
From Self-Sufficiency to Regional Leadership in the Pharmaceutical Industry in Algeria: The Experience of the Sidal Group

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Received: 26/01/2026

Accepted: 26/02/2026

Published: 31/05/2026

Abstract:

This study examines the development of the pharmaceutical industry in Algeria, focusing on its transition from import dependence to self-sufficiency and regional ambition. It highlights the growing role of domestic production in strengthening economic and health security. The paper analyzes the contribution of generic medicines despite existing structural and regulatory constraints. It also reviews public policies aimed at upgrading infrastructure and improving regulatory frameworks. Particular attention is given to market fluctuations and domestic demand coverage. The findings show a significant increase in local production capacity. The Sidal group's experience illustrates this industrial progress. Overall, Algeria has reduced import dependence and enhanced national pharmaceutical coverage.

Keywords: pharmaceutical industry; generic products; drug production; saidal; health security

Jel Classification Codes : L1 ; L15 ; Q15 ; H51

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1. Introduction :

The pharmaceutical sector is one of the sensitive sectors in which the state must achieve its economic security, given its prominent importance in ensuring primary health care and, consequently, achieving health security and pharmaceutical security. In light of the challenges facing investment in the pharmaceutical sector in Algeria, the local market possesses advantages that enable it to meet national needs for medicines, and it has also experienced growth in recent years. The pharmaceutical industry in Algeria has witnessed growth thanks to government policies supporting local investment and the increase in international partnerships, in addition to the emergence of the private sector as a key actor. These transformations have enabled Algeria to move from being merely an importing country to a producing country seeking export and regional leadership.

1.1. Research Problem:

The research problem lies in the extent to which the pharmaceutical industry in Algeria, based on the experience of the Sidal Group and the growing role of the private sector and foreign partnerships, has been able to move from a logic of covering the basic needs of the national market to building the foundations of regional leadership in the field of medicines and pharmaceutical products.

From this problem stem the following sub-questions:

1.2. Sub-questions: What are the main stages in the development of this sector since independence?

- What is the role of the legislative framework, public policies, and international partnerships in enhancing health security and reducing pharmaceutical dependency?
- What are the prospects for promoting pharmaceutical exports to the African and Arab spaces in light of current transformations?

1.3. Study Hypotheses:

To answer the research problem and the sub-questions, the following hypotheses were formulated:

- The pharmaceutical industry sector in Algeria has gone through pivotal stages in which the Sidal Group played a locomotive role in localizing drug production and strengthening pharmaceutical security.
- The legislative framework and public policies have contributed to increasing local production and relatively reducing the pharmaceutical import bill, thereby enhancing health security.

1.4. Study Objectives: This study aims to:

- Diagnose the development of the pharmaceutical industry in Algeria since independence, with a focus on the pivotal stages in the trajectory of the Sidal Group.

- Analyze the impact of public policies and regulatory reforms on the growth of local production and the reduction of the pharmaceutical import bill.
- Highlight the role of foreign partnerships and the private sector in technology transfer, expanding pharmaceutical supply, and improving coverage of national demand.
- Anticipate the prospects for achieving regional leadership through increasing exports and deepening integration into pharmaceutical value chains at the regional and international levels.

1.5. Methodology of the Study:

This study adopts a descriptive-analytical approach based on the analysis of available quantitative and qualitative data on the development of the pharmaceutical industry in Algeria, with the Sidal Group adopted as a main case study in view of its central position in the national pharmaceutical market. The study also relies on a review of official reports issued by relevant public bodies, in addition to previous academic studies that addressed the pharmaceutical industry and foreign direct investment in this sector, allowing for the construction of a comprehensive vision of the transition path from self-sufficiency to a project of regional leadership.

2. HISTORICAL BACKGROUND OF PHARMACEUTICAL GROWTH IN ALGERIA

The development of the pharmaceutical sector in Algeria after independence went through a series of transformations that can be grouped into two main phases, each characterized by different organizational and economic features and by a specific map of actors.

2.1. Phase of State Dominance over the Sector (1963–1990)

During the first phase, pharmaceutical activity was almost entirely subject to state monopoly through the Algerian Central Pharmacy, established in 1963 to replace foreign operators. It took over the operation of warehouses and pharmacies left by the colonizer, and was later entrusted with the direct management of production, importation, and wholesale distribution operations under the supervision of the Ministry of Public Health, pursuant to Order No. 69-14 dated March 25, 1969, and Decree No. 77-6 issued on January 30, 1977, regulating its basic statute.

This legal framework defined a set of tasks, including ensuring the supply of the country with products of a medical nature, especially medicines, and organizing their distribution to health institutions and authorized public pharmacies, in addition to preparing periodic and medium-term programs for importation and production in a manner that ensures continuity of supply and supports free treatment through the provision of essential medicines and bringing them closer to citizens by establishing public pharmaceutical agencies in various municipalities. It also aimed at the gradual development of a national pharmaceutical industry within the framework of the National Medicines Code.

In the years immediately following independence, drug manufacturing activity remained limited to two laboratories, Pharmal and Biotic, which Algeria inherited from the colonial period. The Central Pharmacy began gradually acquiring their assets from 1971 until full ownership was completed in 1976. The production base was also expanded through the establishment of the El Harrach plant in 1971 and a unit specialized in the production of antibiotics in Médéa, whose construction began in 1967 and which entered actual operation in 1987.

Despite these efforts, the industrial fabric remained weak and production capacities limited, which kept Algeria largely dependent on imports to meet patients' needs for medicines, while ensuring the availability of adequate quantities of medicines remained a strategic objective for the health authorities.

