

Self-Referral to the University Hospital Resulting in Unnecessary Patient Expenses: A Prospective Descriptive Study in a Super-Tertiary Hospital

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Abstract

Context: Thailand subsidizes health-care costs, allowing citizens access to health care without out-of-pocket expenses. However, some citizens still spend large amounts of money on treatment provided at tertiary care hospitals. **Aim:** To identify the proportion of patients whose visits are not covered by national health insurance at the tertiary hospital and their reasons for visiting. **Settings and Design:** Prospective, descriptive study in patients visiting Srinagarind hospital outpatient department from July to September 2019. **Subjects and Methods:** We gathered and analyzed the data regarding demographics, hospital visits, and illness severity using a questionnaire. **Statistical Analysis Used:** Descriptive analyses and logistic regression were performed as appropriate. **Results:** Of the 700 participants, 40% (95% confidence interval 36.3–43.7) was not covered for their visits. The three common reasons visiting this hospital were desire of treatment from a specialist (42.9%), the reputation of the hospital (31.4%), and service satisfaction (26.6%). **Conclusions:** Although the national health-care system provides a gratis service pathway, some people still pay out-of-pocket unnecessarily. Officials should work to better raise the level of public confidence in the primary and secondary care units.

Keywords: Community medicine, general practice, health insurance, self-referral, tertiary care

INTRODUCTION

Unnecessary expenses for medical issues, is the one of problem in the developing country, which indicates social disparity. The people living in remote area, who usually have lower income, need to pay more expense for their illness. Decentralization in the health-care system is the one of the strategy to decrease these disparities and increase the quality of life of the people who live in the remote area.

Thailand had been listed as one of the most wealth inequality countries. There are many strategies to reduce this gap, including government-provided health insurances. Although Thailand is one of many countries that subsidizes health care for its citizens, many Thai citizens pay for health-care services out-of-pocket unnecessarily. Currently, most of the Thai population has health insurance provided by the government under the Universal Health Coverage Scheme (UCS), Social Health Insurance Scheme (SHI), and Civil Servant Medical Benefit Scheme (CSMBS).^[1] In order to be covered under the UCS

and SHI, patients are obliged to visit the primary or secondary care unit of an affiliated hospital before referral to a tertiary care unit if the disease progresses beyond center capability.^[2] The CSMBS covers the full cost of any public hospital visit, excluding those of any unnecessary investigations or drugs not included in the National List of Essential Medicines (NLEM). The Thai public health system encourages patients to visit a primary care unit first. Then, if the patient's condition does not improve, to be transferred to a secondary and tertiary care unit, as appropriate. No payment is required for patients who seek treatment through this referral system (besides the drug and unnecessary treatment exceptions mentioned above).

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Northeast Thailand is the region with the country's largest population, which has the lowest average income. The largest health-care provider in this region is Srinagarind Hospital in Khon Kaen Province. Srinagarind Hospital is a tertiary care unit, where expected to take care only the patients who require the specialists, still has walk-in patients who do not require a specialist. However, patients there not covered under the CSMBS must pay out of pocket.

Since this hospital is a tertiary care medical school with many specialists and access to a large amount of medical equipment, it attracts patients from provinces throughout the Northeast, many of whom could have been treated at their local affiliated health-care unit. This results in hospital overcrowding, which increases the risks of infection and mortality, dissatisfaction with the service provided, medical error, health-care provider burnout, and most importantly, unnecessary expenses of the poor patients.^[3] The factors found to be associated with patient self-referral in other countries are desire of treatment by a specialist, treatment quality (including drugs and laboratory investigation),^[4-6] and the perception of severe illness progression.^[7] This study was thus conducted to identify the reasons patients present at the Srinagarind hospital outpatient department and visit the hospital from out of province to establish the development process of primary and secondary care providers and to reduce the disparities in our region as a final goal.

