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ORIGINAL ARTICLE

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The Effect of Health Transformation Plan on Out-of-Pocket Payments of the Hospitalized Patients in Hamedan, Iran

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ABSTRACT

Background: Out-of-Pocket (OOP) payment is categorized among the critical indicators of health system financing. Given the high hospitalization costs of the hospitals, the ministry of health has attempted to implement Health Transformation Plan (HTP) in Iran to reduce OOP. The purpose of this paper is to show the effects of HTP on OOP payments of the hospitalized patients in Hamedan, Iran.

Methods: This descriptive-analytical study was carried out on 587 patients in the educational hospitals of Hamedan. The data obtained before and after implementing the HTP was from 2013 to 2015**.** Data analysis was performed using $SPSS_{16}$.

Results: In this study, each patient's expenditures increased by 32.2 % in 2015, compared to before the implementation of the HTP. Therefore, the health insurance organization's coverage of OOP payments decreased to 8.3 % of the total costs by a 20.2 % reduction in 2015, compared to before the implementation of the plan.

Conclusion: According to the study, HTP and government health subsidies were adequate, but the total hospitalization costs had an upward trend in all funds.

Key words: Health transformation plan, Out-of-Pocket, Health insurance organization

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Introduction

Health financing is a core function of health systems .The conventional categorizations of financing sources for health care are taxation, social health insurance, private health insurance, and Out-of-Pocket (OOP) payments (1). The share of OOP payments in total health expenditures is an important factor which should be taken into account while planning and designing health policies. The government's inability to financially support healthcare procedures places a great financial burden on the public; therefore, people are forced to make OOP payments. In general, OOP payments are defined as direct payments made by individuals to health care providers at the time of using the service (2).The Health Transformation Plan (HTP) was developed in May 2014 due to the emphasis of health policymakers and planners on using three approaches of protecting the people, establishing justice in access to health services, and improving the quality of services (3). Several studies have been conducted on the HTP's effect on OOP payments of the public in the past few years, Examples of which are : Ghahramani et al. (4), Harirchi, et al. (5), Piroozi et al.(6), Ahmadnezhad, Elham, et al. (7), Abdi, Zhaleh, et al. (8), Alipour, Vahid, et al.(9), Mosadeghrad (10), Seyedin, Hesam, et al.(11). Tabari-Khomeiran (12). With this background, the present study aimed to evaluate the effect of the HTP on OOP payments of the hospitalized patients covered by the Hamedan health insurance organization in Hamedan.

Materials and Methods

This is a descriptive-analytical study which tried to investigate the effects of HTP on the expenses of patients for treatment in hospitals of Hamedan. This study was carried out on 587 patients in the educational hospitals affiliated with Hamedan University of Medical Sciences (Besat, Beheshti, and Sina hospitals). Data analysis was performed using $SPSS_{16}$. The significance and difference in the amounts paid before and after the HTP were assessed using statistical tests. The subjects were selected by random stratified sampling proportional to the population size. A population of 587 individuals were selected from the categories using the Morgan table. The collected data were recorded in a checklist and coded in a computer after being approved by the advisor. Moreover, the mean difference before and after implementing the HTP was calculated using the t-test. This study was supported by Hamadan University of Medical Sciences (Ethics committee No: IR.UMSHA.REC.1396.825).

Results

Figure 1 shows total costs and percentage of OOP payments before and after the reform. According to Figure 1, the OOP payments of patients were estimated as 25 %, 16%, and 20.2 % at Besat, Sina, and Shahid Beheshti hospitals in 2013, respectively, which decreased to 8 %, 7 %, and 9.3 % in 2015, respectively. A 7 %, 9 %, and 10.9 % decrease was reported in Besat, Sina, and Shahid Beheshti hospitals. According to the diagram, the highest decrease was observed in Besat hospital.

According to Figure 2, the money paid by the insurance company in 2013 was reported to be 76.5 %, 83.6 %, and 81.5 % in Besat, Sina, and Shahid Beheshti hospitals, respectively, which decreased to 72.5 % and 79.8 % in Besat and Shahid Beheshti hospitals in 2015, respectively. However, no change was observed in Sina hospital in this regard. This decrease in Besat (5 %) and Shahid Beheshti (1.8 %) hospitals showed an insignificant increase in the insurance company's coverage despite the decrease of the patients' coverage.