Starting in 1982, the Central Pharmacy, like other public sector institutions, underwent an organizational restructuring aimed at simplifying tasks, promoting decentralization in storage and distribution functions, and separating production from marketing functions. This process resulted in the creation of several specialized entities, including the National Pharmaceutical Production Enterprise, the National Enterprise for the Importation of Medical Devices and Supplies, as well as three regional enterprises responsible for supplying health facilities and pharmacies with medicines in the eastern, western, and central regions.

2.2. Phase of Gradual Opening of the Sector (since 1990).

With the beginning of the 1990s, the pharmaceutical industry entered a new phase characterized by gradual liberalization from public monopoly and adaptation to comprehensive economic reform options. The state began dismantling the logic of monopoly and opening up to the participation of the national and foreign private sector in activities related to medicines. This shift coincided with the liberalization of foreign trade, the enactment of the Monetary and Credit Law 90-10, and the adoption of new legislation to encourage investment, which allowed private actors to enter the fields of drug importation, wholesale distribution, and even production. This phase was also accompanied by the emergence of new specialized institutions such as SIMEDAL in importation, DIGROMED in wholesale supply, and ENDIMED in the retail distribution network, in addition to the expansion in the number of private operators in the market.

During this period, the pharmaceutical industry experienced clear dynamism, reflected in the efforts of health authorities to regulate the technical and organizational framework of the opening of the drug market, and in the rapid increase in the number of private operators in importation and distribution, to the extent that the private sector gradually came to control a significant share of the market. This led to a decline in the role of several public institutions that had previously been responsible for importation and distribution functions.

2.2.1. Development of the Sidal Industrial Group:

The sector reform process coincided with profound developments in the status of the Sidal Group, which gradually transformed into a central actor in the pharmaceutical market in Algeria. The transition to a market economy prompted the group to reconsider its organization and industrial and financial structures in line with a more open competitive environment. The main historical milestones in its trajectory can be summarized as follows (Saiti A. B., 2010, p. 216):

- 1963:** Establishment of the Algerian Central Pharmacy (PCA) based on the structures left by the colonizer, including public warehouses and drug depots, in the absence of a national pharmaceutical industry.
- 1969:** Assignment of monopoly tasks for the importation, manufacture, and marketing of human pharmaceutical products to the Central Pharmacy pursuant to regulatory texts, along with the initiation of building production capacities through the establishment of the El Harrach unit in 1971.
- 1982:** Transformation of the Central Pharmacy into the National Pharmaceutical Production Enterprise (ENPP) under Decree 82/161, and its placement under the supervision of the Ministry of Energy and Chemical and Petrochemical Industries, paving the way for the emergence of the industrial designation "SAIDAL."
- 1989:** Transformation of Sidal into a public economic enterprise enjoying managerial autonomy in accordance with the Law on the Autonomy of Enterprises, while maintaining its pivotal role in the production and distribution of medicines and pharmaceutical products, and adopting the form of a joint-stock company under the oversight of specialized public funds.
- 1993:** Introduction of amendments to the legal framework allowing the group to participate in new industrial and commercial projects and establish subsidiaries, in addition to benefiting from a financial reform that included the state's assumption of part of its debts and losses within the restructuring of public sector enterprises.
- 1997:** Restructuring of Sidal and its transformation into an integrated industrial group, with investments directed toward antibiotics at the Médéa unit and improvement in performance indicators in terms of production and sales compared to 1996.
- Late 1990s and early 2000s:** Expansion of the group's activities toward basic research and development in human and veterinary medicine, and its adaptation to the liberalization climate following the liberalization of foreign trade and the activation of monetary and investment laws, which encouraged the entry of the private sector into importation, distribution, and pharmaceutical manufacturing activities.

These transformations, along with the issuance of regulatory texts governing the licensing of pharmaceutical production and distribution, led to the emergence of a gradually growing private pharmaceutical sector. By the end of the 1990s, the private sector consisted of 31 companies (laboratories), of which 18 were engaged in manufacturing and 13 were limited to packaging, while 64 companies specialized in drug importation. The sector

came to include dozens of private enterprises operating in manufacturing, packaging, or importation. The number of investment projects registered in the pharmaceutical industry with the National Investment Development Agency during the period 2002–2012 reached 130 projects with a value of 71,478 million DZD, contributing to the creation of 8,802 jobs and strengthening the national production base.

2.2.2. Definition of the Sidal Group and Its Current Status:

The Sidal Group is currently classified as a joint-stock company with a share capital of 2.5 billion Algerian dinars, and its shares have been offered for subscription on the Algiers Stock Exchange since 1999. It obtained ISO 9001 quality certification (2000 version) in 2005 from the French audit and quality body. The mission of the group is to develop, produce, and distribute medicines intended for human and veterinary use, and its operations are based on a set of organizational values, notably loyalty, commitment, trust, and discipline. Its turnover amounts to approximately 9.9 billion Algerian dinars, with a production capacity of about 128 million finished units, and a range exceeding 300 commercial products covering more than 70% of the needs of the national pharmaceutical market. It employs more than four thousand workers across six factories distributed over different provinces and equipped with modern technologies, enabling it to produce various pharmaceutical forms such as tablets, ointments, solutions, and syrups (Boubaa, 2017-2018, p. 160). All these factors are likely to enable the construction of a national development strategy and to contribute effectively to the establishment of a successful national pharmaceutical industry.