SUBJECTS AND METHODS

This was a prospective, descriptive study in patients who visited the Srinagarind hospital outpatient department from July to September 2019. We gathered data regarding demographics, hospital visits, and illness severity using a self-administered questionnaire. Patients over 18 years of age who willing to participate in the study and could read and write in Thai. Emergency patients and those unable to answer the questionnaire were excluded. Patients were enrolled in the study after providing written consent. This study was approved as exemption review by the Khon Kaen University Center for Ethics in Human Research (HE 621100).

In this study, the definition of "payment requires" was the expense in patients without CSMBS health insurance, Srinagarind Hospital UCS and SHI.

Statistical analysis

The power calculation was based on the primary outcome, the proportion of the patients whose visits are not covered by national health insurance at the tertiary hospital. Assuming the proportion of 42.4%, a total of 653 participants were required to detect a relevant difference of 10% with a significance $\alpha = 5\%$ and a power of $(1-\beta) = 80\%$.

Descriptive analyses were performed as appropriate. All analysis was conducted using IBM SPSS 19 (IBM Corp. Released 2010. IBM SPSS Statistics for Windows, Version 19.0. Armonk, NY: IBM Corp). Data were summarized as

the nominal variables by expressing their frequency and percentage and numerical variables as mean and standard deviation or median and range. Logistic regression was used to computed the odd ratio and 95% confidence interval (CI).

RESULTS

Demographic data

Of the 700 participants enrolled in this study, 69.3% were female, 44.7% were from Khon Kaen province, and 52.9% had no underlying disease. The mean age was 45.36 ± 17.7 years.

Hospital visit data

Most patients had visited Srinagarind hospital in the past (76.5%), and 32.3% were covered by the CSMBS. Of the 280 patients (40%: 95% CI 36.3–43.7) whose visits were not covered. Of these, 163 (58.2%) indicated that they misunderstood that they visit affiliated hospital according to their health insurance.

The reasons for visiting the Srinagarind hospital outpatient department were desire of treatment from a specialist (42.9%), the reputation of the hospital (31.4%), and satisfaction with the service provided (26.6%). These factors did not differ by province of residence or health-care coverage status. Anyway, patients living in the province gave nearby hospital as the second reason [Table 1].

In terms of perceived illness severity, patients mostly thought that their symptoms indicated a nonemergency (50.9%) and were moderate in severity (49.6%). Four hundred and forty-two patients (63.1%) thought that their local health-care provider would not be able to treat their symptoms. These factors did not differ by province of residence or health-care coverage status [Table 2].

Factors related to interprovincial visits to the Srinagarind hospital outpatient department

The reasons for patients from other provinces visiting the Srinagarind hospital outpatient department differed from those of patients residing in Khon Kaen. These included desire of treatment by a specialist, (odds ratio [OR] 2.11; 1.55–2.88), having received ineffective treatment from another health-care provider (OR 2.23; 1.2–4.12), having been recommended by a friend or family member (OR 2.75; 1.54–4.94), and the perception that their local health-care provider would not be able to treat their illness (OR 1.85; 1.35–2.54) [Table 3]

DISCUSSION

We found that 40% of patients visiting the Srinagarind hospital outpatient department were paying out of pocket. The most common reasons were desire of treatment from a specialist, the reputation of the hospital, service satisfaction, having received ineffective treatment from another health-care provider, having been recommended by a friend or relative, and the perception that their local healthcare provider would not be able to treat their illness. However, more than half of these patients believed

