Factors affecting the informal payments in public and teaching hospitals

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Abstract

Background: Informal payments in the health sector of many developing countries are considered as a major impediment to health care reforms. Informal payments are a form of systemic fraud and have adverse effects on the performance of the health system. In this study, the frequency and extent of informal payments as well as the determinants of these payments were investigated in general hospitals affiliated to Tehran University of Medical Sciences.

Methods: In this cross-sectional study, 300 discharged patients were selected using multi-stage random sampling method. First, three hospitals were selected randomly; then, through a simple random sampling, we recruited 300 discharged patients from internal, surgery, emergency, ICU & CCU wards. All data were collected by structured telephone interviews and questionnaire. We analyzed data using Chi- square, Kruskal-Wallis and Mann-Whitney tests.

Results: The results indicated that 21% (n=63) of individuals paid informally to the staff. About 4% (n=12) of the participants were faced with informal payment requests from hospital staff. There was a significant relationship between frequency of informal payments with marital status of participants and type of hospitals. According to our findings, none of the respondents had informal payments to physicians. The most frequent informal payments were in cash and were made to the hospitals' housekeeping staff to ensure more and better services. There was no significant relationship between the informal payments with socio-demographic characteristics, residential area and insurance status.

Conclusion: Our findings revealed that many strategies can be used for both controlling and reducing informal payments. These include training patients and hospitals' staff, increasing income levels of employees, improving the quantity and quality of health services and changing the entrenched beliefs that necessitate informal payments.

Keywords: Informal payment, Corruption, Iran, Under the table payment.

Introduction

Health systems not only play a critical and important role in improving health, but also are responsible to protect individuals against the financial costs of illnesses and diseases. One of the challenges that governments face is the reduction of out-of-pocket payments through the provision of subsidies, and expansion plans of prepayments (1). Out -of- pocket payments by the poorest people is an unfair way of healthcare financing. This way from both

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the perspective of equity and financial risk protection is considered as the worst possible way of debt financing and exposes individuals with a lot of risks (2).

From an economic perspective, informal payments are a form of direct out-of-pocket payment because they have similar effect on the demand and financial burden compared to the official payments (3,4). Informal payments in many developing and transition countries is considered as a major source of health care financing and a serious obstacle for health care reforms (5). In general, informal payments are defined as:(a) payments to people or providers in the form of cash or kind but outside of official payment channels, or(b) payments for purchasing medication and medical equipment by patients or their family members - where the responsibility is on public healthcare system or service provider unit. It should be noted that the voluntary purchase of medicines and equipment from the private sector is not considered as informal payments (6).

In general, informal payments in the current empirical studies have been defined as monetary or non-monetary compensation of services provided by healthcare personnel that is not a part of the official salaries of employees. These payments can be expected or unexpected, and may cause receiving additional and luxurious services (7). Informal payments are also known by other names including "under-the-table, bribery and corruption, bribery in the form of tea service payment, non-official payments, and corruptive payments" (2,8). Since informal payments are often paid directly to the individual health service providers, therefore, such payments are classified in the category of "use of public resources for private interests" and as a result, they are considered as a systemic corruption. In fact, informal payment is considered as a form of black market (9). They exist for a number of reasons such as lack of state resources for financing healthcare, lack of trust and transparency in the health system, lack of adequate monitoring, low

salaries and benefits for health service providers, lack of proper accountability in service delivery, poor management, poor quality services, frustration of service recipients as well as social and cultural features including tip giving culture (5,8,10-15).

Informal payments can lead to changes in government investment priorities, inefficiency of health systems, increased corruption, and reduction in reliability and transparency in the system. They can also affect health equity, access to and utilization of services, quality of services, the incentive to provide quality services by service providers, catastrophic costs, misrepresentation regarding the cost and extent of disease, and the patient's share of these costs which all result in incorrect policy decisions (8,12,16,17).

The frequency of informal payments varies from 2 % in Peru to 96 % in Pakistan, (5). A significant number of patients in Bulgaria (43%), Poland (46%), Turkmenistan (50%), Tajikistan (70%) have had informal payments for services that are free by the law (8). A study by Delcheva and colleagues (1997), conducted in Bulgaria, showed that 49.2 % of 706 studied people had informal payments for free public services. These payments were paid for a range of services as well as hospital staff (18). Results of a study by Gaal and colleagues in Hungary indicated that in 2001 the total size of informal payments in Hungary was 1.5 to 4.6% of health care expenditures (12). Another study by Liaropoulos and colleagues (2005) in Greece showed that 36% of the respondents had at least one-time informally paid to the doctor. This study indicated that there is no relationship between family socioeconomic characteristics and extent of informal payments (19).