The national pharmaceutical industry is subject to the supervision of several official bodies, foremost among them the Ministry of Health, the Ministry of Labor and Social Security, and the National Laboratory for the Control of Pharmaceutical Products. These bodies perform essential regulatory and supervisory roles with regard to drug registration and licensing, price regulation, and reimbursement systems. Within this framework, public and private actors coexist across different levels of the value chain, including production (led by Sidal and some other public institutions), wholesale distribution, retail supply, as well as private institutions for pharmaceutical trade and manufacturing, giving the Algerian pharmaceutical market a complex character in which public and private dimensions intersect (Haddad & Benkedidah, 2024, p. 490)

In this field, there are two types of public operators divided into four levels: the production level, represented by Sidal and the Enidimed enterprise entrusted with managing the network of public pharmacies, the Central Pharmacy for Hospitals, as well as private operators, who are divided into pharmaceutical trading enterprises and pharmaceutical manufacturing enterprises (Hattab & Gourichi, 2019, p. 71)

3. DEVELOPMENT OF LOCAL PRODUCTION AND COVERAGE OF THE NATIONAL MARKET.

Drug consumption in Algeria has experienced remarkable growth over recent decades. It was estimated at approximately 500 million USD in 1995, rising to about 1.6 billion USD in 2007, corresponding to an average annual growth rate of around 10%. This development is mainly attributed to several demographic and health-related factors, including population growth, which exceeded 34 million inhabitants in 2008, and changes in the age pyramid due to declining birth rates and the rising proportion of elderly groups, in addition to the increasing prevalence of chronic and modern diseases such as cardiovascular diseases and cancer, alongside the continued presence of infectious diseases. This situation resulted in growing pressure on pharmaceutical demand. The quasi-free treatment system in public hospitals, despite some adjustments imposing symbolic contributions to examination and hospitalization costs, also contributed to expanding the base of pharmaceutical consumption, especially since emergency cases and major surgical procedures remain largely subsidized.

In addition, the national drug reimbursement system played an important role in increasing consumption, as social security expenditures allocated to medicines reached about 70 billion DZD in 2008, representing an increase of nearly 9% compared to 2007, with reimbursement rates ranging between 80% and 100% for certain therapeutic categories. This encouraged patients to resort to medicines on a regular basis (Sedouki, 2010-2011, p. 99)

National production also benefited from organizational and technical improvements, including better availability of raw materials and the adoption of multi-shift work systems (8×2 and 8×3) in some major production units, in addition to the efforts made by workers and managers of national pharmaceutical groups (Boubaa, 2017-2018, p. 192)

In this context, the Algerian pharmaceutical market is currently classified among the most important African markets, ranking third after South Africa and Egypt, and occupying an advanced position in the Middle East and Africa region, with annual sales estimated at about 3 billion USD and 50 million euros in exports of medicines and pharmaceutical products in 2022 (Ferhi, 2023, p. 201). Although Algeria's contribution to the growth of the global pharmaceutical market remains weak, it represents one of the main sources of growth in the Arab and African region alongside Egypt and South Africa. The contribution of these three countries to the growth of the AFME pharmaceutical market in 2011 reached 13%, 20%, and 26%, respectively. (Kattaf, 2016, p. 326)

These indicators show that the pharmaceutical market in Algeria is a promising market with significant opportunities for developing an export-oriented pharmaceutical industry, making it an attractive field for foreign companies. However, this development still depends to a considerable extent on the public group Sidal, which remains the main actor in national production without being able alone to cover total demand, especially in light of the increasing authorization granted to the private sector to import and enter manufacturing activities, and the resulting intense competition in the pharmaceutical market.

Article From Self-Sufficiency to Regional Leadership in the Pharmaceutical Industry in Algeria: The Experience of the Sidal Group Title

Despite the emergence of many private laboratories, the Sidal Group remains a central pole in the national pharmaceutical industry, particularly with the orientation toward supporting local production and reducing imports. Public policies during the period 2010–2020 contributed to stimulating investments in the sector, as reflected in data on the evolution of the total value of local production, which showed a notable upward trend, with some fluctuations linked to technical shutdowns for the re-equipment of certain units and the restructuring of the group. Positive surges in production were associated with the reduction of the list of imported medicines and restrictions on the importation of locally produced items, which increased demand for national pharmaceutical products, especially during the COVID-19 pandemic, when the role of local production in ensuring pharmaceutical security was strengthened.

Data related to the pharmaceutical bill also indicate that the value of consumption of locally produced and imported pharmaceutical products has continued to rise. The pharmaceutical bill—representing about 91% of the total pharmaceutical products bill—reached nearly 2.08 billion euros in 2015, of which 1.5 billion euros were allocated to imported and packaged medicines (about 55%) and 1.3 billion euros to locally manufactured medicines (about 45%) (Mekerttar, 2018, p. 134). It is observed that the share of local production nearly quintupled over ten years in value terms, in parallel with growth in produced quantities, which reached about 700 million boxes in 2015, including 400 million boxes produced locally compared to 300 million imported boxes, reflecting a gradual shift in favor of national manufacturing. Despite the doubling of the total pharmaceutical bill over a short period, available indicators show an improvement in the weight of local production, with an increase of about 10.36% between 2014 and 2015, مقابل a decline in import value for the first time by 3.24% during the same period, as a result of a series of regulatory measures, most notably the inclusion of a list of medicines banned from importation if they are produced locally.

In the medium term, public authorities aim to reach an internal coverage level of approximately 70% of market needs through national products. A total of 246 investment projects in the pharmaceutical industry were registered up to the end of 2015, including 183 projects for drug production to be added to 147 existing units, among which 80 units are specialized in manufacturing.

By 2025, this trajectory made it possible to reach a coverage rate estimated at about 76.81%, with expectations of exceeding the 80% threshold in the coming years. This had a positive impact on reducing imports and strengthening national health security, particularly with regard to generic medicines and treatments for chronic diseases. The following table illustrates the evolution of local drug production from 2010 to 2020.