Table 1: Reasons visiting the Srinagarind hospital outpatient department

Variables	Payment required		Place of residence		Total (n=700), n (%)
	No (n=420), n (%)	Yes (n=280), n (%)	Khon Kaen (n=304), n (%)	Outside Khon Kaen (n=387), n (%)	
Desire of specialist treatment	191 (45.5)	109 (38.9)	103 (32.9)	197 (50.9)	300 (42.9)
Near residence	113 (29.6)	30 (10.7)	112 (35.8)	31 (8)	143 (20.4)
Ineffective treatment from other health-care providers	29 (6.9)	25 (8.9)	15 (4.8)	39 (10.1)	54 (7.7)
Service satisfaction	118 (28.1)	66 (23.6)	86 (27.5)	98 (25.3)	184 (26.6)
Hospital reputation	153 (36.4)	67 (23.9)	105 (33.5)	115 (29.7)	220 (31.4)
Having recommendation	32 (7.6)	34 (12.1)	16 (5.1)	50 (12.9)	66 (9.4)
Quality of medical equipment	96 (22.9)	34 (12.1)	61 (19.5)	69 (17.8)	130 (18.6)
Drug effectiveness	62 (14.8)	24 (8.6)	45 (14.4)	41 (10.6)	86 (12.3)
Regular patient	105 (25)	28 (10)	73 (23.3)	60 (15.5)	133 (19)

Table 2: Perception of illness severity in patients visiting the Srinagarind hospital outpatient department

Variables	Payment required		Place of residence		Total (n=700), n (%)
	No (n=420), n (%)	Yes (n=280), n (%)	Khon Kaen (n=304), n (%)	Outside Khon Kaen (n=387), n (%)	
Emergency condition					
No	224 (53.3)	132 (47.1)	172 (55.0)	184 (47.5)	356 (50.9)
Yes	102 (24.3)	81 (28.9)	67 (21.4)	116 (30.0)	183 (26.1)
Uncertain	94 (22.4)	67 (23.9)	74 (23.6)	87 (22.5)	161 (23.0)
Severity					
Very low	54 (12.9)	37 (13.2)	43 (13.8)	48 (12.4)	91 (13.0)
Low	65 (15.5)	39 (13.9)	49 (15.8)	55 (14.2)	104 (14.9)
Moderate	213 (51.2)	132 (47.1)	159 (51.1)	186 (48.1)	347 (49.6)
High	72 (17.1)	55 (19.6)	53 (17)	74 (19.1)	127 (18.1)
Very high	14 (3.3)	17 (6.1)	7 (2.3)	24 (6.2)	31 (4.4)
Ability of local health-care provider to treat the current condition					
Able	156 (37.1)	102 (36.4)	148 (47.3)	110 (28.4)	258 (36.9)
Unable	264 (62.9)	178 (63.6)	165 (52.7)	277 (71.6)	442 (63.1)

that their visit would be covered by the national health-care services.

Surprisingly, more than half of the patients visiting the Srinagarind hospital outpatient department did not know about their government-provided health insurance. This may have resulted from misunderstanding in the term of health insurance between the patients and medical personnel. In medical personnel, health insurance according to the Thai public health system means that there is no payment need in patients visiting health-care provider. However, in some patients, hospital cost to pay also means that they have the hospital's health insurance. This kind of misunderstanding can lead to hospital visits that are not covered by the patient's insurance. This issue is simply solved by extensively provide the corrected information regarding health care insurance.

Most patients, regardless of coverage status or place of residence, visited Srinagarind hospital because they desire of treatment by a specialist. This finding is consistent with those of a previous descriptive study, which found that self-referral patients bypassed primary care facilities due to distrust in the

medical personnel/equipment at the primary facilities, high illness expectation more than the primary care can handle,^[6] and their perceptions of their diseases/symptoms. However, patient perception of illness often does not correspond with reality. A previous study suggested that patients tend to evaluate their necessity to undergo examination higher than physicians do.^[8] Patients visiting the outpatient department are generally patients without emergency conditions and who are not in need of a specialist. Despite this, many of these patients seek out treatment facilities in which specialists are available, possibly as a result of anxiety^[9] or wrongly estimating the emergency level of their disease.^[10]

Patients who resided outside of Khon Kaen had different reasons for visiting Srinagarind Hospital than those living within the province. The reasons for interprovincial visits were requiring treatment by a specialist, having received ineffective treatment from another health-care provider, having been recommended by a friend or relative, and the perception that their local health-care provider would not be able to treat their illness. These reasons demonstrated an attitude to the health-care provider and confidence in the treatment of tertiary