The study by Tatar and colleagues (2007) in Turkey pointed out that 25% of out of pocket payments in Turkey was informal payment. This kind of cash payment is mostly a motivation to ensure services and not for gratitude or other cultural reasons (20). In another study in Turkey, Hacer Özgen and colleagues (2010) have shown

that 31% of respondents stated that they had at least one-time informal payment. In contrast to previous studies, this study has also stated that cultural aspects have a substantial influence on having informal payments (16).

In Iran, more than 90% of people are under the coverage of health insurance, but informal payment exists in many health sections (21). Some studies explored this phenomenon in the context of Iran's treatment system.

Setayesh and colleagues (2005) surveyed the public opinion towards paying informal payments to doctors in Kerman, Iran. They stated that 70% of the respondents had sufficient knowledge about under the table payments, 78% believed that informal payments would harm the sanctity of the medical profession, and in 87% of the cases people did not have sufficient information about the existence of competent authorities to handle the under-the-table payments (21).

Studies indicate that informal payments in the health care sector occur frequently. However, there are a few studies in this regard, therefore, this study aimed to estimate the amount of informal payments and its influencing factors among the hospitals affiliated to Tehran University of Medical Sciences. This study can be a useful step in improving Iran's health system management.

Methods

This is a cross-sectional study. The study population included all patients admitted to the ICU, CCU, surgery, emergency and internal wards of general hospitals affiliated to Tehran University of Medical Sciences (TUMS). The pilot study showed that about 25% of respondents pay informal payments. A 3-step multi-stage random sampling method was used. First, 3 hospitals from the general ones were selected randomly. In the second stage, the sample size for each hospital was determined based on the number of hospital discharges. About 117 patients from hospital A, 112 patients from hospital B and 71 patients from hospital C, were selected. Finally, for each hospital, the number of samples in each ward was estimated using the number of ward discharges. We recruited discharged patients from internal, surgery, emergency, ICU & CCU wards.

Data collection

Data were collected through structured telephone interviews as well as a questionnaire. In this study, content validity was used to determine the validity of the questionnaire. In order to compile an appropriate questionnaire, the basic questionnaire was given to professors and experts. Finally, after several amendments, a questionnaire was prepared in accordance with the conditions of Iran. Test-retest was used to determine the reliability of the questionnaire. Using Pearson test, the correlation between the results of the two tests was estimated above 94%. Informal payment in this study was defined as every payment to people or providers in the form of cash or kind but outside of official payment channels (5). In the case of goods, the monetary value of them were asked from respondents and computed. All costs are expressed in Iranian Toman, a super unit of the official currency of Iran. Confidentiality of patients and hospital staff was maintained throughout the study.

Statistical Analysis

Frequency distribution descriptive statistics were applied. To determine the relationship between informal payments and insurance status of respondents we used Mann-Whitney test and to determine the relationship between informal payments and other demographic characteristics of respondents we used Kruskal-Wallis test (Table 3).To determine the relationship between frequency distribution of respondent based on the insurance status and informal payments, we used Fisher's exact test and to determine the relationship between frequency distribution of respondent, based on other variables and informal payments, we

used Chi-square test (Table 4). The analysis was performed using SPSS v. 21 software.

Results

Distribution of the subjects, according to demographic characteristics, insurance status, length of stay, individuals' status in

Table 1. Frequency distribution of participant characteristics

Demographic Characteristics	n	%
Gender		
Female	155	51.7
Male	145	48.3
Age (years)		
Less than 20 years	19	6.3
20-29	36	12.0
30-39	41	13.7
40-49	59	19.7
50-59	54	18.0
$\geq$ 60 years	91	30.3
Marital Status		
Married	216	72.0
Single	43	14.3
Other (Widowed - Divorced)	41	13.7
Education		
Illiterate	93	31.0
Primary	71	23.7
Secondary school	46	15.3
High school	64	21.3
Higher	26	8.7
Employment		
Salaried (with fixed regular wage or salary)	38	12.7
Labor worker (without fixed reguar payment)	46	15.3
Self-employed	40	13.3
Unemployed (who don't have income: housewives, students ...)	176	58.7
Place of residence		
Capital	131	43.7
City	123	41.0
Village	46	15.3
Insurance Status		
Insured	278	92.7
uninsured	22	7.3
Length of Stay		
Less than a day	33	11.0
1-4	98	32.7
5-9	78	26.0
10-14	52	17.3
$\geq$ 15 days	39	13.0
Type of referral		
Referred from office	19	6.3
Emergency	154	51.3
Clinic of Hospital	98	32.7
Referred from other centers.	29	9.7
Paid Informal payments		
Yes	63	21.0
No	237	79.0
Receive request for informal payment		
Yes	11	3.7
No	289	96.3

Table 2. Frequency distribution of payers informal payment according to motivation

Informal Payment Details	n	%
Gratitude	35	55.6
Receive more services	24	38.1
Request from personnel	4	6.3
Total	63	100

terms of paying informal payment and receiving requests for informal payment (from doctors and other staff), is reported in Table 1.