Table (1): Evolution of Local Drug Production 2010–2020

Years	Billion DZD	Years	Billion DZD
2010	59790	2016	245150
2011	63570	2017	280680
2012	8096	2018	124404
2013	150109	2019	121893
2014	170788	2020	332227
2015	232172		

Source: Kadouri Asmaa; Yousfi Rachid, Modernization of the Pharmaceutical Industry in Algeria: Reality and Prospects, Budex Note Magazine, Volume14 , issue 1, 2025, p. 13.

Data on the evolution of the current value of local pharmaceutical production over the period 2010–2020 show a clear upward trend with some fluctuations in the middle of the period. The value of production amounted to about 59.790 billion DZD in 2010, rising to 63.570 billion DZD in 2011, then jumping to 80.096 billion DZD in 2012. Subsequently, the following years witnessed sharper growth, with the value reaching approximately 150.109 billion DZD in 2013 and 245.150 billion DZD in 2016, to reach its peak at nearly 280.680 billion DZD in 2017.

However, this upward trajectory experienced a relative decline in 2018 and 2019, as the value of production decreased to about 124.404 billion DZD and 121.893 billion DZD, respectively. This is linked to a set of organizational and technical factors, before the indicator rose again in 2020 to reach approximately 332.227 billion DZD. Overall, this development reflects a general trend toward strengthening local production capacities and expanding the contribution of national industry to meeting pharmaceutical demand, despite some temporary interruptions related to the restructuring of units or market conditions.

3.1. Investment in Raw Materials and Specialized Medicines

The pharmaceutical industry in Algeria has experienced a qualitative shift in recent years, particularly since 2008, after the public authorities adopted a decision to ban the importation of a number of pharmaceutical products manufactured locally. This measure stimulated investment in national production units. As a result of this dynamism, Algeria now includes more than one hundred drug manufacturing plants covering different stages of the value chain, from the formulation of raw materials to the final product, with the launch of new projects aimed at manufacturing certain raw materials domestically in the coming years, particularly those related to complex treatments such as anticancer drugs (Ramadan, 2023, p. 85).

In this context, Algeria is working to reduce its dependence on the importation of raw materials through the establishment of specialized units for producing raw materials used in drug manufacturing, especially anticancer drugs, in addition to initiating the development of production lines for biological medicines such as anticoagulants and insulin. This orientation contributes to strengthening the autonomy of the national pharmaceutical industry and supports its sustainability in the long term.

Among the most prominent projects in this field is the insulin production project carried out by the Sidal Group.

3.1.1. Sidal Insulin Project with Sanofi Aventis:

This is a project specific to the local Algerian public investor Sidal, implemented at its Pharmal subsidiary at the Constantine plant through the direct purchase of the technical file from its competitor Sanofi Aventis, represented by two main contracts: a technology transfer contract based on transferring insulin production technology as is, and a technical assistance contract that includes the support of foreign experts and the training of Sidal executives across the various stages of the production process. The project was implemented on Algerian territory under technical supervision by the parent company, ensuring compliance with international standards in this field.

Today, the pharmaceutical industry has become one of the main pillars of the concept of national health security, as the continuous availability of essential medicines at affordable prices is linked to the state's ability to develop a local production base that reduces vulnerability resulting from disruptions in global supply chains. Recent health crises have revealed the sensitivity of excessive reliance on imports, which has prompted many countries, including Algeria, to adopt policies that encourage local pharmaceutical production, technology transfer, and the development of export capacities toward regional markets, considering that pharmaceutical sovereignty has become an important component of economic sovereignty and a tool for protecting national health security.

3.2. Partnerships and International Cooperation.

On the other hand, the Algerian market has become attractive to major global pharmaceutical groups, foremost among them the French Sanofi Group, in addition to other industrial groups belonging to Big Pharma such as GSK and Novo Nordisk, as well as regional Arab companies such as El Kendi and Hikma Pharma, and local companies, notably Biopharm, Merinal, and Pharmalliance (Ferhi, 2023, p. 202). These actors have developed a strong presence in the national market, reflecting the openness of the Algerian pharmaceutical industry to multiple forms of industrial and commercial partnership. Within this framework, the Sidal Group is present as a principal or majority shareholder in a number of companies, some of which have entered the operational phase while others are still under construction, in addition to minority shareholdings in other specialized companies. The forms of

cooperation between Saidal and its partners vary between joint ventures, licensing agreements, contract manufacturing under license, and technology transfer agreements. Several criteria are taken into account in the selection of partners, including credibility, commitment, compatibility, and mutual trust. Projects related to the production of insulin and anticancer drugs constitute prominent examples of partnerships with a strategic dimension, both in terms of the sensitivity of the products and their impact on reducing external dependency.

Partnerships with global and regional companies have also contributed to launching new investments, such as the cooperation with Hikma Pharma in 2024, which enabled the establishment of units for the production of injectable medicines with a production capacity reaching 10 million vials per year. This is in addition to Algeria's efforts to strengthen cooperation with countries possessing expertise in vaccines and pharmaceutical research, such as Cuba. These projects, besides supporting self-sufficiency, open promising prospects for exporting medicines to African and Arab markets.

At the level of forms of foreign direct investment, the trajectory of the Saidal Group reflects a diversity of applied formats (Saadi & Menassera, 2019, p. 59):

3.2.1. Akdima – Simaco – JPM:

This partnership, concluded in 1999 between Saidal and Akdima (the Arab authority), Simaco (Saudi Arabia), and JPM (Jordan), led to the creation of the company TAFCO for the manufacturing, marketing, and importation of pharmaceutical products, with the aim of establishing a plant specialized in solid dosage forms in the Rouïba–Reghaïa area. Construction works resumed in 2010 after a nine-year interruption, and the plant was commissioned in 2015.