Table 3: Factors related to interprovincial visits to the Srinagarind hospital outpatient department

Variables	Place of residence		Statistical test OR (95% CI)
	Outside Khon Kaen (n=387), n (%)	Khon Kaen (n=313), n (%)	
Desire of specialist treatment			
Yes	197 (50.9)	103 (39.9)	2.11 (1.55-2.88)*
No	190 (49.1)	210 (67.1)	1 (reference)
Near residence			
Yes	31 (8.0)	112 (35.8)	0.16 (0.1-0.24)
No	356 (92.0)	201 (64.2)	1 (reference)
Ineffective treatment from other health-care providers			
Yes	39 (10.1)	15 (4.8)	2.23 (1.2-4.12)*
No	348 (89.9)	298 (95.2)	1 (reference)
Service satisfaction			
Yes	98 (25.3)	86 (27.5)	0.9 (0.64-1.25)
No	289 (74.7)	227 (72.5)	1 (reference)
Hospital reputation			
Yes	115 (29.7)	105 (33.5)	0.84 (0.61-1.15)
No	272 (70.3)	208 (66.5)	1 (reference)
Having recommendation			
Yes	50 (12.9)	16 (5.1)	2.75 (1.54-4.94)*
No	337 (87.1)	297 (94.9)	1 (reference)
Quality of medical equipment			
Yes	69 (17.8)	61 (19.5)	0.9 (0.61-1.31)
No	318 (82.2)	252 (80.5)	1 (reference)
Drug effectiveness			
Yes	41 (10.6)	45 (14.4)	0.71 (0.45-1.11)
No	346 (89.4)	268 (85.6)	1 (reference)
Regular patient			
Yes	60 (15.5)	73 (23.3)	0.6 (0.41-0.88)
No	327 (84.5)	240 (76.7)	1 (reference)
Ability of local health-care providers to treat the current condition			
Unable	277 (71.6)	165 (52.7)	1.85 (1.35-2.54)*
Able	110 (28.4)	148 (47.3)	1 (reference)

*Statistically significant. OR: Odds ratio, CI: Confidence interval

care from patients and people around. Although the illnesses of many patients in this study could have been treated by a local health-care provider, the patients spent the additional time and money required to receive treatment at the tertiary hospital. This finding was consistent with those in previous reports, which have suggested that patients have a low level of confidence to primary care units.^[11-13] These support the decentralization of health-care system, which is in the part of reduction of the social disparity, to distribute more specialist to the primary and secondary care.

A strength of this study was that it was prospectively conducted in the largest medical school hospital in the region with the largest and poorest population, so the results will likely apply to any country with a similar health-care system and demography. However, this study has some limitations, (i) it relied on a self-assessment questionnaire with no tracking of patients after visiting the outpatient department, so there was no information about subsequent treatment or specialist referral and (ii) this study did not explore about the expenses of the

participants. Although average income in the region is low, residents spend a large amount of money on unnecessary health-care costs due to their attitudes regarding tertiary care hospitals, their overestimating the severity of their illness, and misunderstandings with regard to the national health-care schemes. These problems can be solved through proper education with regard to health-care provider services and health insurance and by working to raise peoples' level of confidence in primary and secondary care units.

CONCLUSIONS

The hospital visits of 40% of patients in the outpatient department were not covered by national health insurance. More than half of these patients understood that they visit affiliated hospital according to their health insurance. The most common reasons were desire of treatment from a specialist, the reputation of the hospital, and service satisfaction. The factors associated with interprovincial visits were requiring treatment by a specialist, having received ineffective treatment from

another health-care provider, having been recommended by a friend or relative, and the perception that their local health-care provider would not be able to treat their illness.

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Conflicts of interest

There are no conflicts of interest.

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