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BRIEF COMMUNICATION

Economic impact of COVID-19 on Red Farmacys pharmaceutical franchises: analysis of effects and recovery strategies

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ABSTRACT

Introduction: COVID-19 pandemic generated economic repercussions across multiple sectors, including the pharmaceutical industry, where the high demand for products altered commercial dynamics and business sustainability.
Objective: to evaluate the economic impact of COVID-19 on Red Farmacys pharmaceutical franchises in Santo Domingo, Ecuador, and to describe the recovery strategies implemented.
Methods: an observational, descriptive, cross-sectional study with a mixed approach was conducted. The sample included 16 pharmacies selected by convenience. Questionnaires were applied over 30 days, addressing dimensions of biosafety, sales, and financing. Data were processed in Microsoft Excel, respecting ethical principles of confidentiality.
Results: 81,3 % of pharmacies reported an increase in sales, mainly of face masks and antivirals. The national pharmaceutical sector registered a growth of 266 million dollars compared to 2019. However, market saturation was evident due to the proliferation of pharmacies in urban areas. Regarding financing, 62,5 % accessed loans from cooperatives and 31,2 % from private banks, with amounts ranging between 4,000 and 10,000 dollars. All pharmacies implemented biosafety measures for their workers.
Conclusions: COVID-19 drove significant economic growth in pharmacies, although it also led to market saturation and sustainability challenges. Biosafety and financing strategies allowed operations to continue, but differentiation and long-term planning are required to ensure business viability in a competitive environment.

Keywords: COVID-19; Economics, Pharmaceutical; Drug Industry; Job Market.

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INTRODUCTION

International trade has become one of the strongest economic arteries, serving as a mechanism to establish ties or treaties among countries—a process currently understood as globalization.[1] However, achieving these advances involved historical nuances, one of which was World War II. In the post-war period, nations sought unity and designed mechanisms aimed at fostering a healthy economic ecosystem, progressively reducing import and export tariffs.[2]

In this context, economies have been dynamized to meet societal needs, with technology emerging as a strategic partner, leading to the development of new commercialization methods.[3] Accordingly, more developed countries with higher gross domestic product (GDP) have pursued the creation of secure technological ecosystems to protect consumers and establish a balanced and fair economic path. These new "rules of the game" appeared equitable and promoted international fairness; however, obstacles emerged—one of which occurred in early 2020.

During the first quarter of 2020, events unfolded that alarmed global public health. Specifically, the Wuhan Municipal Health Commission urgently notified the World Health Organization (WHO) of 27 cases of pneumonia of unknown etiology in the People's Republic of China, with Wuhan city, Hubei Province, as the epicenter—a location that, paradoxically, houses the nation's Institute of Virology.

Following this timeline, on January 30 of the same year, the WHO's International Health Regulations Emergency Committee convened and concluded that a 2019-nCoV outbreak was occurring, declaring it a Public Health Emergency of International Concern.[4] The virus spread rapidly not only across China but also throughout Europe, with countries like Italy reporting thousands of cases daily.

This contagion vector continued expanding globally. In Ecuador, the first case was recorded on February 29.[5] COVID-19 likely became the most virulent pandemic and the one with the greatest economic impact in human history. Consequently, academia has shown intrinsic interest in studying this phenomenon from multiple perspectives. By the last quarter of 2023, over 250,000 research studies had already been published in leading academic publishers such as Oxford, Redalyc, Elsevier, SciELO, NEJM, Latindex, and the CDC; however, more than 85% of these publications focused on clinical studies. [2,6,7,8]

Nevertheless, one notable non-clinical study was conducted jointly by the World Bank and the International Monetary Fund (IMF). In 2021, they reported that the virus would trigger a severe recession that could take many years to overcome, describing it as the worst since 1929.[9] In Ecuador, cases multiplied exponentially following the first reported infection. As a result, on March 16, through Executive Decree No. 1017, then-President Lenín Moreno Garcés declared a state of emergency due to public health concerns.[10] This decree established a mandatory quarantine under sanitary emergency conditions. In the canton of Santo Domingo, the first COVID-19 case was reported on March 19. In this context, the Cantonal Emergency Operations Committee (COE Cantonal) implemented measures such as social distancing, as the pharmaceutical sector initially experienced a collapse due to overwhelming medication demand.

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The challenges faced by the pharmaceutical sector, though seemingly implausible, did indeed occur. However, the demand for a COVID-19 vaccine created an opportunity for growth—not only economically but also in terms of new company formation—reshaping the global pharmaceutical hierarchy and placing countries like Russia on the map of medical technology. Given this background, the present study was motivated by the need to evaluate the economic impact of COVID-19 on Red Farmacys pharmaceutical franchises in Santo Domingo, Ecuador, and to describe the recovery strategies implemented.