3.2.2. Julphar – Gulf Pharmaceutical Industries:

An Emirati laboratory that is a leader in the pharmaceutical industry in the Middle East and North Africa, Julphar has a diversified portfolio of high-quality generic medicines covering major therapeutic areas (endocrine diseases, diabetes, cardiovascular diseases, gastrointestinal diseases, kidney diseases, dermatological and respiratory diseases, and gynecology). The partnership was recently concluded through the merger of Julphar with the capital of Ibiral (a Saidal subsidiary), which owns a partially completed production unit.

3.2.3. North Africa Holding Company:

A Kuwaiti investment company operating in North Africa across several sectors, including healthcare services, education, retail trade, real estate development, banking operations, insurance, and other investment activities. North Africa Holding Company previously invested in the field of oncology through OMC United Medicam, which manages the first center for the manufacture of anticancer products in the Middle East and Morocco. This partnership aims to establish a new company, Saidal – North Africa Manufacturing (SNM), whose mission

will be the establishment of a unit specialized in the development, manufacturing, and marketing of anticancer products.

3.2.4. Sidal – Novo Nordisk:

A global health specialist, Novo Nordisk is a world leader in innovation and has been a global leader in the treatment of diabetes for more than 90 years. The company also holds a leading position in the fields of hemophilia and hormone replacement therapy. Headquartered in Denmark, it employs about 40,700 people in 75 countries and markets its products in more than 180 countries. Its shares are listed on the Copenhagen Stock Exchange, and it also has American Depositary Receipts listed on the New York Stock Exchange. The technological, industrial, and commercial partnership concluded in 2012 aims at the production of all forms.

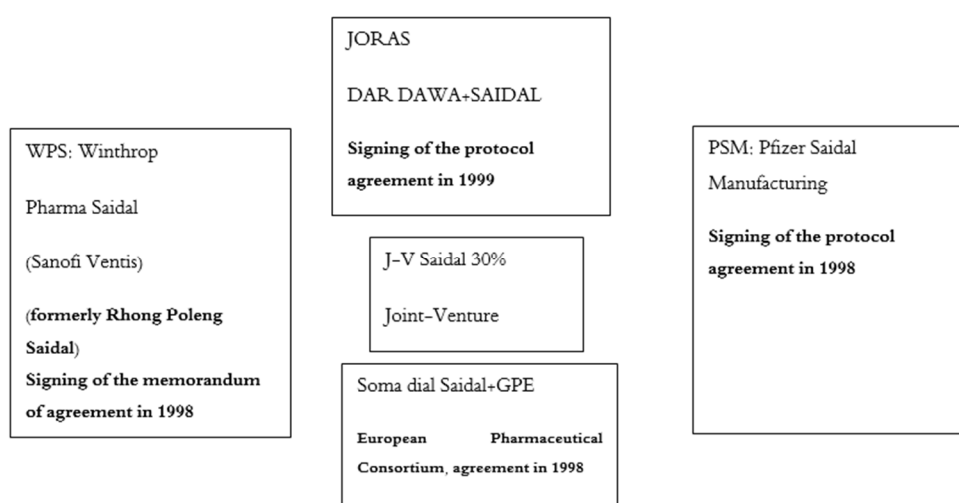
3.3. Foreign Direct Investment:

In addition to joint projects, the Sidal Group has relied extensively on four forms of foreign direct investment present in the Algerian pharmaceutical industry, implemented by the public industrial group Sidal with global partners. These forms mainly include: completed joint projects, licensed contract manufacturing agreements, the purchase of technical assistance from foreign laboratories, and other forms of industrial cooperation (Yahiaoui, 2017, p. 139).

3.3.1. Completed Joint Projects:

The year 2002 marked the beginning of the operation of the following four projects, as illustrated in the figure below:

Figure No. (1): Completed projects between the Sidal Group and its foreign partners since 1998



Source: Hasnia Yahiaoui, The Reality of Foreign Direct Investment in the Algerian Pharmaceutical Industry, Majami' Al-Ma'rifa Journal, Issue 05, October 2017, p. 139.

The first completed joint projects were launched in 2002, when four projects entered into operation, as illustrated in Figure No. (1) relating to the projects completed between the Saidal Group and its foreign partners since 1998. It is noted that Saidal's shareholding did not exceed 30% in all these projects, which limited its involvement in the management and administration of the joint companies, despite all of them having entered the phase of effective production in 2002.

The Joras (Algeria–Jordan) project represents a prominent example of the success of joint projects, as the success of this type of partnership depends on several factors, including the introduction of technology, the existence of mutual trust between the two partners, the availability of highly qualified human resources, and the continuity of the project's activity. Joras is the first Arab joint project established by the Saidal Group, and it succeeded in covering part of the needs of the national market despite the recorded shortcomings, particularly the weak utilization of the enterprise's production capacity. Its theoretical capacity amounted to about 6 million sales units per year, whereas actual production ranged between 300,000 and 500,000 units only.

Joras experienced genuine cooperation with Saidal, manifested in the analysis of raw materials at the group's research and development laboratory. It also contributed to completing Saidal's product range, since the latter did not produce eye drops, making Joras the sole producer of eye drops in Algeria in 2007, with a share of approximately 55%, thus competing with other pharmaceutical products. This reflects the positive impact of local production resulting from this Arab partnership. However, this successful experience did not continue, as the partnership activity was suspended in March 2013, raising the issue of the sustainability of joint projects in the sector.

3.3.2. Licensed Manufacturing Contracts (Industrial Subcontracting):

Licensed manufacturing contracts, also known as pharmaceutical formulation contracts, constitute one of the most important forms of partnership between the Saidal Group and foreign or local institutions. They allow the manufacture of partners' medicines within Saidal's factories on their behalf, benefiting from the availability of industrial equipment and qualified skilled labor. Under these contracts, agreements are concluded on the various production operations, prices, and deadlines specified in the contract, while Saidal benefits from financial returns and the products carry its trademark when marketed on the local market (such as manufactured by Saidal on behalf of GSK or on behalf of Aventis).

