

Health Care -Seeking Behavior in Tehran, Islamic Republic of Iran

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Abstract: *Objectives:* The main objective of this study is to examine current patterns of health care-seeking behavior among residents in Tehran, 2008. *Methods:* A two stage cluster sampling method was used to select blocks at the first stage and households within them at the second. A total of 1882 individuals over 18 years resided in the households surveyed through an instrument. Validity and reliability of the instrument examined. Cronbach's alpha ($r=.76$) revealed high reliability coefficient. Exact fisher test, χ^2 and multivariate logistic regression were applied to analyze the data collected. *Findings:* 22/9% (431) of participants reported 1-2 times illness during the last month at the time of the study. The influence of various socio-demographic variables and perceived seriousness of illness on the decision of whether or not to seek care was analyzed with multivariate logistic regression. *Conclusion:* Findings suggest that increasing social awareness and self-consciousness about side effects of pharmaceuticals, continuous education and training of physicians and chemists, improving health insurance system and universal coverage may help both the health system to be performed appropriately and utilization of health care services, very effectively.

Key words: Care seeking behaviour • Health care system • Self treatment • Tehran

INTRODUCTION

How different groups of people with different socio-economic status, seek and use different types of medical care in different levels of health care system, seems to be very important for policy making, services supplied and possible control of excess or induced demand in health care services management. Better understanding of this process and how it is formed, can help planning to meet greater goals of health systems such as increased access, improved quality, appropriate management and health services utilization [1].

Demand for health care, is influenced by a variety of factors including patient's expressed needs for treatment of the disease they suffer from, sensitivity and vulnerability to a specific illness, their perception about the disease, its causes, appropriate way of dealing with it, access to services, either physical or financial and acceptability of services delivered.

Utilization of health services is constructed on the basis of demand for health care. Women's low status in some neighborhoods, regions, social groups, or sub-cultures, seems to be an almost uncontrollable barrier to utilization of health care services. The situation is exacerbated if family members and relatives/ supporters confront to a long term treatment (e.g. chronic diseases), which may make them more reluctant to spend their time and money for treatment. In this case, therefore, what are important are the attitudes of dominant members of family (Head of household), rather than the patient's view itself [2].

According to Donabedian, the consumption of services is more indicative to access to health care, than the existing of health facilities in itself [3].

In organizing and managing health services, a crucial question which needs to be answered is that; who does enjoy from utilization of health system and who does not. Some believes that providing an adequate health services

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for those who are in the most need is the most accepted priority in this respect [4]. Significant differences in health care utilization by different social groups, even in countries with universal insurance coverage, have been observed [5]. In many cases, poorer people with greater needs uses less services (inverse care law), therefore equity concerns and reducing gaps are positioned as essential goals for policy making and policy makers [6].

“There are good data on national patterns of risk and disease today, few countries break this information down sub-nationally by income level, gender or vulnerable groups, such as the handicapped, minorities ethnic populations and the frail elderly. Even fewer countries have information on the health-seeking behavior of those groups or their utilization of health care facilities. Without such information, the effectiveness of interventions is difficult to assess, as the same intervention may have very different effects when applied to different populations” [1].

It seems that determining and recognition of influential factors on utilization of health services, as an important socioeconomic and health related behavior, helps to explore and evaluate policies relevant to access and quality of health care [5].

This paper provides evidence on health care-seeking behavior of Tehran's residents. Tehran, as a mega city, houses about 12 million of the country's (Iran) citizens and has an extensive network of health services, including polyclinics, well-equipped private facilities and teaching hospitals.

In this paper, background information on health care in Iran was reviewed. Then socioeconomic status of the households and their strategies to cope with health care problems were described. Finally, main findings of the study were discussed and presented. At the end some limitations of study were acknowledged.

Health System and Reforms in Iran: Iran's health care system has been developed in 3 levels. The first 2 levels have been designed for delivering mainly preventive health care over the country even in most remote and deprived areas and for providing access to health care particularly for the poorer populations and social classes. Initially these levels were to be linked to the third level with dominant curative care delivery structure and established mostly in urban and metropolitan areas. The purpose was to design an integrated, cohesive health care system with strong referral mechanisms. It is, however didn't happen [7, 8].