METHODS

An observational, non-experimental, cross-sectional study was conducted in the city of Santo Domingo, Ecuador, within the community setting of pharmacies belonging to the Red Farmacys network. Data collection took place over 30 consecutive days in 2020, coinciding with the critical phase of the sanitary emergency.

Inclusion criteria were: pharmacies belonging to the Red Farmacys franchise, operating continuously during the state of emergency, and whose administrators consented to participate in the study. Pharmacies not part of the network or not operational during the data collection period were excluded.

The target population consisted of 16 pharmacies, all located in the Santo Domingo canton. Given the small size of the population, a census-based convenience sampling approach was applied, including all available pharmacies (n = 16).

Procedures and Techniques

Data collection was carried out through structured surveys administered to the managers of each pharmacy. The questionnaire was designed based on the instrument "Impact of coronavirus on MSMEs and entrepreneurs" proposed by Araque,(1) adapted to the pharmaceutical context. The surveys included multiple-choice questions and frequency scales. The evaluated dimensions were:

- Biosafety: provision of protective supplies, performance of rapid COVID-19 tests, compliance with occupancy limits, and implementation of safety policies.
- Sales profitability: variation in sales volume during the state of emergency and most-demanded products.
- Financing: access to credit from public banks, private banks, or cooperatives, loan amounts requested, and interest rates.

The primary variables were: increase in sales (defined as the percentage change compared to the pre-pandemic period) and access to financing (defined as the request and receipt of credit during the emergency). Secondary variables included number of employees, implemented biosafety measures, and source of income.

The data were processed using Microsoft Excel spreadsheets, which were used to organize and tabulate the information.

Statistical Analysis

Descriptive statistics were applied to characterize the population and study variables, including absolute frequencies, percentages, and measures of central tendency. Cross-tabulations were performed to identify association patterns between dimensions (e.g., sales increase and access to financing).

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The significance level was set at 0,05 for the applied tests. Chi-square tests were used to explore associations between categorical variables, and analysis of variance (ANOVA) was employed to compare mean income across groups. Missing data were handled through case exclusion, given the small sample size, and consistency checks were applied to minimize information bias.

Ethical Considerations

The study received approval from the Ethics Committee of the Autonomous Regional University of the Andes (UNIANDES). All participants were informed about the research objectives and procedures and provided informed consent before completing the questionnaires. Data confidentiality and the anonymity of participating pharmacies were guaranteed. The research was conducted in accordance with the ethical principles established in the Declaration of Helsinki and current national regulations on health research.

RESULTS

In Ecuador, businesses are classified by size based on the number of employees and total assets. In this context, the Red Farmacys pharmacy network located in the city is classified as micro-sized in terms of workforce. The majority employ between 2 and 5 workers (with the exception of two pharmacies).

According to the total assets (annual fiscal income) reported by the pharmacies under study, 100% are classified as micro-enterprises. In this regard, Table 1 presents the size of the pharmacies based on total assets, average monthly income, and the percentage share of income sources. In this context, the economic income of the pharmacies originates entirely from end users.

Table 1. Characteristics of the pharmacies.

Agencies	Source of income (%)			Monthly profit obtained by the pharmacy	
	Private company	Public company	Usuario final	1001-2000 dólares	2001-5000 dólares
Pharm. 1	30	0	70	X	
Pharm. 2	10	0	90	X	
Pharm. 3	0	20	80	X	
Pharm. 4	40	10	50		X
Pharm. 5	0	0	100		X
Pharm. 6	20	0	80		X
Pharm. 7	0	0	100		X
Pharm. 8	5	5	90		X
Pharm. 9	20	0	80		X
Pharm. 10	30	10	60		X
Pharm. 11	0	0	100	X	
Pharm. 12	30	0	70	X	
Pharm. 13	15	0	85	X	
Pharm. 14	20	0	80	X	
Pharm. 15	18	30	52	X	
Pharm. 16	20	25	55	X	

ISSN: 1561-3194 **RNPS:** 1877
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Notas: Farm (Farmacia); M (Micro); P (Pequeña)

It is pertinent to mention that, prior to COVID-19, 100 % of the pharmacies did not operate on a 24-hour schedule. However, due to the health emergency, they were compelled to remain operational, as emergencies occurred during the night and hospitals became overwhelmed.

Regarding biosafety and protective measures implemented within the pharmacies under study, 100 % of employees received biosafety supplies, such as masks and alcohol. Additionally, rapid COVID-19 tests were conducted to monitor the health status of staff members.