This form of partnership enables the Saidal Group to increase the efficiency of its pharmaceutical production equipment and to acquire practical know-how from foreign laboratories at a lower cost, in addition to expanding its product range through the manufacture of new medicines while benefiting from the marketing dimension of its brand. These contracts also help build gradual trust between Saidal and its partners over the long term. The

group has concluded several contracts of this type with global companies such as Novo Nordisk, Pfizer, Génier Yclab, Dar Al Dawa, Sanofi, and others.

3.3.3. Purchase of Technical Assistance and Technology Transfer:

The purchase of technical assistance from foreign laboratories represents another form of investment, whereby technology is transferred as is, directly, without introducing major modifications, within the framework of genuine industrial cooperation agreements. In this type of project, the foreign partner does not necessarily hold capital in the project, which limits the autonomy of the local subsidiary of the multinational company vis-à-vis the parent company. Nevertheless, it plays a pivotal role in selling the technology and training local competencies on how to apply it, given that it is complex and sensitive technology.

The Sidal Group experienced this mode of cooperation through the signing of two contracts with the French laboratory Sanofi Aventis (a technology transfer contract and a technical assistance contract) to implement the insulin project in 2004, following the failure of an earlier attempt to carry it out within the framework of a previous partnership with the Danish Novo Nordisk and the French Pierre Fabre in 1999. This cooperation between Sidal and Sanofi Aventis is considered a strategic alliance for several reasons, including the fact that Novo Nordisk is a direct competitor of Sanofi in the global insulin market and the primary supplier of this strategic product to the Algerian market; nevertheless, both parties managed to establish cooperation in the sensitive field of local insulin production.

3.3.4. Agreements and the Strategic Dimension:

Table No. (2) below presents the various manufacturing agreements concluded by the Sidal Group with a number of international partners during the period extending from 1997 to beyond 2020, such as Mepha, Sanofi Aventis, Dar Al Dawa, Novo Nordisk, Pfizer, Biotechnica, CKDOTTO Pharm, and others. These agreements reflect the group’s orientation toward adopting diversified partnership strategies in order to adapt to a dynamic and competitive environment and to anticipate expected changes, enabling it to seize opportunities and reduce the intensity of threats (Ben Maamar, 2019-2020, p. 20).

Table No. (2): Manufacturing Agreements of the Sidal Group

Partner	Origin	Date	Products
Pfizer	USA	1997	07
Novo Nordisk	Denmark	1997	01
Medi Cube	Cube	1997	04

Ram Pharm	Jordan	1997	03
Hayat pharm	Jordan	2001	04
Dar Al Dawa	Jordan	2002	07
Eli lilly	USA	2002	02
Sanofi AVENTIS	France	2003	09
Mepha	Switzerland	2004	03
Abolmed	Russia	2004	04
Bio technica	Tunisia	2004	03
Solvey pharm	France	2004	02
Meheco	China	2005	03
Servier	France	2014	ND
Ckdotto pharm	Korea /Indonesia	2020	06
Novo Nordisk	Denmark	2024	01

Source: Ikram Ghomri; El-Aid Gourichi, The Importance of Foreign Strategy for Pharmaceutical Institutions: A Case Study of the Sidal Group, Economic Research, Issue 01, 2022, p. 87.

3.4. Role of the Private Sector

The Algerian private sector plays an increasingly important role in the pharmaceutical industry, as it includes around 200 production units contributing approximately 70% of the coverage of national demand for generic medicines. In recent years, a number of enterprises have also entered the field of generic medicines as well as complex and innovative medicines, reflecting an advanced level of maturity in technical and managerial capacities. Despite the relative novelty of this sector—since it was only opened to investment in the production, importation, and distribution of pharmaceutical products starting in 1991—the number of its enterprises increased from only 31 institutions in 1999 (18 specialized in drug manufacturing and 13 in packaging materials) to a wide network that today covers a significant share of national production. Despite its recent emergence, the sector has managed to cover a substantial proportion of national production, reaching about 38.4% within a relatively short period, reflecting its dynamism and capacity for development. Among the most important of these institutions are the following:

- **LADPHARMA:** One of the oldest private laboratories in Algeria, established in 1985 in the Wilaya of Blida under the name “Dr. Djebbar Laboratories”, later developed under the designation Pharmaceutical Development Laboratories. The laboratory currently produces about 34 pharmaceutical products, including steroid hormones, venous stimulants, antibiotics, and anti-cough medicines. However, its

estimated production capacity of around 15 million sales units per year is utilized at only about 20%, indicating a large margin for improving the use of available capacities.