For the purpose of providing equal access and quality care, following steps were taken:

- Developing an “over the country health network” for delivering basic and mainly preventive health services particularly in rural and remote areas.
- Integrating hospitals and clinical centers with medical schools and constructing medical sciences universities across the country [7].
- Developing self –sufficient hospitals as a first step towards health system reform.
- Outsourcing as a policy which recognized on the 4th national socioeconomic and cultural plan [9].
- Expanding the “family physician-care” model in rural areas to serve at the first point of contact [10]. This model is to be expanded in urban areas as well. Physicians employed to practice within this structure, supposed to play a gatekeeper role in the system.

Despite proposed reforms, Iran's health care system now faces with several challenges. Higher rates of out of pocket payments (56%) [11] together with low level of access to curative care, mostly in deprived areas, imbalance collaborations with private sector and lack of basic information about epidemiologic profile of Iran are some of these challenges [10]. Such an uneven, fragmented and unfairly structured health system may produce a diversity of health care seeking behaviors among different groups of populations.

MATERIALS AND METHODS

This study was based on the health care seeking behavior in Tehran, Iran, a household survey conducted in 2008. Tehran was selected as the site of study because of its unique characteristics. This capital city of Iran has been divided into 90 big blocks by Tehran's municipality. A two stage cluster sampling method was used to select blocks at the first stage and households within them at the second. 50 clusters were selected randomly for interview and data collection. A total of 1882 individuals (38±7 from each block), who were ≥ 18, was interviewed.

The sampling of households was stratified in a way that the number of households sampled in each of Tehran's 90 big blocks was directly proportional to the number of households in the block. Sampled households were visited at a maximum of three times during the survey. The survey aimed to reach an 1882 sample size, thus after three re-calls a replacement household was selected following the sampling actions defined for the study.

Field work was accomplished over a 4-week period in winter 2008 with 4 trained surveyors.

A questionnaire including 36 questions about two distinctive areas (socioeconomic and demographic characteristics of the population study and their health seeking behavior) was developed and employed as an instrument for data gathering purposes.

In order to improve instrument validity and reliability the researchers conducted a pilot study on 60 subjects and consulted with experts and informed peers in the university. Cronbach's alpha ($r=.76$) revealed high reliability coefficient.

Exact fisher test, χ^2 and multivariate logistic regression were applied for analyzing collected data. The study conducted in year 2008.

RESULTS

Findings revealed that 58.7% and 41.3% of study population were men and women respectively with average age of 43+17. Age distribution of the population study was consistent with findings from Demographic and Health Survey (12) and census of Iran statistics center (2006). Average family size for households surveyed was 4+1.46.

In terms of educational attainment, most of the respondents (28.3%) had completed 8 years of schooling (guidance level). The lowest rate belonged to the respondents with tertiary education (3.9%). Civil servants and the retired were dominant among the population study in terms of occupation. About 9.5% reported as unemployed which was consistent with findings of DHS (2000) of MOHME and census of Iran statistics center (2006).

The rates for singles and married determined as 20.5% and 74.5% respectively.

The main demographic variables among study population were characterized in Table 1.

Higher degree of similarities between findings of the study and DHS conducted in year 2000 were observed [12].

From the ethnicity point of view, 63.4% and 27.9% of the respondents were recognized as Fars and Azeri respectively. The other minorities such as Kurd, Lur and etc, constituted 4.3%, 1.7% and 3.6% of the population study.

On the whole 76.3% of surveyed households have had an insurance coverage, mostly (39%) under Social Security Organization. These findings have been summarized in Table 1.

Table 1: Demographic characteristics of participants

Demographic characteristics (n=1882)	N(%)
Gender	
Male	777 (41.3)
Female	1105 (58.7)
Age group (years)	
18-39 ¹	860 (45.7)
40-64	762 (40.5)
65+	260 (13.8)
Ethnicity	
Fars	1193(63.4)
Azari	525(27.9)
Others	164(9.6)
Educational level	
No education or secondary school ¹	857 (45.5)
Completed high school	493 (26.2)
Higher education	572 (28.3)
Marriage status	
Married	1402 (74.5)
Single	384(20.4)
Others	96 (5.1)
Occupation	
Unemployed	179 (9.5)
Housewife	399 (21.2)
Officer	578 (30.7)
Self employer	468 (24.9)
Worker	181(9.6)
Others	77 (4.1)
Income quintile	
Poorest ¹	194 (10.3)
2nd	474 (25.2)
3rd	553 (29.4)
4th	354 (18.8)
Richest	307 (16.3)
Insurance	
Insured	1430 (76.3)
Uninsured	452 (23.7)

Figure 1 demonstrates an overview of health seeking behavior of households surveyed. As it has been indicated in the figure, 431 out of 1882 reported contracting an illness at least once, during the month prior to interview. Therefore the incidence rate calculated as 229 per 1000 population. Severity of illness in this study classified in 3 levels of high, moderate and low. The majority of the respondents (58.7%), with an illness, indicated a moderate severity for their illness.

