An evaluation of policies and procedures of successful pharmaceutical exporters and the comparison of Iranian counterpart policy

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ABSTRACT

Background: The volume of the global pharmaceutical market reached 956 billion US dollars in 2011. The reported volume of global exported pharmaceutical products in 2010 exceeds $585 billion. Despite the potential market and the suitable geographical location, the volume of Iran’s pharmaceutical export has been reported to be only 122 million dollars in the year 2011. Experimental: The purpose of current cross-sectional study was to evaluate the pharmaceutical industries’ situation and identify effective factors in pharmaceutical products exportation in successful exporting countries and to compare the results with the situation of pharmaceutical industries in Iran and the factors affecting their exportation experiences. Therefore, we devised an analytic open-ended questionnaire consisting 32 questions in 8 fields. The subjects were 20 experts of pharmaceutical industries, pharmaceutical products exporting companies, and relevant governmental sections. Relevant information on pharmaceutical industries and exportation of pharmaceutical products by target countries was collected through library and the Internet research. Results: All the studied countries had experienced growth in pharmaceutical export during recent years, the fastest growth was in China with 24.8% in 2010. These countries’ volume of pharmaceutical export varied from Spain with more than $11 billion in 2011, to Egypt with $250 million in 2010. The worth of Iran’s pharmaceutical export was only $122 million in 2011 which was unfavorable. Interviewees’ ideas about Iran’s situation in pharmaceutical export were obtained through the questionnaire. Accordingly, the emphasized factors impeding improvement of pharmaceutical export in Iran were: lack of motivation as a result of not feeling the need to change, weakness in representing quality of products by producing documentaries and obtaining international standards, shortages in the industry structure and facilities, inadequate progression in new technologies, lack of a competitive view in pharmaceutical industries, the poor share for research and development (R&D) in these companies, discordant and unstable policies and laws regarding exportation, short period of positions held by managers, lack of a vision towards exportation, shortage of experts in marketing and exportation of pharmaceuticals, lack of supportive policy-making by the government to help exportation through providing transportation facilities, insurance issues, not rewarding successful exporters, not establishing regional and international relationships, lack of prioritizing economical relationships with other countries through political negotiations, shortage in introducing Iranian pharmaceutical products to allied countries with harmonious policies, not building favorable infrastructures in the fields of information and equipment, no substantial long-term planning with an export-oriented view, no support for modernization of pharmaceutical industries, no encouraging funding in R&D section through tax breaks, inadequate provision of facilities to hold congresses, etc. Conclusion: While Iran has not experienced a successful exporting process, India, Jordan, Spain and China have taken successful steps in the field of exportation during recent years by implementing desirable exports expanding policies. It seems that disharmonies and lack of a desirable policy and insufficiencies of applied procedures are responsible for mentioned situation of Iran.

Keywords: Pharmaceutical industries, Pharmaceutical exporter, Iran, TRIPS.

1. Introduction

Pharmaceutical industries are one of the strategic industries with a special position in the world’s economy. Today, in parallel with dissolution of economical boundaries and implementation of global free trade policies, the competition to obtain and keep the markets of pharmaceutics is being intensified. The volume of the global pharmaceutical market reached 956 billion US dollars in 2011 which showed a yearly growth of 5.1% [1]. The volume of the total global pharmaceutical export has been reported to be over 585 billion US dollars in the year 2010 and of this figure more than 97.9% is the total share of the 15 top exporter countries in the world [2]. During the recent years, the course of growth of pharmaceutical products export has been quite spectacular in some countries including China, India and Jordan. The growth rate of pharmaceutical and fine chemicals products export in India has been reported to be over 28% from 2001-2005 [3]. This rate was 20% in period of 2005-2010 [4]. The counterpart growth rates for China and Jordan in the year 2010 have been 24.87% [5] and 32.7% [6], respectively. Regarding to the growth rate of some developing countries like China, India and Jordan, and a developed country like Spain, evaluation of different impacts that influence on this success is valuable for other countries to apply their experiences. Iranian pharmaceutical industries have only exported a sum of 122 million US dollars in the year 2011 [7] despite their potential, trained workforce, favorable strategic location and long term history in manufacturing pharmaceutics.