With consideration to demographic characteristics of participants, 51.7% (n=155) were male and the rest were female. More-over, most of them aged 60 and over and 72% (n=216) were married. In case of education, 31% (n=93) had no education and 58.7% (n=176) of all studied people were jobless. About 92.7% (n=278) of participants had a basic insurance and 93% (n=279) had no supplementary insurance.

Table 3. Informal payments according to the demographic characteristics of respondents

	Median (Toman)	Interquartile range	Test
Hospital			Kruskal Wallis
A	5000	9250	P = 0.552
B	5000	6250	Not significant.
C	4000	43000	
Ward			Kruskal Wallis
Internal	5000	5000	P = 0.758
Surgery	5500	16250	Not significant.
Emergency	3500	3500	
ICU	9000	37250	
CCU	7000	9500	
Gender			Mann-Whitney
Female	5000	7750	P = 0.864
Male	5000	8000	Not significant.
Age			Kruskal Wallis
Less than 29 years	6000	16000	P = 0.90
30-39	7500	12000	Not significant.
40-49	7000	5000	
50-59	3000	3000	
≥ 60 years	5000	7500	
Marital Status			Mann-Whitney
Married	5000	7000	P = 0.263
Single	4500	5750	Not significant.
Education			Kruskal Wallis
Illiterate	6000	14000	P = 0.290
Primary	5000	5250	Not significant.
Secondary	5000	8000	
High school	6000	6000	
Higher	6000	20000	
Employment			Kruskal Wallis
Unemployed	5000	5500	P = 0.357
Salaried	5000	15250	Not significant.
Work people	10000	15250	
Self-employed	4000	8000	
Place of residence			Kruskal Wallis
Capital	5000	8000	P = 0.697
City	5500	8500	Not significant.
Village	5000	16000	
Insurance Status			Mann-Whitney
Insured	5000	7000	P = 0.208
uninsured	3500	3000	Not significant.
uninsured			
Type of referral			Kruskal Wallis
Referred from office	3000	3000	P = 0.164
Emergency	6000	8000	Not significant.
Clinic of hospital	5000	5750	
Referred from other centers	7500	50500	
Length of Stay			Kruskal Wallis
Less than a day	3500	10000	P = 0.229
1-4	5000	6500	Not significant
5-9	4000	13000	
10-14	5500	5000	
≥ 15 days	9000	57750	

Furthermore, 43.7% (n=131) lived in Tehran and the rest in other cities or villages. Besides, 32.7% (n=98) had stayed 1 to 4 days in the hospital and most of them (51.3%) were admitted through the emergency ward of the hospital. 79% of participants claimed that they had no informal payments and 96.3% (n=289) mentioned not being asked for such payments.

All of the 63 participants who paid informally acknowledged that the payments were made to housekeeping staff. None of