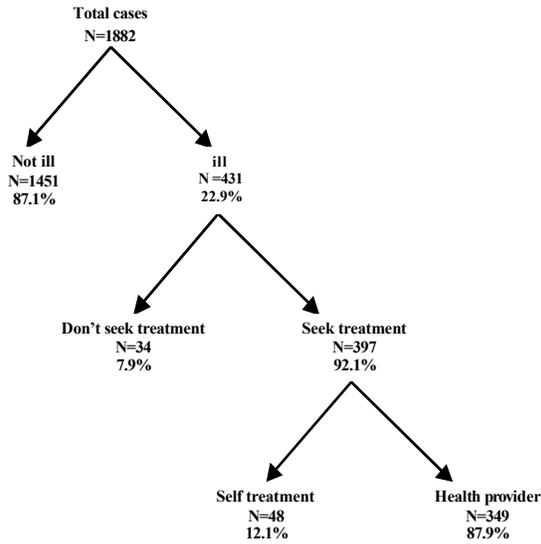


Fig. 1: General overview of patient care-seeking process

397 (92.1%) out of 431 illness experienced population, have taken a step for treatment of their illness, while 34 of them (7.9%) have done nothing. Most of the respondents (87.9%) who looked for treatment, utilized professional and modern services in public or private hospitals and clinics but 48 (12.1%) of them conducted a self-treatment procedure.

A multivariate logistic regression analysis demonstrates the effect of socioeconomic variables and perceived severity of illness on health seeking behavior against being indifferent for treatment (Table 2; column 1). It is worth noting that in this column either form of care seeking behavior (modern, traditional, or self-treatment) included. As it has been indicated in Table 2, variables such as age, gender, severity of illness, educational attainment and marital status, demonstrated a significant relation with the chance of looking for health care and treatment.

Gender and age were two main influential variables on looking for care among the respondents. The older the respondents (65+), the higher probability odd looking for care. Comparison between two age groups (65+) and (18-39), revealed that probability of looking for care among the first group is 2.5 times higher than that of the last group (2.49, CI 1.46–5.19, $p < 0.01$). The probability of looking for care, in any form, among women was also 1.7 times higher than that of men (1.69, CI 1.29–2.38, $p < 0.01$).

Patients who perceived their severity of illness as moderate, demonstrated higher odds (3.44, CI 2.26–4.43, $p < 0.01$) for seeking care in comparison to patients with low perceived severity of illness. Corresponding ratio for patients with perceived greater severity of illness was about two (2.10, CI 1.24–3.15, $p < 0.01$).

Table 2: Logistic regression showing variables influencing the odds of care- seeking behavior among those reporting being ill during the 30-day prior to interview

Explanatory variables	Seeking any care vs. no care at all Odds ratio (CI 95%) (n=431)	Visiting medical provider vs. self-treatment Odds ratio (CI 95%) (n=397)
Number of household members 18+ (continues)	0.96 (0.89-1.06)	0.89 (0.84-0.94)**
Perceived seriousness of disease		
Not at all serious ¹	1.00	1.00
Moderately serious	3.44 (2.26-4.43)**	2.36 (1.26-4.95)*
Very serious	2.10 (1.24-3.15)**	6.02 (2.89-12.53)**
Female (reference group Male)	1.69 (1.29-2.38)*	1.80 (1.32-2.45)**
Age group (years)		
18-39 ¹	1.00	1.00
40-64	1.05 (0.68- 1.81)	1.71 (1.25- 2.35)**
65+	2.49 (1.46-5.19)**	1.96 (1.44-2.67)**
Educational level		
Illiterate ¹	1.00	1.00
Guidance school	1.33 (0.93-1.92)	0.41 (0.28-0.61)**
High school	1.29 (0.95-1.75)	0.75 (0.54-1.04)
High education	2.40 (1.53-3.77)**	0.76 (0.56-1.03)
Married (reference group single)	2.13 (1.16–3.78)*	1.32(0.97-1.61)
Income quintile		
Poorest ¹	1.00	1.00
2nd	0.75 (0.50-1.12)	1.21 (0.84-1.76)
3rd	0.86 (0.58-1.27)	2.41 (1.68-3.56)**
4th	0.96 (0.67-1.38)	2.52 (1.80-3.55)**
Richest	1.26(0.87-1.81)	3.19(2.10-4.34)**
Insured (reference group uninsured)	1.12 (0.92-1.34)	1.84 (1.44-2.35)*

*P < 0.05; ** P < 0.01.