2. Experimental

The purpose of this study was to evaluate the Iranian pharmaceutical industries’ situation and identify effective factors in pharmaceutical products exportation in successful exporting countries and to compare the results with the situation of pharmaceutical industries in Iran. Regarding the factors affecting pharmaceuticals exportation, the following questions were posed to be answered:

- What are the effective factors in the growth of pharmaceutical products export of the target countries?
- Can the same factors promote the growth of pharmaceutical products export in Iran?
- What procedures can be discovered from the evaluation of target countries’ pharmaceutical industries situation which can be beneficial for Iranian pharmaceutical industries?
- Do Iranian pharmaceutical industries have the potential for massive export and holding a share in global market and?
In the present cross-sectional study, an analytic questionnaire was designed containing 32 open ended questions in 8 different fields addressing the following:

- Strengths and weaknesses points of pharmaceutical industries regarding exportation
- Exportation advantages and disadvantages of pharmaceutical industries in different sections
- Existing problems and obstacles
- Required support
- Successful exporter countries and their advantages
- Promising target markets
- Proper models for Iranian pharmaceutical industries
- Recommended procedures

Subjects of the study were 20 experts with more than 10 years managing experience in pharmaceutical industries, pharmaceutical products exporting companies and relevant governmental sections who were interviewed based on the provided questionnaire.

Relevant information regarding pharmaceutical industries and exportation of pharmaceutical products by target countries was also gathered through library and the Internet research. The selected countries were chosen according to experts' opinion for best countries to bench marking of Iran's pharmaceutical industry and export.

3. Results
The following are the policies and procedures of the countries under study regarding expansion of pharmaceutical products export:

**India**
The growth rate of pharmaceutical products export in India through the period of 2001-2005 has been reported to be over 20% and the sum of pharmaceutical products export of the country in the year 2005 has been over 2.8 billion US dollars [3]. This rate was 12% in 2010-2011 with 8.7 US billion dollars [4]. The share of exports of “Drugs, Pharmaceuticals and Fine Chemicals” in the total national exports was about 5% during 2005 – 2011 [4].

Indian pharmaceutical industry has been supported by different resources. One of the main resources is the human resources. There are 409 universities with 1162 colleges of pharmacy in India, 191 of them have masters and PhD degree with 5648 students [4].

India government has implemented some policies to facilitate the pharmaceutical export; some of them are listed below [4]:
- Participating in international cooperation events
- Leveraging inter-country partnership through memorandum of understanding for formulating greater market access to Indian pharmaceuticals in key markets.
- Formation of Pharmexcil consequent to the recommendation from 9th ‘Five Year Plan Working Group Report on Drugs and Pharmaceuticals’. The role of Pharmexcil is facilitating exports of drugs, pharmaceuticals, biotechnology products, herbal medicines and diagnostics, to name a few.
- Organization “India Pharma Summit 2011”, on 29th November, 2011 in New Delhi. The theme of India Pharma Summit 2011 was “Indian Pharma – Road Map for Global Leadership in Generic Medicines”.

**China**
The global economy has been virtually dominated by the Chinese trade in most of manufacturing sectors. China has been increasing its presence in bulk drugs and formulations segments [4]. With recovery of global market demands and revival of China’s export incentive policies, the Chinese import and export of medicines and health products swelled 24.57% in 2010 to US$60,197 million. The export surged 24.87% to US$93,733 million in 2010, while import grew 23.98% to US$20,464 million [5].

China's drug formulation export jumped 31.19% in 2010 and it was led by such export to emerging markets like ASEAN, India, Brazil and Russia with growth rates at 44.88%, 72.96%, 61.73% and 65.27% respectively. Boosted by growing manufacturing activities of multinational pharmaceutical companies in China, such exports to the EU and the USA also rose 34.32% and 25.49% in 2010 [5].