Table 4. Frequency distribution of respondent according to pay informal payment

| | Have Informal payments been paid? | |
| | \multicolumn{2}{c}{Yes} | \multicolumn{2}{c}{No} | \multicolumn{2}{c}{Sum} | Test |
	n	%	n	%	n	%	
Hospital							Chi-square =
A	22	18.8	95	81.2	117	100	11.563
B	34	30.4	78	69.6	112	100	P = 0.003
C	7	9.9	64	90.1	71	100	Significant
Ward							
Internal	21	18.4	93	81.6	114	100	Chi-square = 5.764
Surgery	20	21.3	74	78.7	94	100	P =0 .219
Emergency	10	16.9	49	83.1	59	100	Not significant.
ICU	6	37.5	10	62.5	16	100	
CCU	6	35.3	11	64.7	17	100	
Gender							Chi-square = 0.024
Female	32	20.6	123	79.4	155	100	P = 0.888
Male	31	21.4	114	78.6	145	100	Not significant.
Age							Chi-square = 3.771
Less than 20 years	2	10.5	17	89.5	19	100	P = 0.589
20-29	5	13.9	31	86.1	36	100	Not significant.
30-39	10	24.4	31	75.6	41	100	
40-49	15	25.4	44	74.6	59	100	
50-59	10	18.5	44	81.5	54	100	
≥ 60 years	21	23.1	70	76.9	91	100	
Marital Status							
Married	49	22.7	167	77.3	216	100	Chi-square = 6.307
Single	3	7	40	93	43	100	P-value = 0.042
Other (widowed and divorced)	11	26.8	30	73.2	41	100	Significant
Education							
Illiterate	14	15.1	79	84.9	93	100	Chi-square = 3.596
Primary	18	25.4	53	74.6	71	100	P = 0.468
Secondary	11	23.9	35	76.1	46	100	Not significant.
High school	13	20.3	51	79.7	64	100	
Higher	7	26.9	19	73.1	26	100	
Employment							Chi-square = 6.902
Unemployed	32	18.2	144	81.8	176	100	P = 0.075
Salaried	14	36.8	24	63.2	38	100	Not significant.
Work people	10	21.7	36	78.3	46	100	
Self-employed	7	17.5	33	82.5	40	100	
Place of residence							Chi-square = 4.88
Capital	34	26	97	74	131	100	P = 0.178
City	22	17.9	101	82.11	123	100	Not significant.
Village	7	15.2	39	84.8	46	100	
Insurance Status							Fisher's Exact Test
Insured	59	21.3	218	78.7	277	100	P = 0.794
uninsured	4	17.4	19	82.6	23	100	Not significant.
Type of referral							Chi-square = 3.373
Referred from office	7	36.8	12	63.2	19	100	P = 0.294
Emergency	28	18.2	126	81.8	154	100	Not significant.
Clinic of hospital	22	22.4	76	77.6	98	100	
Referred from other centers	6	20.7	23	79.3	29	100	
Length of Stay							
Less than a day	4	12.1	29	87.9	33	100	Chi-square = 2.481
1-4	22	22.4	76	77.6	98	100	P = 0.652
5-9	15	19.2	63	80.8	78	100	Not significant.
10-14	12	23.1	40	76.9	52	100	
≥ 15 days	10	25.6	29	74.4	39	100	

these individuals had paid informal payments to medical or administrative staff. The highest form of payment was cash (88.88%, n=56) followed by in-kind (9.52%, n=6), flowers and other gifts (1.6%, n=1). 14.29% (n=9) of the patients who had an informal payment claimed that they were asked for such payments by hospital staff.

The frequency distribution of respondents based on the reasons for paying informal payment is presented in Table 2. As shown in this table, most of the participants (55.6%, n=35) stated that they have informal payments mostly for appreciation of hospital personnel.

In addition, as seen in Table 3, we extracted median of informal payments with consideration to demographic features of participants. There was no significant relationship between median of informal payments with hospital, ward, referral type, patient demographic characteristics, insurance status and length of stay.

Finally, Table 4 presents relative and absolute frequency of studied groups with consideration to having or not having informal payments and their demographic characteristics. [e.g., among 117 (100%) respondents of "A" hospital, 22 persons had paid informal payment (18.8%) and 95 persons had not paid informal payment (81.2%)].

There was no significant relationship between the frequency of informal payment with type of hospital ward, and demographic characteristics. On the contrary, there was a significant correlation between the frequency of informal payments with marital status (p= 0.042) and type of hospital (p= 0.003). Married groups pay the highest and singles pay the lowest informal payments (Table 4).

Discussion

According to our findings, none of the respondents had informal payments to physicians. The most frequent informal payments were in cash to the hospitals housekeeping staff to ensure more and better ser-

vices. There was no significant relationship between the average informal payments with socio-demographic characteristics, residential area and insurance status. No significant relationship between demographic variables and informal payment frequency was identified.

It is difficult to have a precise estimate of informal payments due to hidden and invisible nature of these payments. Similar to other informal activities, informal payments are often unreported and illegal, therefore, both sides of these payments, i.e. patients and providers, refused to speak and discuss about these payments (6,16).

On the other hand, in many cases due to information asymmetry between patients and providers, patients are not legally and technically able to identify what is needed and what is not. Thus, this fee is always imprecise and its accurate estimation is difficult to obtain (14,5).