¹ Reference category.

Table 3: Service utilization from medical providers by First provider

First provider	Number	(%)
Public Hospital	110	31.5
Private Hospital	36	10.3
Specialist office	108	31.2
GP office 47	13.5	
Emergency department	35	10
Traditional medicine	12	3.4
Total 349	100	

Educational attainment has apparently a positive effect on seeking care behavior. The higher the degree of education the more odds for seeking care. Patients with high level education (academic education), look for care about two times more than illiterate patients (2.40, CI 1.53–3.77, $p < 0.01$). Married patients also demonstrated similar characteristics of seeking care in comparison to their single counterparts (2.13, CI 1.16–3.78, $p < 0.05$). There was no significant relation between variables of ethnicity, family size, occupation, income, methods of payments for services received and types of insurance with care seeking behavior.

Table 3 demonstrates service utilization pattern of these patients by the types of providers. According to the Table the majority/highest rate of them (31.2 %) had visited a specialist and only 13.5% of the respondents visited a general practitioner (GP) at the first stage of looking for care.

The lowest rate (3.4%) of health services utilized by the respondents belongs to patients who looked for traditional medicine. In Table 2 (column 2), the influence of different variables on seeking care from a provider vs. self-treatment has been demonstrated. According to the Table, variables of age, gender, severity of illness, income, educational attainment, family size and methods of payment have developed a significant relation with odds ratio of seeking care from a care center. The odds ratio in visiting a health centre by a patient with (65+) years old is twice to age group of 18-39, with CI equals 95% (1.96, CI 1.44–2.67, $p < 0.01$). Women also visited health care centers twice more than their male counterparts (1.80, CI 1.32–2.45, $p < 0.01$). The odds ratio for patients who looked for care with high rate of perceived severity of illness was 6 times more than that of patients with low rate of perceived severity of illness (6.02, CI 2.89–12.53, $p < 0.01$). According to Table 2 the frequency of looking for care from a health center is increased parallel to the level of income particularly in 3 highest income quintiles. The odds ratio for care seeking between the richest quintile is three times more than that of the poorest. (3.19, CI 2.10–4.34, $p < 0.01$).

In terms of relation between educational attainment and visiting health center for care, it can be said that patients with guidance level of schooling demonstrated the lowest rate in this respect (0.415, CI 0.280–0.614, $p < 0.01$).

As family size increased, the odds ratio for care seeking decreases. Adding one person to family size reduces odds ratio for visiting health center for care by %11 (0.89, CI 0.84–0.94, $p < 0.01$).

The table 2 also demonstrates that insured patients have visited health centers for care about twice more than their uninsured counterparts (1.84, CI 1.44–2.35, $p < 0.01$).

No significant relations observed between variables of ethnicity, marital status, occupation and types of insurance with the respondents' looking for care or visiting a health center/ provider for care.

As it has been indicated in Figure 1, there was no attempt for looking for care by 7.8% of the respondent who had expressed a need for care during one month before the survey. The reasons for such a situation include: lowest rate of severity of illness (39%), lack of affordability for paying costs of care (32%) and a believe for the lack of an effective treatment (23%) and lack of physical access (only 6%).

DISCUSSION

Explanation for health seeking behaviors can be found in a number of models and theories. Social reinforcement, reasoned action and Social Cognitive theories together with health beliefs and Anderson model's are some of them. Anderson Model's is a comprehensive approach to health utilization behavior [13].

According to this model and other relevant studies, factors affecting health seeking behavior, are divided into three main categories as background, enabling and needs related variables [6].

The background factors such as age, gender and social status seems to be effective on the formation and structuring of needs of individuals for health care

services. Enabling factors such as being insured, seems to facilitate health service utilization, while the need related variables such as perceived health status or severity of illness have been introduced as the most important variable in utilization of health services.

As it was indicated, there is a significant relation between health seeking behavior and personal characteristics of the respondents. Other studies have also demonstrated similar relation between individual characteristics and need related factors such as acute or chronic disease as well as perceived severity of illness [14,15,16,17]. Findings revealed that only 13.5% of the respondents visited a general practitioner (GP) at the first stage of looking for care. Another study conducted in Kashan also demonstrated a rather similar rate of patients visited GPs at the first stage of seeking care [18].