The Chinese API export was US$20,301 million in 2010, up 26.19% year on year and accounting for 51.09% of total medicine and health product exports. The average export price of API also grew 2.27% in the period. The recovery of Chinese API export last year was attributed to three major factors including:
1) Rising demand from India as it moved further downstream to drug formulations;
2) Continued penetration into the EU and North American markets; and
3) Growing demands from the emerging countries as their pharmaceutical industries develop [5].

The growth of China pharmaceutical export has been treating by some factors, among them includes improved manufacturing technologies, R&D capabilities and upgraded product pipelines of the Chinese pharmaceutical industry which have helped elevate its overall global competitiveness in the coming years [5].

**Jordan**
Jordan pharmaceutical industries with 48 years of history hold 16 companies in 2011 [6]. The sector became an export driven industry and 81% of its products exported to more than 60 countries. Jordan pharmaceutical companies have joint ventures and subsidiary companies in 8 Arab and foreign countries [8].

The pharmaceutical industry represented 7.18% of Jordan’s export base. Pharmaceutical production in 2006 valued over USD $450 million, of which USD $295 million were exports. Historically, production has been concentrated in generic pharmaceuticals [8].

The average growth rate in Jordan’s pharmaceutical export has been 10% annually through the period of 2001-2005 [8]. The favorable volume and growth in Jordan’s pharmaceutical products export relates to intra- and inter-agency factors. Skillful planning and management and performing diversity of studies to overcome the disadvantages and to help with planning and marketing are some of the intra-agency factors. Suitable geographical location, holding economic and political relations with other Arab countries, working on infrastructures, providing economical security to facilitate investment, giving facilities to production, and exerting tax breaks for production and export are some of the inter-agency factors [9].

Jordan became a member of World Trade Organization (WTO) in 2000 and started to implement Trade-Related Aspects of Intellectual Property Rights (TRIPs) agreements from the same time. Moreover, the Jordan government signed the Jordan – United States free trade Agreement (JUSFTA) and also similar contracts with European Union and Arab Union (GAFTA) [10].

**Egypt**
The Arab-African country of Egypt with a population of over 70 million people owns one of the largest pharmaceutical markets in the Middle East and North Africa (MENA) region [11]. Egyptian pharmaceutical industries with a total number of 74 manufacturing companies [11] are able to meet 90% of needs of the country [12]. For the year 2010, pharmaceutical export of Egypt has been reported as US$250 million [15]. Egyptian pharmaceutical products are exported to 81 countries, most of which being Arab and African countries [12]. Egypt is a member of WTO and pharmaceutical industry in this country obligated to follows TRIPs [13].

**Spain**
Spanish pharmaceutical industries are one of the ten main pharmaceutical manufacturers in the Europe. The Spain pharmaceutical...
production in 2012 was €14387 million [14]. In 2012, 39,932 people have been employed by these pharmaceutical industries, as compared to a figure of 26,000 in the year 1999 [14].

The growth rate of pharmaceutical industries in Spain has been 11.8% in 2001 to 18.4% in 2010 [16]. Exports of pharmaceutical products at the year-end 2011 ranked 5th place of Spanish high tech exports [16].

Iran
Pharmaceutical industries in Iran have more than 60 years history and about 15,000 employees are working in this field [17]. The value of Iranian pharmaceutical industries products has been reported to be over US$2.4 billion in the period of March 2010 to March 2011 [18].

Pharmaceutical industries of Iran provide for about 95% of the domestic needs [18]. The total volume of Iranian pharmaceutics domestic market is estimated to be over 3.5 billion US dollars [18] which can be considered a good market for domestic products considering impervious governmental control on pharmaceutical imported items. Iranian pharmaceutical products export has been reported to worth US$122 million in the year 2011 [7].

Afghanistan, Iraq, and some of the Commonwealth of Independent States (CIS) countries are the largest markets for Iranian pharmaceutical products export [7].

The pros and cons of Iranian pharmaceutical industries for exportation mentioned by the interviewees are as follows:

1. Lack of skilled companies in the field of drug exportation:
Half of the interviewees considered lack of skilled exporting companies as a weak point and believed that the existence of such companies would be necessary for the present circumstances that the manufacturing companies do not have the required power for a strong presence in exportation field.