According to the results of our study, 21% (n=63) respondents reported that they had paid informal payments. By comparison, this rate is lower than the numbers reported in the studies done in Turkey and Greece (16,19,20). According to the study of Özgen and colleagues (in Turkey, 31% of respondents believed that at least they had informal payment for one time (16). A study by Liaropoulos in Greece showed that among those who were treated in public hospitals, 36% had at least one informal payment to doctors or nurses, and 8 to 11% had informal payments to other hospital staff (19). Our findings showed that among 63 patients who had informal payments (21% of total respondents); all had paid to the hospital housekeeping staff. Liaropoulos and colleagues in Greece reported that 31% of individuals paid informally to the doctors whereas 11 and 9% had informal payments to nurses and other hospital staff respectively (19). In a study by Tatar and colleagues in Turkey, they stated that physicians and surgeons were the main recipients of informal payments in hospitals (20).

According to our findings, the common type of informal payment is in cash (88.8%,

n=56). This is in line with Özgen and colleagues' findings. Their findings demonstrated that 69.7% of informal payments were in cash (16). Our finding indicated that 3.7% of the respondents were asked for an informal payment. These findings differ from Greece research results (19). Liaropoulos and colleagues pointed out that 23% of people surveyed in Greece were asked for informal payment by hospital staff (19).

According to our findings, the most frequent reason for informal payments was appreciation, but this finding is not in line with Liaropoulos and colleagues' findings. They found that 42 % of payments were for the quality of care, 20% due to the employee's request, and 18% for appreciation. Patients in their study claimed that informal payments are a way to access better quality services and reduce long waiting queues in the public hospitals in Greece (19).

Moreover, according to Özgen and colleagues, 67% of the payments were in the form of gifts for appreciation. This type of payment is considered as a gift in Turkish culture (16). On the other hand, Tatar and colleagues' findings showed that informal payments were in cash and were paid to ensure more and better services (20). Our findings are in line with both studies.

The absence of a significant relationship between the average informal payments with socio-demographic characteristics, residential area and insurance status in this study were consistent with Liaropoulos and colleagues' study (19). Moreover, the absence of a significant association between the frequency of informal payment with aforementioned variables was in line with the results of Özgen and colleagues' study (16).

According to our findings, none of the respondents had informal payments to physicians. Although it seems an encouraging finding, more research needs to be done in this area. Most of the patients were admitted through the emergency ward and a few were introduced from the physician's office. This, in fact, decreases any form of pre-hospital relationship between patient and physician. It can reduce the communication between doctors and patients and their family, and consequently it has influence on the reduction of informal payments to the physicians.

The literature have shown that informal payments in special and sub-special surgeries can be frequent (2,9,19) and patients admitted to surgical operations have a high probability to pay informal charges (19). In this study, only patients admitted for general surgery were surveyed which the frequency of informal payments in this study may have been influenced by this.

Low wage and salary of hospital staff can be an influential factor on the prevalence of informal payments (Belli, 2000). According to our findings, most informal payments were paid to the hospitals housekeeping staff; one reason behind this can trace back to the lower levels of salary for them. It also can be said that most patients and their families are much closer to the hospital housekeeping staff than other staff, therefore, this might increase the request for informal payment by this group of staff.

Informal payments are tied to the economic structure of society. Shortage of financial resources, reduction in governmental budget, lack of competitiveness, monopoly, increased demand for clinical services and not increasing the budget accordingly will increase the number of the individuals in the job queue, low salaries for doctors and other hospital staff which all lead patients to pay, and providers to ask for informal payments (6,17,22,23).

To analyze the nature and extent of informal payments in health sector and its complexities in Iran, more research is needed. Solutions to deal with informal payments are various and complex, perhaps a great number of ways is required to address the negative effects of informal payments. Thus, a comprehensive dynamic and systemic approach will be required to restrict informal payments.

It seems that strategies such as education about informal payments, increasing health

sector resources, increasing official income levels, improving quantity and quality of health services and trying to change the opinions which believe informal payments are necessary (changing the culture) can be effective in controlling such payments. The key point is that before suggesting any strategy about informal payment, there has to be a necessary attention to the effects of these payments on quality, access, efficiency, equity, and other objectives and priorities of health systems. According to our findings, hospitals' housekeeping staff are the most likely groups to be informally paid due to their low salary, and the main incentive for informal payments was appreciation, from which we can understand that, like many other countries, it is a cultural and economic issue.

Conclusion

The study provides insights into the nature of informal payments in some general hospitals in Iran. The most of informal payments are paid for appreciation followed by receiving better and higher quality services.

This study specified that many strategies can be used for both controlling and reducing informal payments. These include educating patients and hospital staff, increasing income levels of employees, improving the quantity and quality of health services and changing the entrenched beliefs that necessitate informal payments. However, further studies should be conducted at the country level to yield better understanding of this phenomenon and also to policy making strategies.

Acknowledgements

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