According to Figure 3, the coverage of expenditures in Besat, Sina, and Shahid Beheshti hospitals in 2013 was 9.1 %, 8.1 %, and 8.4 %, respectively, which changed to 8.7 %, 9.3 %, and 6.4 % in 2015. In this regard, there was a 1.2 increase in Sina hospital, whereas a 0.4 % and 2 % decrease were detected in Besat and Shahid Beheshti hospitals, respectively.

According to Table 1, each hospitalized patient's

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expenditures in 2013 were 1 428.5$* (13), which increased to 566.6$† (13) in 2015 with a 32.2 % increase. Therefore, since P-value ≤ 0.001 was lower than the error rate (α = 0.05), there was a significant difference in patients' expenditures in 2013 and 2015 at a 95 % confidence interval.

Table 2 shows that the percentage of the highest basic coverage (health insurance organization) in 2015 was related to a fund for other areas (83 %), whereas the lowest percentage was related to Iranian Insurance (79.5 %). Also, the percentage of the basic insurance coverage (health insurance organization) reached 75.2 % in 2013, and 81.1 % in 2015. Therefore, since P-value ≤ 0.001 was lower than the error rate (α = 0.05), there was a significant difference in the percentage of basic insurance coverage (health insurance organization) in 2013 and 2015 at a 95 % confidence interval. Table 3 shows there was a significant difference before and after implementing the HTP, regarding OOP payments of the patients.

* Foreign Exchange Rates in 2013 was 24787 IRR
† Foreign Exchange Rates in 2015 was 28337 IRR

Table 1. Total cost for patients hospitalized in 2013 and 2015 based on insurance funds

Insurance funds	Total cost for patients hospitalized 2013($)	Number	Total cost for patients hospitalized 2015($)	Number of patients
Total	428.5	297	566.6	290

Table 2. Average basic insurance coverage (health insurance organization) in 2013 and 2015 based on insurance funds

Insurance funds	Basic insurance share 2013 ($)	Number	Percentage of insurance paid	Basic insurance share 2015 ($)	Number	Percentage of insurance paid
Total	322.3	297	75.2	459	290	81.1

Table 3. Changes in different expenditures of OOP payments before and after the HTP

P*	Mean(%)	
0.001 ≤	20.2 8.3	Before After

***P_value < 0.05**

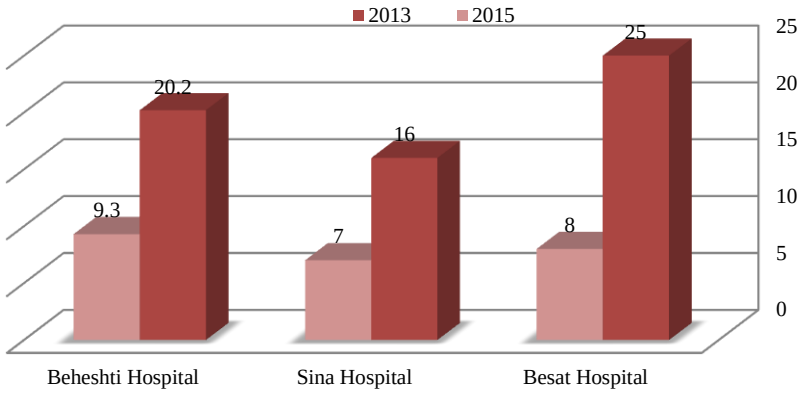

Figure 1. OOP payments (%) in hospitals of Hamedan in 2013 and 2015

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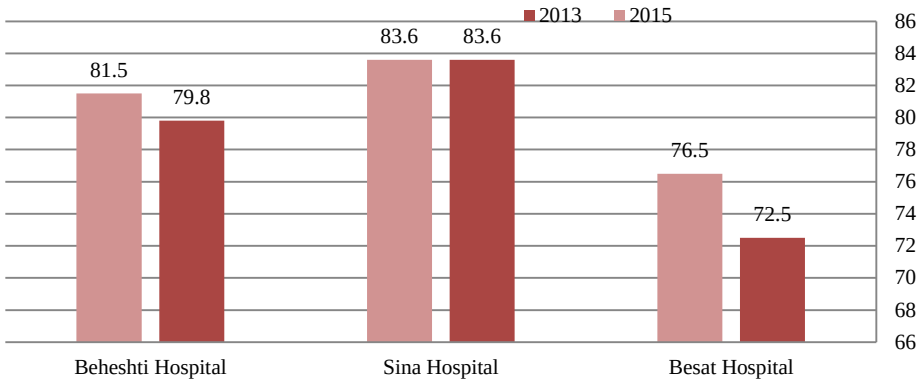