2. Lack of trained human workforce in pharmaceutical international trade.
Sixteen interviewees considered Iranian pharmaceutical industries as weak in this field, and related this weakness to the non-exporting approach of pharmaceutical industries and lack of training.

3. Lack of professional human workforce for production of the required documentaries for export:
Seven interviewees considered Iranian pharmaceutical industries weak in this field. Other participants believed that the major weakness is caused by the lack of required motivation to provide DMF and other documentaries. India and China have worked very successfully in this field and this has been one of the reasons for their flourishing exportation, as ¾ of the DMFs approved by FDA in recent years have been from Indian companies and China owns 10% of the DMFs registered in the first three months of the year 2006 in the field of pharmaceutical raw materials [24].

4. Pharmaceutical industries’ incapability in making regional and international association:
Eight of the interviewees believed that the situation of Iranian pharmaceutical industries is weak in this field. In contrast, only one of the interviewees believed the existing situation is favorable and powerful.

5. The potential for quantitative manufacturing of marketable drugs with competing prices:
This potential was reported as strong by 12 of the interviewees and weak by only one of them.

6. The potential for qualitative manufacturing with respect to the maximum quality of the manufactured drugs (considering quality maintenance index):
Eight of the interviewees believed that Iranian pharmaceutical industries are strong regarding their potential and three of them found them as weak. Manufacturing under highest quality and quality maintenance have been subjected to adherence to GMP principles.

During the recent years effective steps have been taken in Iran by the emphasis of the Ministry of Health to follow GMP principles completely.

7. The potential for funding and establishing drug manufacturing plants in target markets:
Four of the interviewees mentioned the lack of Iranian pharmaceutical industries’ capability to establish drug manufacturing plants in the target markets. Overcoming this problem will make achieving long-term goals in exportation more accessible.

Indian pharmaceutical industries have attempted such funding in African markets in recent years.

8. The potential for manufacturing drugs with competing prices comparable to global huge exporting companies:
Five of the interviewees considered Iranian pharmaceutical industries incapable of compete with huge companies of the world in this sense. Though, six persons believed in capabilities of Iranian pharmaceutical industry.

Because of their small volume and not being well known worldwide, Iranian pharmaceutical industries may lack the capability and required prestige to compete with famous major industries of the world. Iranian pharmaceutical industries can easily take advantage of the fact that Iran is not yet a member of WTO. They can simply copy Iranian patented drugs and get a higher position in the global competition for export.

In response to another question regarding advantages and disadvantages of different fields of pharmaceutics for exportation, most of the interviewees devoted highest points to finish products and raw materials were considered to be in the second rank of significance.

Pharmaceutics accessory materials and machinery received the least level of significance.

In the field of finished products, the most important reason for the high interest was the added value of products, especially brand generic products. However, marketing and exportation of these products is subject to obtaining regional or global credibility. In the present circumstances and to sell brand drugs Iranian pharmaceutical industries have suitable credibility only in some neighboring, CIS, and African countries. Raw materials (API) have a considerable share of pharmaceutical products export. In the year 2005, they constituted 20% of the total exports [2]. Insignificance of brand for raw materials may solve the problem of their exportation to huge markets, but the enormous volume provision by China and India leads to lower expenses for these countries so that Iranian pharmaceutical industries cannot compete with the API products of these countries.

In another part of the interview the existing problems and obstacles in Iranian pharmaceutical products export and the role of different sections were evaluated; the most important items mentioned are as follows:

- The political situation and existing international problems:
The present sanction against Islamic Republic of Iran and limitations imposed on the establishment of technological and commercial relations have led to relative self-sufficiency and independence in pharmaceutics on the one hand and have hindered Iranian pharmaceutical industries in their efforts to conjoin worldwide markets. Political situation of Iran as an independent country and a pioneer in the field of challenging the imperialism is both an opportunity and a threat. Unfortunately, this situation has not been taken advantage of by Iranian pharmaceutical industries as an opportunity to have a profound attendance in the pharmaceutical markets of the countries with harmonious relationships and hence the situation has turned to be a threat to Iranian industries.

