



## Investigation of Informal Healthcare Payments after Health Transformation Plan: A Case Study in the Southeast of Iran

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### ABSTRACT

**Background:** Informal payment in many developing countries is a serious obstacle towards to improving healthcare system and has negative effects on the function of healthcare system. In order to reduce the informal payments and direct payments from patient's pocket, the Health Transformation Plan (HTP) executed. This study was conducted to assess the informal payments in the hospital related to government.

**Methods:** This study was a survey based on descriptive analytic method in Zahedan, the capital of Sistan-Baluchistan Province, in 2017. The study population included all patients discharged from all wards of the two general hospitals affiliated with Zahedan University of Medical Science (ZaUMS) in a one-month period (from September 23 to October 22), in which 500 patients were selected by multistage cluster sampling.

Data collection tool was a standard questionnaire that was conducted by interview method. The data were analyzed using by SPSS v22 and descriptive statistics.

**Results:** In this study 98% of patients were male, 484 (96.8%) lived in the urban area, and about 2% had informal payment. The average amount of informal payments was 51.48 \$. The highest number of informal payment was in the maternity ward (n:5, 50%). The doctors didn't have any informal payment, and all of the participants disagreed this type of payments.

**Conclusion:** The rate of informal payments in the hospitals affiliated with ZaUMS in Southeast of Iran after execution of HTP is minimal. Poor economic status of the patients and well executed HTP are the possible explanations for minimal informal payments. Solutions including constant supervision on employees and realization of the medical services tariffs and strengthening insurance companies are effective steps towards elimination of informal payments.

**Key Words:** Health transformation plan, Informal payments, Hospitals

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## Introduction

Today, health systems are responsible not only for promoting people's health but also protecting them against the financial costs of illnesses. One of the challenges facing governments is reduction the share of out-of-pocket (OOP) health payments for people and informal payments to health care providers (1).

Informal health payments are part of OOP payments that are paid to individuals or organizations providing healthcare, and these payments are made out of formal payment channels (2, 3). The different forms of informal payments are as follows: 1- cash payments: Most informal payments to health care providers are in cash; 2- Gift giving: Some payments are made in the form of flowers, sweets, certificate of appreciation, etc. This type of informal patient payment is more voluntary than cash payments and is made mainly to appreciate health care providers; 3. In-kind or commitment to deliver a service: This type of payment can be in the form of giving food, blanket, bandage, syringe and medical instruments, or being committed to deliver a special service to the health care provider in return for the health care service provided (4).

The reason for informal payments is mostly reception of *higher* quality services. Patients in fact fear that if they do not make this kind of payment, they will receive inappropriate or low-level services (5). From economic perspective, informal payments are a form of OOP financing because they have similar effects on demand and financing burden compared to legal payments by clients (6).

Informal payments in many developing and transition countries are a major source of financing health care services and a serious and significant barrier to health system reform (7).

Research evidence suggests an ever-increasing trend of informal payments across the globe, especially in low-income and poor countries, as well as in transition countries (8) including Central and Eastern European and Central Asian (9).

The frequency of informal payments has been reported to be widely varied across the globe, from

2% in Peru to 96% in Pakistan (10). A large proportion of the patients in Bulgaria (43%), Poland (46%), Turkmenistan (50%), and Tajikistan (70%) are also coerced to pay informal payments for services that are legally free (11).

In recent years, we have witnessed an increasing trend of medical tariffs for doctors and health care providers, partly due to inflation and the advancement of diagnostic and therapeutic technology, and partly due to increased informal payments to doctors and other health care providers (12).

The causes of the emergence and increased frequency of informal payments include inadequate financing of the health care sector, unclear definition of payments, the incapability of the public sector, the inadequacy of formal payments to the health care staff and poor supervision (13).

In Iran, the program aimed at reducing informal patient payments in hospitals affiliated with the Ministry of Health and Medical Education has been enforced in the programs incorporated in the Health Transformation Plan (HTP) since May 5, 2014. The continuous residence of general practitioners and specialists in disadvantaged areas is one of the service packages incorporated into this national plan with the aim of eliminating informal payments and increasing access to specialized and general health care services in these areas (14).

It is therefore necessary to investigate the effects of the HTP interventions on the amount of informal payments and related factors in the health system of Iran, which can be a useful step in promoting the effective management of the health system in this country.

In this regard, the present study was conducted to investigate the amount of informal payments and related factors in two governmental hospitals of Zahedan, the capital of Sistan-Baluchistan Province. The results of this study could help make appropriate policies in order to improve justice, decrease the rate of patients facing catastrophic health expenditures and payment methods reform in the health system of Iran.