For 81,31 % of the pharmacies, the COVID-19 health emergency led to increased sales profitability, particularly for masks and antivirals. This is reflected in the fact that 68,8 % of respondents stated that their sales volume increased following the confirmation of COVID-19 cases in the country (see Table 2). Furthermore, demand for medications such as hypoallergenic, bariatric, and antihypertensive drugs also rose. Although the exact reason remains unclear, one respondent indicated that customers intuitively stockpiled medications due to fear of shortages, a behavior influenced by the earlier scarcity of masks.

Table 2. Sales of the pharmacies under study.

Details	Rating scale				
	Siempre (%)	**Casi siempre (%)**	**Algunas veces (%)**	**Muy pocas veces (%)**	**Nunca (%)**
Do you consider that sales volume increased during the state of emergency?	50	31,31	18,69	0	0
Did the COVID-19 health emergency help increase sales?	68,8	18,75	12,5	0	0

Pharmacies also sought financing, particularly during the months when hospitals and clinics experienced saturation and collapse—namely April, May, and June 2020. Respondents indicated that supplies became scarce, leading to price increases, while payroll obligations and the need to acquire high-demand items persisted. In this context, 31,25 % accessed credit through private banking, with Banco del Pichincha being the most frequently cited institution. Meanwhile, 62,5 % obtained loans through savings and credit cooperatives, with cooperative JEP receiving the most mentions. The financing amounts ranged from USD 4,000 to USD 10,000, with an annual interest rate of 15,6 %.

DISCUSSION

The results suggest that the pharmacies exhibit symmetrical characteristics—for instance, in terms of asset size and number of employees. This is likely because their operational structure does not require large teams, as income and sales are recorded through computerized systems that streamline operations. On the other hand, it is noteworthy that no responses were obtained regarding affiliation with the Ecuadorian Social Security Institute (IESS).

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Ramos Díaz's doctoral thesis,[11] details how investment in the development of new treatments is part of research and development (R&D) efforts that must be undertaken to confront COVID-19, with consequences unfolding over both the medium and long term.

According to sales strata, Pavón-Garrido,[12] notes in his study that Ecuador's pharmaceutical sector recorded a surplus throughout 2020, with masks and anti-influenza medications being the top-selling products. Moreover, prices increased significantly—for example, surgical masks rose from USD 0,07 to over USD 0,20 per unit, representing a 285 % increase. This surge in input costs required financing, and pharmacies opted for consumer credit lines, as they demanded fewer requirements and, given the urgent circumstances, immediate cash flow was essential—especially since the investment was guaranteed to yield a surplus return.

Coba,[13] states that pharmaceutical product sales grew by 7 % due to the pandemic, amounting to an additional USD 266 million compared to 2019. A sales comparison is warranted between Ecuador's pharmaceutical sector in 2019 and 2020. However, in May 2020, sales were lower than in May 2019—not because demand decreased, but because pharmacies began running out of medications. It was precisely in this month that a wave of credit applications occurred.

Regarding biosafety, it can be affirmed that investment has taken place. In this context, it is noteworthy that the public sector managed the procurement of rapid tests priced between USD 10 and USD 35. Similarly, although specific figures are not disclosed, the pharmacies under study also invested in maintaining biosafety conditions for their staff, with these costs added to payroll, inventory, and operating permits.[14]

Although declining revenues can lead to liquidity problems that may become irreversible in the short term, innovation must serve as the primary ally—requiring the design of methods that allow customers to perceive improvements and thus assign added value. However, this assertion was not validated in the present study; instead, consistent with the research objective—which was to assess, through fieldwork, the impact of COVID-19 on Red Farmacys pharmaceutical franchises in Santo Domingo, Ecuador—it can be stated that, financially, COVID-19 proved to be an excellent ally for the pharmaceutical sector, as record sales were reported.

CONCLUSIONS

During the COVID-19 pandemic, the pharmacies studied experienced a notable increase in sales, with sector-wide growth of USD 266 million in 2020; however, this boom led to market saturation, evident in Santo Domingo by the proliferation of pharmacies on nearly every city block. Although biosafety measures—such as the provision of masks and rapid tests—were implemented to protect workers, the issue of lack of social security affiliation persists, fostering labor precarity in a context where many accept jobs without health or pension coverage to secure income. In the post-COVID-19 phase, the sector faces the challenge of sustaining its viability through differentiation strategies and the use of social media as tools for influencing and guiding consumer purchasing decisions.

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Rev Ciencias Médicas. 2025; 29(S2): e7082

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