- The role of embassies and overseas commercial offices in precise and reliable exchange of data:
Iranian embassies can play an effective role in the promotion of export by providing information, establishing relationships, and facilitating commercial, economical and funding affairs. Of course, some positive changes have been made in this regard during the recent years, but there is a long way to go to reach the optimal situation (for example most of the Iranian embassies have no web site).

- Technical and technological problems:
The most important intra – agency problems of Iranian pharmaceutical industries are technological problems. There is not a strong and positive relation between universities and industries. The scientific potential is not used to solve the present technical and technological problems despite the existence of high level scientific universities. Corporate studies (universities and industries), under license manufacturing for absorption of technology, and establishing technical relationships with advanced companies with novel technologies are some of the policies experienced by pharmaceutical industries of India which can be very beneficial to promote the quality level in Iranian pharmaceutical industries.

- International regulations and conventions: Iranian pharmaceutical industries do not benefit enough from their present opportunities by their unawareness of international laws, regulations, and standards and global conventions and sometimes they even face problems because of this unawareness.
- Role of the Central Bank and economic – banking system of Iran: Governmental attempts for keeping down the exchange value of US dollar which puts the burden of giving subsidies to import and imposing extra tax on exports are examples of this kind of problems. The banking system of Iran sometimes slows down banking services relating to exportation and offers no special services or facilities to exporters.
- Role of the Ministry of Health and governmental laws and regulations: The Ministry of Health has attempted to improve the circumstances by removing some of the exportation obstacles during the recent years, although it has not been able to provide all the required supportive services yet. Instabilities in regulations, low level of regional and international relationships, and the lack of a reliable quality control system acceptable by target countries are some of the issues which can be dealt by the Ministry of Health to play a more effective role in the enhancement of exportation.

Most of the interviewees contended that the least important problems were the role of the Ministry of Commerce, the exportation laws of Iran, the role of other governmental sections and units, and the customized taxes and policies.

In the following part of the interview supportive measures were discussed which can lead to the expansion of pharmaceutical industry and exportation.

Among the suggested measures, the majority of votes favored conjunction of Iranian companies with the foreign ones and establishment of representatives. This can be done through signing joint venture contracts, manufacturing under licensed pharmaceutics, and adopting novel technologies. However, considering the limited size of Iranian pharmaceutical industries, careful considerations should be taken into account when signing these contracts so that they do not lead to the dissolution of Iranian industries in huge multinational companies.

Large domestic market, scientific potential, inexpensive trained workforce, inexpensive energy resources, and a suitable strategic situation are some of the factors which would pave the way for Iranian pharmaceutical industries to unite huge companies. Experiences of countries such as India, China, Jordan, and Egypt can be used as models in this regard.

The second suggested measure was help and support of the government for the private section. This can be very effective in enhancing the rate of exportation in the long run by increasing the manufacture share of newly founded companies with novel technologies. Considering the rapid growth of biotechnological, nanotechnological, and biomedical pharmaceutics and the increasing share of these pharmaceutics in global markets during the recent years, some successful exporters like Canada have been implementing policies to support small-sized companies which work and research in these fields. The third effective measure suggested by the interviewees is conjunction of domestic pharmaceutical companies. This is being performed in recent years through establishment of holding companies. This can lead to an increase in production potential and a decrease in negative and devastating competition which together provide the primary conditions for interaction with huge international companies and entrance to global markets.

The fourth option suggested by the interviewees was to withdraw the subsidies and let the prices be set by pharmaceutical industries; which leads to a competitive market. This may not be regarded much beneficial in the present market situation, but provided that the infrastructures would be modified and relevant policies followed, it can improve the quality and increase the motivation of foreign companies for investment.

Among the suggested measures, the least priority was given to paving the way for huge multinational companies to be present in Iranian markets. This has been experienced by Egyptian pharmaceutical industries with the entrance of seven international companies to their markets, though with no major effect in the growth rate of pharmaceutical products export.