## Materials and Methods

This survey was conducted in 2017 in two major teaching hospitals affiliated with Zahedan University of Medical Science (ZaUMS) (523-Bed Ali-ibn Abi Talib Hospital, the largest specialty and subspecialty hospital in Sistan-Baluchistan Province, and 270-Bed Khatam-ul-Ambia Hospital, the only trauma center in the province). The study population consisted of all patients discharged from all wards of the two hospitals in a one-month period (from September 23 to October 22).

The sample size was estimated at 500 individuals with a 95% confidence interval and an error of less than 5% according to one study in the hospitals of Urmia, northwest of Iran that showed that about 30% of the patients referred to hospitals made informal payments (18) and by the formula below:

$$n = \frac{(Z_{1-\frac{\alpha}{2}})^2 * P * (1 - P)}{d^2}$$

The number of samples enrolled by simple random sampling from each hospital was determined proportionally to sample size. Accordingly, 347 patients discharged from Ali-ibn Abi Talib Hospital and 153 patients discharged from Khatam-ul-Ambia Hospital were selected.

The data collection tool was a questionnaire that was administered through telephone interview. The questionnaire was the standard questionnaire of informal payments used in the study of Ghiasipour et al. whose validity and reliability have been confirmed (13). This questionnaire consists of 40 questions divided into six sections.

The first section consists of 12 items, the first of which addresses the hospital characteristics that was filled out by the researcher, 3 of which are to investigate patient health insurance, 7 of which are about the patient's place of residence, health care service delivery in the hospital and the amount of money paid to the hospital, and 1 question is concerned with informal payment or lack of it.

The second section was filled out by those who had made informal payments to doctors and consists of 6 questions, investigating the doctor's specialty, payment time, the amount of cash payment, the type of in-kind contribution and its approximate

monetary value, voluntary or mandatory (coerced) payment, and the incentive(s) for informal payment to the doctor.

The third section was completed by those who had made informal payments to nurses and consists of 4 questions regarding the amount of cash payments, the type of in-kind contribution and its approximate monetary value, voluntary or mandatory (coerced) payment, and the incentive(s) for informal payment to the nurse.

The fourth section was completed by those who had made informal payments to other hospital staff and consists of 5 questions addressing the payee's job, the amount of cash payment, the type of in-kind contribution and its approximate monetary value, voluntary or mandatory (coerced) payment, and the incentive(s) for informal payment to other hospital staff.

The fifth section consists of 3 questions and was filled out by those who had previously made no informal payments. The first question investigates the request or by doctors and other hospital staff lack of it, the second question is about the incentive for refusing to make informal payment if being asked to do so, and the third question is concerned with the incentive for lack of voluntary informal payment by those who had not previously been asked to make such payment.

The sixth section consists of 10 questions that were answered by all participants. The first two questions are related to the total (formal and informal) amount paid for receiving care and how it was financed. The next question is related to the attitude of the respondents about the informal payment and investigates whether they are opposed to such payments or not. In the next seven questions, the socioeconomic and demographic characteristics of the household are addressed. It should be noted that this section was completed at the end of the interview when the participants would be more likely to feel comfortable and thus give honest answers to the questions regarding informal payments.

After the study protocol was approved, the necessary permissions were obtained from the Deputy of Research and Technology, and necessary



permissions were made with the Deputy of Treatment, the data of patients discharged from the studied hospitals were obtained. It was attempted to minimize recall biases through shortening the recall period (a one-month period, from September 23 to October 22).

The payments were reported based on Iranian Rials (IRR) and were converted to US Dollars using the exchange rates at the time of the study.

Since data collection needed to be done after the discharge of the patients from the hospital, the probability of filling out the questionnaire and returning it by the patients or their families after discharge was very low, then, as with most studies in other countries, telephone interview was used to collect data in order to allow free and better communication with patients and their families, clarify their potential ambiguities about questions, fill out the questions for illiterate participants, reduce potential inconvenience for families, and increase the probability of filling out questionnaires for all participants regardless of their city of residence, etc. So, verbal consent was given.

After contacting 500 discharged patients, the data were recorded and analyzed. In all steps of the study, ethical considerations including voluntary participation in the study, confidentiality of information, and lack of disclosure of the patients' and personnel's characteristics as well as lack of reporting identifying information were observed.

Immediately after data collection process, the data were entered into the SPSS software (version 22) and analyzed. In this study, the descriptive statistics such as frequency, frequency percentage, mean, and standard deviation were used to analyze the data.

## Results

Because the participants were industriously followed up, the data of all 500 patients

were collected (response rate: 100%). Most of the participants lived in urban areas (n: 484, 96.8%) especially Zahedan (n: 374, 74.8%). The demographic characteristics of the participants are presented in Table 1.

The household size of about 70% of our participants was 3-4 people. The majority of our participants were covered by *Iranian* health insurance (n: 402, 80.4%).

