

Abstract

Introduction: The increasing healthcare costs, especially pharmaceutical expenses, represent one of the major challenges within the Iranian healthcare system. A significant portion of medical expenses is attributed to medications, which constitutes a large share of out-of-pocket payments made by patients. To address this, the preferential exchange rate policy for drugs was implemented with the aim of controlling costs; however, due to economic challenges, limited foreign currency resources, and distribution issues, this policy lost its effectiveness. With a shift in exchange rate policy, the DarooYar program was introduced, which allocates pharmaceutical subsidies through insurance companies to patients. This change aims to reduce direct payments by patients, stabilize the pharmaceutical market, and improve equity in access to essential medications. This study will examine the impact of the DarooYar implementation on out-of-pocket payments by patients and insurer costs, focusing on the insured data from the Social Health Insurance Organization in Kerman.

Method: This study is applied time-series research with a descriptive-analytical approach. The study period spans from April 2021 to March 2024, and the data of hospitalized patients covered by the Health Insurance in Kerman, before and after the implementation of the DarooYar program, will be compared. The research population consists of all hospitalized patients in public hospitals under the coverage of Social Health Insurance, with data collected via a census method. Required data will be extracted from patient records and Social Health Insurance documentation. Descriptive statistical methods and the Mann-Whitney test will be used to compare the mean of key variables before and after the intervention. Additionally, an Interrupted Time Series Analysis (ITSA) model will be applied to examine both the short-term and long-term effects of the DarooYar program on patient costs and insurance payments. In this model, the level and trend of costs before and after the program's implementation will be analyzed. For statistical analysis, the data will first be cleaned in Excel and then analyzed using STATA software. Statistical tests such as Dickey-Fuller will be employed to test for stationarity, Kolmogorov-Smirnov for the normality of residuals, and piecewise regression models will be used to assess the impact of the removal of the preferential exchange rate policy and the implementation of the DarooYar program on payment trends.

Results: An analysis of the cost growth rates revealed that the insurer's share experienced an upward trend, both in nominal terms and after adjusting for inflation. In contrast, the insured's share increased in nominal terms but showed a decreasing trend after inflation adjustment. Furthermore, the results of statistical tests indicated that, based on the t-test, all three cost indicators (nominal costs for the insurer, nominal costs for the insured, and inflation-adjusted costs for the insured) underwent significant changes following the implementation of the Daroyar plan. Additionally, the Mann-Whitney test showed a significant change in the nominal costs borne by the insurer. The interrupted

time series regression analysis indicated that while the Daroyar policy did not produce a statistically significant effect on the trend of the insurer's costs, the overall model was statistically significant. However, in the case of the insured, both nominal and adjusted costs showed an increasing trend following the intervention..

Conclusion: Based on the findings of this study, the implementation of the Daroyar Plan did not have a significant impact on reducing the costs borne by the Social Health Insurance Organization, and no meaningful change was observed in this regard. Meanwhile, the out-of-pocket expenses for insured individuals initially increased after the plan's implementation, likely due to changes in drug consumption patterns and easier access to necessary medications. However, this upward trend did not persist over the long term, and no substantial changes in the overall cost trends for the insured were observed. Therefore, contrary to the initial expectations of alleviating the financial burden on patients, the Daroyar Plan did not effectively reduce their costs, highlighting the need for revisions and policy reforms. Nevertheless, the experience gained from implementing the plan provides a valuable foundation for re-evaluating pharmaceutical policies, especially in light of challenges such as currency fluctuations, rising prices of imported drugs, and financial constraints. Moving towards greater sustainability in drug supply and cost control requires continued support for domestic production, promotion of generic and more cost-effective alternatives, and stronger coordination among insurers, health authorities, and pharmaceutical manufacturers to ensure fairer access to medicines and healthcare services.



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**Investigating the impact of DarooYar project implementation
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organization in Kerman**

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