India and China were regarded as the most successful countries in pharmaceutics exportation growth by the interviewees and the reasons for their success were mentioned as enough funding in R&D section, governmental support of exportation, production of raw materials, inexpensive workforce, export oriented approach, and establishment of appropriate reliable infrastructures.

Iranian pharmaceutical industries are not paying adequate attention to R&D section. Only 1% of the sales in Iran’s pharmaceutical industries is allocated to R&D section. This has been resulted from establishment of the generic system and imposition of governmental limitations through a long period of time which has discouraged competition and innovation. During recent years, by department of the branded generic system and extension of the domestic market the feel for need to invest in R&D section has increased among pharmaceutical companies.

Iranian government can set tax breaks to help R&D section, just similar the way Indian and Chinese governments have tried. This can guarantee the survival of pharmaceutical industries and lead to production of drugs by innovative technologies and access to new markets.

China and India were considered as the most suitable models for Iranian pharmaceutical industries by the interviewees. However, all of the countries mentioned and evaluated in this study can be a proper model from some aspects.

Favorable target markets emphasized by the interviewees were Afghanistan, Iraq, CIS, and African countries.

As the last question the interviewees were asked to name five important measures which can lead to exportation jump. Since lack of motivation and feel for the need to export were of important problems in Iranian pharmaceutical industries exportation, six of the interviewees mentioned induction of the motivation by relevant governmental and private sections, as the most important measure. Solution of existing international conflicts and problems, manufacture of under licensed pharmaceutics, signing joint venture contracts, marketing studies to keep and expand present markets, and shift of pharmaceutical industries, strategies towards exportation were the other measures mentioned by the interviewees.

In summary the following main factors are extracted:

India is one of the largest countries of the world which has showed favorable economic growth during the last decade. The growth rate of pharmaceutical industries and pharmaceutical products export in India has also been quite spectacular.

Pharmaceutical industries in India have attempted to copy and simulate plenty of patented drugs through the period of 1995-2005 and, thus, have achieved an extensive market in parallel with an increase in technological knowledge and self-confidence. This leads to an advantage other than general economic policies of the country which have led to economic growth. One of the major factors in the rapid growth in Indian pharmaceutical products export has been WTO’s 10 year deadline for India to follow TRIPS completely [4]. A lot of factors have helped improvement of Chinese pharmaceutical industry including cheap workforce, supportive policies of the government for production and exportation, increase in foreign investment, etc. Managing this factors and implementing supportive
and inspecional policies have led to improvement of China pharmaceutical industries. To perpetuate Jordan’s export growth, Jordanian pharmaceutical industries need to have a share in larger markets of the United States and Europe. This necessitates reaching qualification certificates and licenses. At present, the pharmaceutical industries of Jordan are preparing to enhance their qualitative level and to obtain the required certificates and licenses, although short marketing experience, low quality packing, and insufficient quality level are among the raised problems.

During the recent years, the situation of Egypt pharmaceutical industries has been revolutionized by implementing the policies of open door economical trade in 1991, the entrance of multinational companies into the market, being a member of WTO, and obliging the pharmaceutical industries to follow TRIPs. On the one hand these changes have provided new opportunities for these industries to attend in the regional and global markets, to increase international association, to sign joint venture contracts, and to increase the share of the private section and foreign investment. On the other hand, these modifications have raised some threats against the share of Egyptian companies in the domestic market, in case they try to continue to operate under previous procedures. Evaluation of these changes and modifications would be very much beneficial for developing countries (such as Iran) which are preparing to become a member of WTO and experience open economical trade policies.

As a member of European Union and a developed country, Spain enjoys reliable infrastructures to support its pharmaceutical industries. Some of the factors supporting these infrastructures include economic and political stability, advanced technology, and regional and global contracts. Moreover, low expenses as compared to other western European countries and favorable geopolitical situation of the country which facilitates access to European, North African, Middle East, and South American markets has attracted multinational companies to invest in Spain.