In addition, 100% of our participants were covered by health insurance and none of them by supplementary insurance. Women had the highest amount of informal payments (n: 8, 80%), and all who made informal payments (n: 10, 100%), lived in urban areas.

Information on hospitalization and treatment of participants is shown in Table 2.

According to Table 2, most patients referred to the clinic (n: 324, 64.8%) and were admitted to the emergency department (n: 154, 30.8%). The average length of hospital stay was 3-5 days (n: 412, 84.4%) and the most frequently delivered health care service was referring to the laboratory (n: 282, 56.4%).

Fifty percent of patients who had made informal payments were admitted to the obstetrics and gynecology department. Overall, around 2% of the patients had made informal payment completely voluntarily, while all our participants opposed informal patient payment.

Information about formal and informal payments to hospital staff is shown in Table 3:

The average amount of informal payments to nurses and to other staff were 64 \$ and 21.8 \$, respectively. Overall, the average amount of informal payments also was 51.48 \$. Besides, eight (1.8%) patients had made informal payments in the form of gift giving.

**Table 1.** Patients' informal payments by demographic characteristics

Variables	Dimensions	Frequency (percentage)	Informal payment [frequency (percentage)]
Age group	Children and adolescents	64(12.8)	7(70)
	The middle aged	312(62.4)	3(30)
	The elderly	124(24.8)	0(0)
Gender	Male	490(98.0)	2(20)
	Female	10(2.0)	8(80)
City	Zahedan	374(74.8)	10(100)
	Zabol	14(2.8)	0(0)
	Baluchistan	112(22.4)	0(0)
Place of residence	Urban	484(96.8)	10(100)
	Rural	16(3.2)	0(0)
Household size	1-2	16(3.2)	0(0)
	3-4	353(70.6)	10(100)
	More than 4	121(24.2)	0(0)
Health insurance	Covered	500(100)	10(100)
	Not covered	0(0)	0(0)
Type of health insurance	Social insurance	65(13.0)	2(20)
	Iranian	402(80.4)	7(70)
	Armed forces	24(4.8)	1(10)
	Others	9(1.8)	0(0)
Supplemental insurance	Yes	0(0)	0(0)
	No	500(100.0)	10(100)

**Table 2.** Patients' Informal payment by medical information

Variable	Dimensions	Frequency (%)	informal payments Frequency(%)
Type of referral	Office	59 (11.8)	1 (10)
	Emergency	54 (10.8)	1 (10)
	Clinic	324 (64.8)	4 (40)
	Referred	63 (12.8)	4 (40)
Ward of hospitalization	Surgery	99 (19.8)	3 (30)
	ICU	11 (2.2)	0 (0)
	CCU	21 (4.2)	0 (0)
	Internal	60 (12.0)	0 (0)
	Chemotherapy	24 (4.8)	0 (0)
	Orthopedics	3 (0.6)	0 (0)
	Pediatrics	57 (11.4)	0 (0)
	Maternity	51 (10.2)	5 (50)
	Emergency	154 (30.8)	1 (10)
Hospital stay length	Hematology	10 (2.0)	1 (10)
	Oncology	10 (2.0)	0 (0)
	<5/3	412 (82.4)	10 (100)
Surgery	5/3_5/4	60 (12.0)	0 (0)
	>5/4	28 (5.6)	0 (0)
Health care service	No	358 (77.0)	3 (30)
	Yes	114 (22.8)	7 (70)
Health care service	Test	282 (56.4)	3 (30)
	Chemotherapy	27 (5.4)	0 (0)
	Orthopedic cast	9 (1.8)	0 (0)
	Electrocardiography	9 (1.8)	0 (0)
	Connection	1 (0.2)	0 (0)
	Angiocardiography	1 (0.2)	0 (0)
	Surgery	91 (18.2)	2 (20)





	Cesarean	24 (4.8)	4 (40)
	Vaginal delivery	26 (5.2)	1 (10)
	Imaging	23 (4.6)	0 (0)
	Dialysis	7 (1.4)	0 (0)
Respondent viewpoint on informal payment to hospital staff	Agree	500 (100.0)	10 (100)
	Oppose	0 (0)	0 (0)

**Table 3.** Frequency distribution of informal patient payments to the staff of the hospitals under study

Organizational position	Type of informal payment	Mean (\$)	Frequency (percentage)
Nurse	Cash	89.27	1 (0.2)
	Gift	58.92	5 (1)
	Total	64	6 (1.2)
Other health care providers	Cash	44.64	1 (0.2)
	Gift	17.26	3 (1)
	Total	21.8	4 (1.2)
Total	Cash	66.96	2 (0.4)
	Gift	42.32	8 (1.8)
	Total	51.48	10 (2.2)

## Discussion

The findings of this study indicate that a small number of patients referring to hospitals in Zahedan (southeast of Iran) made informal payments, probably because Sistan-Baluchistan Province is an underprivileged region of Iran and the population of this province has a comparatively lower socioeconomic status than those of other provinces of the country.