- **BIOPHARM Company:** Began its activity in 1994 in the Wilaya of Constantine by producing a limited number of medicines initially, such as paracetamol and some syrups, before later expanding its product range as part of the development trajectory of the private pharmaceutical industry in Algeria.
- **ALPHARM Laboratories:** Started its activity in pharmaceutical product distribution in 1993, then moved into importation, before launching, in June 1999, the production of a diversified range of medicines distributed across approximately 45 therapeutic categories in several fields, reflecting a gradual transition from distribution to manufacturing.
- **PRODIPHAL Enterprise:** Established in 1995 as a private Algerian company and employs about 40 workers. It represents a model of small and medium-sized enterprises that contribute to enriching the national pharmaceutical industrial fabric despite their limited size.
- **Algerian Medicines Laboratory (L.A.M):** Obtained pharmaceutical production accreditation in 1991, and by 1998 managed to produce nine types of syrups, six types of eye-wash drops, and three types of tablets and capsules, with distribution of its products through its network (COPHAB) and in cooperation with the public enterprise for drug distribution (DIGROMED) under regulatory contracts.
- **Algerian Pharmaceutical Laboratory (L.P.A):** A private company with a share capital estimated at 1.1 billion dinars, employing about 1,000 workers. It combines production and import activities and includes four production units with a total capacity of up to 86 million sales units per year. It is considered one of the largest private importing companies, relying on diversified partners: 25% from the Pharmaceutical Development Laboratory in France, 25% from Sanofi (France), 25% from BIOCHIMIE (NOVARTIS Group) in Austria, and 25% from SmithKline Beecham, with part of its production directed to external markets such as Southeast Asian countries, particularly Vietnam.
- **Algerian Medical Institute (I.M.A):** Established in 1992 as a mixed Algerian–French company, with about 75% under the control of the Pharmaceutical Industry Group (G.F.P) and 8% under the Oran Pharmaceutical Products Distribution Office (C.D.P.P.O). It obtained accreditation for local packaging of pharmaceutical products in 1991, then completed a production unit in 1998, achieving production of 14 million sales units in its first year. It also provided training for 125 workers in SYNTHELABO laboratories in France, reflecting the role of partnerships in knowledge transfer and specialized training.

3.5. Regulatory Reforms and Government Policies

Public authorities introduced a package of profound regulatory reforms in the pharmaceutical industry sector, including the adoption of permanent licenses for institutions compliant with standards, the revision of pricing conditions and accreditation mechanisms to enhance transparency and competitiveness. These measures contributed to stabilizing the regulatory framework and making the sector more attractive to local and foreign

investors, within the context of a national strategy aimed at reducing dependence on imports and achieving a degree of pharmaceutical independence.

Despite the launch of investment projects into actual production in 2002, the growth of the local industry was initially slow, as local production coverage did not exceed 30% in 2012, before rising rapidly to about 48.38% in 2014, due to the increase in the number of private foreign and local production units. According to data from the Directorate of Pharmacy, Production Division at the Ministry of Health, the number of pharmaceutical production units in July 2014 reached about 129 units, including 73 units for drug production, after not exceeding 23 units during the period 1995–2000. The number rose in July 2015 to 139 units, including 77 units for drug production, confirming an accelerating investment dynamism.

These developments are linked to the intensification of state efforts to encourage investment in this strategic sector related to national health security, despite intense competition with major global laboratories and attempts to obstruct some local projects, as occurred with the insulin production project whose factory was sabotaged in 2004 in Constantine. However, the determination of public authorities enabled the launch of actual production of this vital substance in 2006 at the same plant in partnership with the Sanofi Aventis Group, while obliging foreign operators to invest on national territory within the framework of partnerships with local operators. This was embodied in the October 2008 directive, which consolidated the importance of the legislative framework in regulating the sector.

Despite the controversy surrounding the 49/51 rule, it allowed foreign operators to continue their production projects, as reflected in the continuous increase in the number of drug production units, which exceeded 77 units, and the number of investment projects in pharmaceutical production reaching 205 projects in 2014. Among these is the “Mami Alembic” project (JV) in Constantine, which entered production in June 2015 between a private Algerian investor holding 51% and the Indian company Alembic holding 49%, with technology transfer, registration files, and marketing skills targeting markets in Europe, the United States, and Africa, with additional Jordanian expertise contributing to this joint project.

4. Export Prospects and Regional Leadership

Algeria seeks to strengthen its regional presence in the pharmaceutical industry by increasing the number of products intended for export from approximately 30 products currently to 150 products in the coming years, reflecting an ambition to transform into a leading regional hub in Africa and the Middle East. The Sidal Group constitutes a central pillar of this strategy, as it has become present in a growing number of African markets such as Mauritania, Senegal, and Chad, in addition to other markets under finalization such as Libya and Ethiopia, with recorded export contracts amounting to millions of euros. These include shipments exceeding 2 million euros to

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Mauritania and open contracts of approximately 3 million euros with Senegal, covering analgesics, antibiotics, and widely consumed products.

By 2024, the group succeeded in registering its products in around 13 African markets, with a clear intention to expand its presence beyond the African continent, relying on improved logistics services and the adoption of a more proactive commercial policy. The group aims for exports to represent about 10% of its turnover in the short term, considering the African market as a primary priority, especially with the launch of the project for producing raw materials for antibiotics at the Médéa unit, with a capacity valued at 850 million USD compared to national needs not exceeding 250 million USD, which allows directing 75% of production capacity toward export, particularly to African markets.

This export-oriented approach is based on widely consumed generic medicines (analgesics, antibiotics, and medicines for chronic diseases) at competitive prices and with quality supported by ISO certifications and GMP standards, which gives Sidal an advantage in markets with limited purchasing power. The group also builds long-term partnerships with local actors (distributors or manufacturers) in recipient countries, with partial knowledge transfer and contribution to the development of a local pharmaceutical industry, as is the case in agreements with Mauritanian partners and other African markets.

In parallel, Sidal is working to explore Middle Eastern markets through participation in regional trade fairs and forums, and by attempting to harmonize or align pharmaceutical registration files in order to benefit from the dynamics of regional integration. The entry into force of the African Continental Free Trade Area (AfCFTA) provides a suitable framework for increasing intra-African trade in medicines and reducing tariff and regulatory barriers, thereby enhancing the group's opportunities for expansion across the continent in the medium term. At the same time, challenges persist related to competition from Big Pharma and regional producers (such as Jordan, Egypt, and South Africa), as well as the complexities of registration procedures and differences in regulatory frameworks, which require Sidal to invest more in research and development, regulatory vigilance, and innovation in supply chains and pricing.

