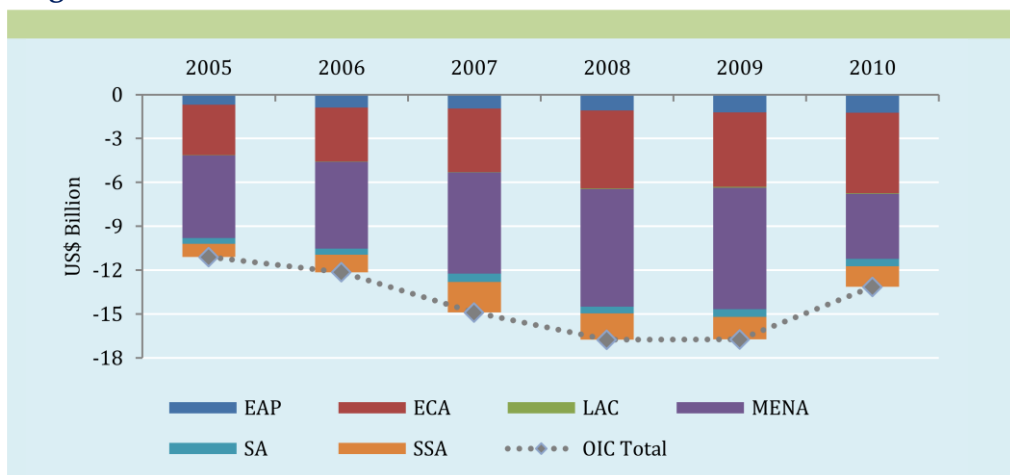
Table 1: OIC Top-10 Pharmaceutical Exporters and Importers, 2010

Rank	Country	Exports (mln.US\$)	Share in OIC Total	Rank	Country	Imports (mln.US\$)	Share in OIC Total
1	Jordan	688	26%	1	Turkey	4778	30%
2	Turkey	611	23%	2	Algeria	1719	11%
3	Indonesia	333	13%	3	UAE	1259	8%
4	Malaysia	308	12%	4	Egypt	1246	8%
5	Egypt	250	9%	5	Malaysia	1133	7%
6	UAE	162	6%	6	Kazakhstan	940	6%
7	Pakistan	136	5%	7	Indonesia	736	5%
8	Morocco	82	3%	8	Pakistan	650	4%
9	Oman	24	1%	9	Morocco	548	3%
10	Kazakhstan	17	1%	10	Jordan	483	3%

Source: UN Comtrade online database.

During the period 2005-2010, pharmaceutical imports in the group of the OIC countries increased higher than their exports. This indicates that the OIC countries, as a group, are net pharmaceutical importers, where the majority of them still heavily rely on imports of various medicines and vaccines to meet their increasing domestic demand. As shown in Figure 9, pharmaceutical trade deficit of the OIC countries has increased rapidly from US\$ 11 billion in 2005 to US\$ 17 billion in 2009. However, it witnessed some improvement in 2010 and recorded at US\$ 13 billion. During 2005-2009, MENA region recorded the highest pharmaceutical trade deficit, followed by ECA and SSA. However, in 2010, ECA region recorded the highest pharmaceutical trade deficit among the OIC regions.

Figure 9: OIC Pharmaceutical Trade Balance

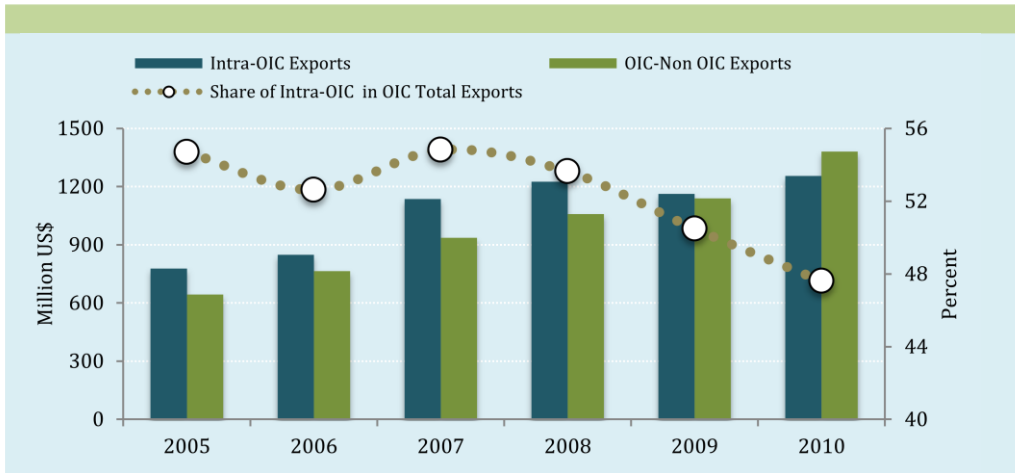


Source: UN Comtrade online database.