Figure 2. Average coverage by the insurance company in 2013 and 2015 (%)

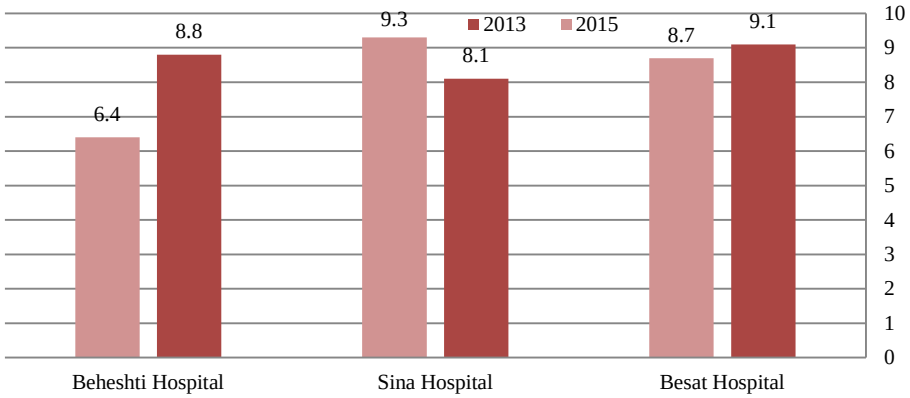

Figure 3. Average expenditures in hospitals in 2013 and 2015 (%)

Discussion

OOP is considered as one of the main problems in health system which has been the subject of many researches. Financial protection is always one of the main concerns of policymakers (14). Iran HTP was launched to help the health system achieve equality regarding health expenditures (3).

This study aimed to evaluate the OOP payment coverage of patients hospitalized in Hamedan. According to the results, the average OOP payment of patients was 8.2 % in 2015, which was about 20.2 % for hospitalization services in public hospitals before implementing the HTP. This rate decreased to below 10 %, following the implementation of the plan mentioned. Regarding the effect of the HTP on the total hospitalization cost of the insured by the health insurance organization, each patient's total costs increased to about 32.2 % in 2015, compared to before the implementation of the health system evolution system. Furthermore, each patient's expenditures were about 138.1$ higher in 2015, compared to 2013.This difference in results showed a significant increase in treatment tariffs, which means that the HTP had a significant effect on the total hospitalization costs of the insured by the health insurance organization. Tabari-Khomeiran ,also showed that after the HTP in Iran, the total costs of patients increased (12).

According to the results, 10.2 % of the public hospitals' hospitalization services were covered by OOP payments. The initiation of the HTP in 2014 led to a significant decrease in OOP payments in public hospitals. The ministry of health has been able to decrease OOP payments; thereby, achieving one of the main objectives of the health system improvement. The same result was reported in a previous research (15). It is recommended that macro plans be designed and implemented for outpatient and private sector services. Consistent

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with these findings, Piroozi (6) and Tabari (12) demonstrated that patients' OOP payments still cover a large part of treatment costs despite all the efforts made by health policymakers to increase insurance coverage and reduce OOP payments. Along with the increase in total cost, total OOP payment was increased significantly based on the findings. The same result was reported in a previous research (15).

Conclusion

According to this study, HTP and government health subsidies were adequate, but the total hospitalization costs had an upward trend in all funds. Given the lack of decrease in the costs and tariffs of services and in OOP payments, other providers (public sector and subsidies) seem to burden the responsibility for the community's treatment costs. According to the results, each patient's expenditures increased by 32.2 % in 2015 compared to 2013. The average total hospitalization cost was higher in 2015, compared to 2013.

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Conflict of interests

The authors declared no conflict of interests.

Authors' contributions

Farhadi Sh, Fazaeli AK, and Mohammadi Y designed research; Fazaeli AK conducted research; Mohammadi Y analyzed data; and Fazaeli A wrote the manuscript. All authors read and approved the final manuscript.

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