The evolution of the pharmaceutical industry in Algeria demonstrates a gradual interaction between three main elements: a dynamic private sector, stimulating regulatory reforms, and a clear export and regional positioning strategy. This interaction has contributed to increasing the rate of local production coverage and reducing dependence on imports. The expansion of the base of private production units and the diversification of partnership models with foreign operators, within a more stable legislative framework, have made it possible to achieve a significant increase in the number of investment projects and production volume, alongside a growing

orientation toward African and Arab markets. This enhances the sector's potential to transform into a regional platform for the manufacture of generic medicines and value-added pharmaceutical products.

5. Conclusion:

In light of the foregoing, it can be said that Algeria has indeed laid the initial foundations for the transition from the status of a "dependent consumer" to that of an emerging regional actor in the pharmaceutical industry. However, consolidating this leadership requires an integrated strategic vision that reconciles national pharmaceutical security, investment attractiveness, and smart integration into global pharmaceutical value chains, while making the experience of the Sidal Group a renewed model of modernization and innovation rather than merely a historical industrial legacy.

5.1. Results:

-The pharmaceutical industry in Algeria has moved from a phase of state monopoly and weak productive fabric to a phase characterized by a multiplicity of actors and the growing role of the private sector and foreign partnerships. This has been reflected in the increase in the coverage rate of the national market by locally produced medicines and a relative decline in the import bill in recent years, alongside the emergence of qualitative projects in the fields of generic and biological medicines. The data also show that the Sidal Group continues to constitute a central pole in national pharmaceutical production, while the private sector is emerging as a growing player in the field of generic medicines and some specialized drugs, supported by regulatory and legislative reforms aimed at making the sector more attractive to local and foreign investors.

-The first exports of medicines were directed toward Maghreb countries, namely Tunisia and Libya. However, the early 1990s witnessed a halt in exports for several reasons, including the expansion of national market needs and, consequently, the orientation of most national institutions—particularly public ones—toward the domestic market, along with the rehabilitation of production units to focus on the quality factor (Sedouki & Baghdad, 2009, p. 29).

-Among the obstacles facing this industry in Algeria are what the minister in charge of the pharmaceutical industry describes as bureaucratic constraints. Local manufacturers face numerous obstacles, particularly bureaucratic restrictions, including delays in registration, in addition to the pricing issue. Specialists consider that current prices are relatively low compared to those in some European and Mediterranean countries, which may constitute a barrier to investment and therefore require revision (Tomi, 2020, p. 25)

-Public policies—whether through encouraging generic medicines, restructuring public enterprises, or improving regulatory frameworks—have provided a favorable ground for moving from a logic of relative self-sufficiency to thinking in terms of a regional leadership project, benefiting from Sidal's positioning as a historical actor and a

base for accumulating industrial and organizational expertise. However, this trajectory remains fraught with challenges related to weak research and development, high dependence on imported raw materials, intense international competition, and the requirements of intellectual property agreements. These factors make the achievement of regional leadership contingent upon accelerating investment in technology, deepening value-added partnerships, and upgrading the governance of national pharmaceutical groups.

-The Algerian legislator has established a legal framework regulating institutions engaged in pharmaceutical activity, particularly importation, which constitutes clear evidence that the legislator now practices legal diversification in the various transactions that companies may undertake by regulating them and clarifying their modes of management (Boukharri, 2023, p. 564) .

-The pharmaceutical industry in Algeria is promising and has achieved notable progress, reaching levels of self-sufficiency in several therapeutic categories, while maintaining ambition toward broader self-sufficiency and a greater reduction of the import bill (Haddad & Benkediha, 2024, p. 505)

-Prospects for upgrading the pharmaceutical industry in Algeria are defined by deepening investment in the production of raw materials, expanding the share of high value-added medicines, strengthening research and development capacities within public groups and private laboratories, and developing export support mechanisms while facilitating the registration of Algerian medicines in African and Arab neighboring markets. There is also a need for further comparative studies to assess the performance of the Algerian pharmaceutical industry in comparison with regionally leading countries, in order to draw lessons and improve strategies for transitioning from self-sufficiency to sustainable regional leadership in the field of medicines and pharmaceutical products.

5.2. Recommendations:

-The necessity of adopting an integrated national strategy for the pharmaceutical industry that positions the Sidal Group as a “locomotive” toward regional leadership, by unifying the efforts of the public and private sectors and defining clear priorities in the fields of generic medicines, specialized medicines, and high value-added raw materials.

-Strengthening investment in pharmaceutical research and development by linking the Sidal Group and other operators to networks of university research laboratories and development centers, encouraging local patents, and providing financial and tax incentives for innovative projects, thereby enabling a transition from merely replicating formulations to developing new products and processes.

-Establishing a pharmaceutical policy based on mechanisms that encourage physicians and pharmacists to prescribe and dispense generic medicines, as well as the use of generic names in medical records, pharmaceutical

information bulletins, and other publications, and giving priority to the marketing and promotion of local medicines through facilitating channels (Makhloufi, 2009, p. 61) .

-Accelerating projects for the production of pharmaceutical raw materials and reducing dependence on foreign suppliers through the establishment of specialized pharmaceutical chemical complexes, and directing part of these capacities toward the regional market, thereby transforming Algeria from an importer of raw materials into a supplier of active ingredients and intermediate products to neighboring countries.

-Improving the regulatory and institutional framework by simplifying drug registration procedures and updating pricing and reimbursement systems in a manner that balances the sustainability of producing institutions with the protection of patients' purchasing power, while strengthening control and quality mechanisms to ensure the competitiveness of Algerian products in external markets.

-Developing an export-oriented strategy targeting Africa and the Arab region, based on identifying priority target markets, building local distribution and production partnerships, harmonizing or aligning pharmaceutical registration files, and regular participation in regional exhibitions and bodies, so that Algeria can effectively move from the stage of relative self-sufficiency to a position of regional leadership in the pharmaceutical industry

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