Intra-OIC Pharmaceutical Trade

At the intra-OIC level, pharmaceutical trade volume increased from US\$ 1469 million in 2005 to US\$ 1910 million in 2010. As shown in Figure 10, Intra-OIC pharmaceutical exports have shown an upward trend during the period 2005-2010 and increased from US\$ 778 million to US\$ 1255 million. On average, Intra-OIC exports accounted for half of the OIC total pharmaceutical exports during this period. Nevertheless, intra-OIC pharmaceutical exports remained highly concentrated in few member countries. In 2010, more than 82% of intra-OIC pharmaceutical exports originated from four member countries, namely: Jordan (47.1%), Egypt (14.5%), UAE (10.3%) and Turkey (10.1%).

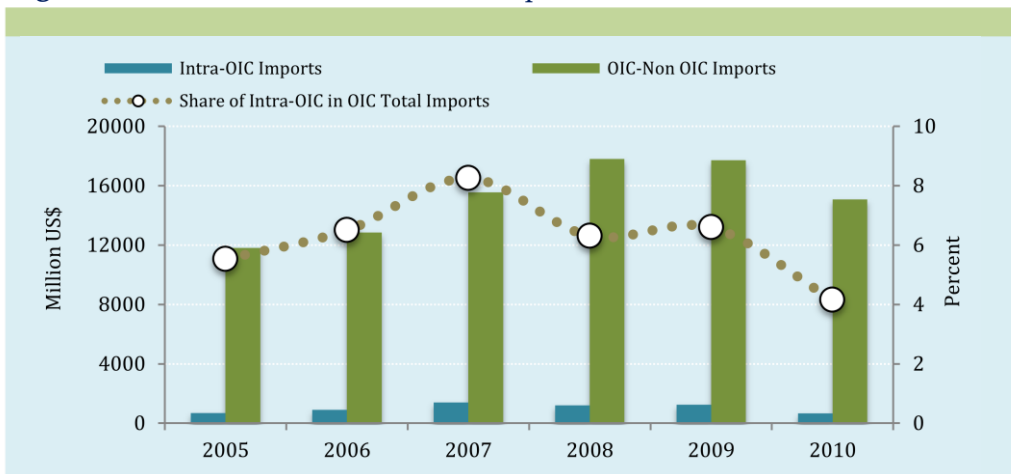
Figure 10: Intra-OIC Pharmaceutical Exports



Source: UN Comtrade online database.

During the period under consideration, Intra-OIC pharmaceutical imports have also shown upward trend but intra-OIC imports have represented a tiny share of 4.2 % of the OIC total pharmaceutical imports. This indicates that many OIC member countries rely heavily on non-OIC countries to fulfill their domestic pharmaceutical demand (Figure 11). More than half of pharmaceuticals produced in OIC member countries have been imported by Algeria (28.0%), UAE (12.3%) and Egypt (10.9%) in 2010.

Figure 11: Intra-OIC Pharmaceutical Imports



Source: UN Comtrade online database

CONCLUDING REMARKS

Despite showing rapid growth over the years, global pharmaceutical industry remained highly concentrated in the developed countries, which dominate the global pharmaceutical production, consumption and trade. Although some developing countries emerged as major contributor, the share of developing countries in global pharmaceutical industry remained very low.



OIC countries, as a group, remained net importer of pharmaceuticals and with few exceptions, the majority of them have very low pharmaceutical production base. Considering the relatively high cost of health care and unavailability of medicines, many OIC member countries have to make some serious efforts to boost the pharmaceutical industry in their economies. To this end, the following related concluding remarks can be made:

- Pharmaceutical production requires skilled human resources like scientists, pharmacists, biologists and lab technicians. Therefore, OIC member countries should encourage and empower their education system to impart quality knowledge in academic disciplines like Chemistry, Biology, Medicines and other natural sciences. On the other hand member countries should also give due attention to convert the brain drain of highly skilled people into brain gain by facilitating the national Diaspora to return their countries.
- Pharmaceutical industry relies heavily on research and development (R&D) activities. Hence proper R&D facilities should be built and researchers and technicians should be provided with necessary financial resources to develop an innovative pharmaceutical industry in the member economies.
- At the intra-OIC level, member countries should collaborate with each other by sharing expertise for the development of pharmaceutical industry. At the same time students mainly from least developed countries can be enrolled in pharmaceutical related academic disciplines in member countries with substantial pharmaceutical base like Turkey,

Egypt, Jordan and Malaysia to equip them with necessary knowledge and expertise in this field.

- At the international level, OIC member countries should collaborate with the international agencies like WHO and World Bank to benefit from their expertise and financial contribution to build their domestic pharmaceutical industry.

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