Iranian pharmaceutical products export has been reported to worth 122 million in the year 2011 [7]. Although this figure shows a considerable growth as compared to 2006 (66 million US dollars [7]), it cannot be regarded favorable considering the high potential of Iranian pharmaceutical industries, their long history, trained workforce, suitable geopolitical situation, etc.

Considering the conditions mentioned in this study, numerous intra- and inter-agency factors are involved in determining the course of success for Iranian pharmaceutical industries in exportation.

- Some of the most important intra-agency factors are: lack of motivation as a result of not feeling the need to change, weakness in representing the quality of products by producing documentaries and acquiring global standards, shortages in the structure and facilities, inadequate progression in new technologies, lack of a competitive view in pharmaceutical industries, the poor share for R&D in these companies, discordant and unstable policies and laws regarding exportation, short period of positions held by managers, lack of a vision towards exportation, shortage of expert workforce in marketing and exportation of pharmaceutics.

- Among extra- agency factors, some of the most important ones which can promote exportation include: supportive policy-making by the government to help exportation through providing facilities for transportation, insurance, rewards for successful exporters, establishment of regional and international relationships, prioritizing economical relationships with other countries through political negotiations, introduction of Iranian pharmaceutical products to allied countries with harmonious policies, building favorable infrastructures in the fields of information and equipment, substantial long-term planning with an export-oriented view, modernizing pharmaceutical industries, encouraging funding in R&D section through tax breaks and enough provision of facilities to hold congresses, affairs, etc.

Modification and improvement of these factors can improve the exportation situation of Iranian pharmaceutical industries and lead to an exportation jump.

4. Conclusion

Iranian pharmaceutical industries have gone through experienced extensive growth and progression during recent years by benefiting from a long-term history and high scientific potential. Geographical location of Iran, neighboring Iraq, Afghanistan and CIS countries, and the needs of these countries for pharmaceutics have provided a very good situation for Iranian pharmaceutical industries in the field of exportation. However, growth of these industries towards well known and successful exporters needs national decision-making and improving intra- and inter-agency infrastructures.

A few opportunities are in front of Iranian pharmaceutical industries at the present:

The first opportunity results from the location of Iran as a neighbor with the aforementioned countries and existence of favorable economic and political relationships with African and other developing countries. Iranian pharmaceutical industries can take advantage of this opportunity to start exportation and entering global markets. The second opportunity results from the fact that India and China have been obliged to follow TRIPs and hence do not have the right to copy the branded products of other companies as from the year 2005. Iranian pharmaceutical industries can use the situation to copy pharmaceutics considering that they have the required technological knowledge and the fact that Iran is not a member of WTO. This will lead to growth and progression in Iranian pharmaceutical industries and will also open new markets to these industries. The experience of Indian pharmaceutical industries can be used as a model in this regard. The third opportunity is to manufacture biotechnological products by novel technology. The manufacture of such products is a privilege exclusive to a few countries and a few companies in the world; other countries are discouraged in this field by limitations imposed by following TRIPs or lack of required scientific potential. All this has provided an opportunity for Iranian pharmaceutical industries to invest in the manufacture of the novel pharmaceutics and introduce themselves as manufacturers and exporters of these products with a high jump. Of course, political decision makings can also help the industries in marketing their biotechnological products. However, building suitable infrastructures is a necessary prerequisite in this regard. Where it concerns pharmaceutical industries, enhancement of the GMP level and provision of documentaries are among primary prerequisites.

The government can also help the formation of inter-agency infrastructures through different facilitating policies; negotiations with relevant countries and signing contracts to facilitate pharmaceutics exportation to these countries, supporting facilities to hold congresses, fairs, seminars, etc. in target countries, encouraging investments in exportation, and compensation of possible damages and losses are some of the examples.

Based on the present study and evaluation and comparison of conditions and procedures experienced in the aforementioned countries, it seems that Iranian pharmaceutical industries are in a tender situation; by a wise and accurate decision making, they can make a high jump and unite join to the global market and interact with huge pharmaceutical industries of the world or by negligence, pave the way for their own collapse. Of course more detailed studies on experiences and conditions of the countries under discussion are necessary to find more practical approaches.

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