In addition, the implementation of the HTP and the increased medical services tariffs are another possible explanation for decreased informal payments in the county under purpose.

However, since no study was done in Sistan-Baluchistan Province before the implementation of the HTP, we cannot compare our results with those of similar studies. In agreement with the findings of our study, Piroozi *et al.* reported that 10% of Kurdistan Province population made informal payments after the HTP (17). Abootorabi *et al.* also reported that 8.5% of the patients included in their study made informal payments (18). But in one study in six South European countries, Hordnick *et al.* concluded that as the quality of medical services provided and modernization decrease, the rate of informal payments increases (19).

According to the findings of our study, the most common form of payment was in-kind contributions, flower giving and gift giving. However, in the study of Ezgen *et al.*, 69.7% of informal payments were made in cash and 4.29% of in-kind contributions were in the form of gift giving (20).

In-kind contributions and gift giving are mainly made by clients to improve the quality of health care services. As with many other countries, such payments are partly rooted in our community's culture; therefore, efforts need to be made to change such viewpoints.

In this study, the average amount of informal payments was 51.48 \$, while in the study of Khodamardi *et al.*, the amount of payments reportedly ranged from 12.8\$ in the teaching hospitals to 124.68 \$ in the private hospitals, which was attributed to the large number of patients and the referral of mainly rich people to private hospitals (21). Comparably stricter monitoring in teaching hospitals and higher staff revenues in and referring low income people to governmental hospitals are potential reasons for lower rate of informal payments in such hospitals.

According to the results of our study, most in-kind contributions and gift givings to the nurse and



other hospital staff were made voluntarily, mainly aimed at increasing care for the patient and making the health care provider happy. Most of such payments are arguably due to the cultural characteristics of the people making them. Abootorabi *et al.* reported that 67% of gift givings were done for appreciation and other reasons included establishing good communication with medical personnel in order to create relationships potentially needed in the future and receiving further services and attention (18).

Although some of our participants had made informal payments to hospital staff, all of them reported that they were opposed to informal payments to hospital staff. In agreement with this finding, Setayesh *et al.* also reported that the majority of households were opposed to informal payments and only 13.6% of households perceived such payments as permissible (22).

In this study, the staff of the maternity reported to receive the highest amount of informal payments, but in the study of Parsa *et al.*, surgeons were reported to receive the highest amount of informal payments (51.8%) (23). All people who had made no informal payments reported that they had not been asked to make such payment and that they would not do even if they were requested. In addition, these people did not have much hope about the outcome of filing complaint, and in fact they had no incentive to file a complaint. To justify the silence of the people regarding informal payments, Jafari *et al.* have argued that if the current trend continues and the relevant rules are not revised, people will not be expected to monitor the situation and that if this trend persists, the phenomenon of informal payment will become a norm and culture (24). Choline William *et al.* study in 11 Central European countries showed that informal patient payment to health care professionals in the silence of patients and health care staff has occurred due to the weakness and incoordination of deterrent formal rules (25).

In this study, residents of other cities in the province and rural areas and people not covered by insurance reported to make no informal payments. However, the finding of Setayesh *et al.* study

disclosed that urban populations, women compared to men, and those with academic education compared to the ones with lower education levels, and those admitted to state hospitals were more strongly opposed to this kind of payment (26). To explain this finding, it can be argued that rural people and residents of remote counties choose to refer to governmental hospitals to receive health care services because of lower income.

The limitations of our study include lack of divulging information about informal payments by patients as well as lack of publicizing reliable papers and official reports on accreditation before the implementation of the HTP in Iran to compare our results with theirs.

As this study was conducted in two university teaching hospitals, the generalization of its findings should be done cautiously.

### Conclusion

This study showed that the rate of informal payments in governmental hospitals was low and limited after the HTP.

The poor economic conditions of patients and the proper implementation of the HTP aimed at preventing households' paying stupendous costs and reducing informal payments could contribute to the low rate of informal payments. It is recommended to implement various solutions, such as continuous monitoring of employee performance, realization of the medical services tariffs, and the strengthening of insurance institutes to eliminate informal payments.

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### Conflicts of interest

The authors declare that they have no conflict of interests.

### Authors' contribution

Khammarnia M, Zanganeh Baygi M and Peyvand M, designed the Study. Shahhoseinh M



and Setoodehzadeh F, gathered data, Barfar E, Khammarnia M, Peyvand M, analyzed the data.

All authors contributed in writing the paper. All authors confirmed and approved the final paper.

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