The majority of the patients (31.2%) directly went to specialist as the first point of treatment. This is against findings from the literature which demonstrates that most of patients (about 75-85%) during a year, needs more primary rather than specialty care. Some studies have revealed that consultation with specialist for only 10-12 % and referring patients to higher levels of care for only 5% is recognized as necessary [19].

Despite the fact that several mechanisms for directing and enforcing patients to visit GPs at the first stage of care seeking have been developed, patients prefer to refer to specialist at any time and any stage, either because of easy and unlimited access to them, or trust to their skills and knowledge [18]. This makes a financial pressure on both individuals and health system.

Lack of an effective referral system which allows patient to visit specialists or directly utilizes tertiary level services, is known as a major source of cost escalation in health systems. Such a structure may even help to unnecessary care to be provided [20].

Similar picture has been observed in other studies such as [21], which indicated physician's skill, geographic access and financial considerations as three main reasons for patients in selecting their providers. With regard to relation between professional skills and financial considerations, Belli *et al* have stated that: "You have to choose a doctor based on his/her professionalism, otherwise [if the choice is for the cheapest doctors] the treatment will not render expected results and you have to face same costs once again" [21].

In a cross sectional study among 2500 households in Georgia by Gotsadze, G *et al.* (2005) it has been found that

the poorer households used more expensive services than their rich counterparts. For example the expensive ambulance services were used mainly by them rather than the rich. It seems that the poorer households wait for a long time in looking for health care due to lack of financial access which makes their sickness to be exacerbated [17]. Such a situation may indicate the importance of health care system structure, financial access, methods of payment, particularly the amount of out of pocket payment by patients, which are known to have significant effects on patients' health seeking behavior and service utilization. Not seeking for care due to lack of financial access or poverty has been widely approved by several studies [22]. In Iran, out of pocket payments, has been estimated to be around 60% of total health expenditures in year 2007 [10].

Despite the fact that Public Medical Universal Insurance Coverage (PMUIC) law for Iran's population has been legalized (Parliament (Majles) of I.R.Iran, 1994) [23], the findings revealed that a sizable number of study population were uninsured. Unemployed, self employed, private sector employees and housewives constituted uninsured respondents.

Developing universal insurance coverage, providing subsidies for low income groups and free health care services, particular for the poor are well known strategies for dealing with the negative consequences of lack of financial access to health services. There are some reasons which indicate that even free services are not in fact really free. Under the table payments, cost of transport, working days lost due to illness are other indirect costs which have to be paid by patients, their families, or by the community [1].

Hosseinpoor and *et al* in study about determinants of seeking needed outpatient care in Iran found that the females, the married, the more educated, those with low-economic status, economically troubled persons and individuals with health insurance were more likely to seek outpatient services. Age had no significant effect. There are similarities between findings of the present study and those of Hosseinpoor's [25].

Adamson's survey indicated that socioeconomic variable such as gender and income have been indicated with great influence on health seeking behavior among patients with respiratory illness and Lump. Blacks less than Whites, poorer less than richer and women less than men were looking for care at the time of sickness [15]. There are similarities between findings of the present study and those of Adamson's.

Limitations: The present study faced with few difficulties particularly in the process of data collection. The research team experienced a somehow reluctance and recalling difficulties by a few number of the respondents mainly from low socioeconomic and poorly educated households. While poor people demonstrate higher rates of morbidities, they report fewer incidences of illness as well as seeking care. This is the case in our study as in the others which is explicitly against findings from studies conducted over the world with a great sample size [24].

CONCLUSION

There are three major findings related to health seeking behavior of the population study as followings:

- Circumvention of primary health care and direct contact with specialists which leads to ineffectiveness and inefficiency of services. Lack of effective referral system, control and monitoring of patients in admission to clinics and hospitals have been introduced as main reasons for such a behavior.
- Self treatment and self medication even by providing and consuming pharmaceuticals which should be prescribed only by physicians (due to mainly open and unrestricted access to drugs and pharmaceuticals).
- Lack of universal insurance coverage, incomprehensive benefit package which do not include some expensive services (Universal Insurance Coverage Act) which result in out of pocket payment by patients and cost effectiveness analyses of services included in benefit packages, are leading causes of the poorer to be deprived from access to health care. Training of physicians and chemists, reinforcement of referral system, improvement of health insurance and universal coverage together with enhancing public knowledge about healthy behavior are known as appropriate strategies for improving health care services utilization.

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