Original Article

Healthcare-seeking behavior and its relating factors in South of Iran

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Abstract:

INTRODUCTION: Health systems aimed to increase health utilization. Habits and behavior about using health facilities, which is called health-seeking behavior, are different among different cultures and influenced by different factors. The present study is aimed at investigating Iranian Southern population health-seeking behavior and its influencing factors.

MATERIALS AND METHODS: A sample of 397 people was selected using proportional stratified random sampling for this cross-sectional study. They were asked to fill a questionnaire about their health-seeking behaviors (seeking treatment, inattention to treatment, and self-medication) and socioeconomic factors. Data were analyzed using regression models including linear, ordinal, and logistic regressions.

RESULTS: Near 80% of participants reported self-medication and most of them prefer public hospitals as their first point of contact with health system compared to others such as family physician. Using linear regression revealed seeking treatment has significant relationship with age ($P = 0.037$), living place ($P = 0.018$), and having complementary insurance ($P = 0.013$). Self-medication behavior has relation with age ($P = 0.015$), gender ($P = 0.039$), education years ($P = 0.031$), living place ($P = 0.005$), having complementary insurance ($P = 0.001$), and satisfaction with health-care providers ($P = 0.003$) in logistic regression. Using ordinal regression, it was found that inattention to treatment has a relation with education years ($P = 0.044$), living place ($P = 0.042$), having complementary insurance ($P = 0.049$), and severity of illness ($P = 0.031$).

CONCLUSION: Southern population does not accept family physician as the first point of interaction with the health system, and they prefer to go to public hospitals directly. Moreover, self-medication is a prevalent behavior among the population and thus their acceptance of health care is low. Based on the findings, it can be suggested providing more satisfying health care, increasing insurance coverage, and informing population could lead to better utilization of health-care services.

Keywords:
Acceptability of health care, healthcare-seeking behavior, health-care utilization, health facilities, Iran, patient acceptance of health care, self-medication

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Introduction

The health of the individuals has always been a matter of national concern, and the government is in charge of it continuously and constantly. The way health systems are planned, directed, and financed influences people's lives and their source of income.[1] Health system resources such as equipment and materials used in providing health services are limited and then the

determinants of health-care utilization should be investigated to organize them properly. Individual's health-seeking behavior is one of the determinants that affect the utilization of health services. To move toward higher quality health system, more and better information is required on existing health-seeking behavior defined as the different decisions that individuals make toward diseases and illnesses.[2]

In other words, health-seeking behavior is the usual habit of people in relation to their

health. This behavior consists of inattentive to illness, treatment action that means people visit health providers, and self-medication.[3] Studies have demonstrated that individual's behavior to engage with particular health services is influenced by a variety of socioeconomic variables, age, sex, the type of illnesses, access to services, and perceived quality of the services.[4,5] Literature indicate that older patient, women, patients with further health-care needs perception, such as those with chronic states and multiple health problems, use health system more than patients with minor illness, and this utilization raises with the number of chronic states the patient has.[6]

Health systems have two considerable dimensions: resources and organization. They both form the provision of health-care services to the people. Hence, recognition of the determinants of health service utilization such as individual characteristics could help policy-makers manage resources and reach a situation in which health provision would be distributed equally. As a result, available health-care resources to general population regardless of ability to pay will make the perceived crisis in health care less difficult to deal with and improve mortality and morbidity statistics.[7]

In general, 69% of the total cost of the health sector is highly affected by consumer behavior.[8] Finding health-care utilization trend and pattern are one of the main issues in behavioral sciences.[9] Health-care guidelines are adjusted according to individuals' health-seeking behavior and factors affected it.

In Iran, there is little information on health-seeking behavior, and without these data, analysis of effectiveness of health system is difficult. The present study aimed to examine health-seeking behavior and recognize health service utilization patterns of Ahram (Southern county in Iran) residents in 2018. We evaluated the relationship between health-seeking behavior and several variables including demographical variables, income status, in order to help create a reference for policy-makers and health authorities of the university and city to make better decision.

Materials and Methods

Study design
This cross-sectional study was conducted in 2018 in Ahram city and its 19 villages located in Bushehr Province, South of Iran. Iran is a country with wide varieties in culture and behavior. Southern parts of Iran have different believes and culture that makes them different from other parts. We select Ahram county as a sample of the Southern population to survey their health-seeking behavior. The region has an estimated population of 19,996 individual (15139 people in

Aharam city and 4685 people in rural area). A sample of 397 people above 18 years from rural and urban families were selected using Krejcie and Morgan table with consideration of effect size due to stratified sampling. The sample was selected based on living place, 324 urban and 73 rural persons were selected using multistage cluster sampling.

Two individuals were trained to distribute questionnaires to different areas of the city and villages to collect data. They distribute questionnaires in different areas of the city and villages. Five areas in the city and eight villages were selected using random sampling. In each area, they started with city hall plaque (or house) number 2 (which was selected randomly) as the first household to fill in the questionnaire (in rural areas, there was no plaque number and they count houses). Then, after skipping four houses, they gave the next questionnaire to the next household and continued in this fashion for the remaining questionnaires.

Questionnaires were distributed in afternoon times in order to access all family members. As we only aimed to include individuals over 18 years in the study, the first family member above 18 years who came out was selected as the subject to fill in the questionnaire. We chose the neighboring house as the sampling unit in case people did not agree to enter the study or did not open the door.

Pourreza *et al*.'s study questionnaire[10] was the main template for our data collection. In a study that was performed by Rashidi *et al*. in Safashahr city, some modifications were done to the Pourreza *et al*. questionnaire, and the reliability and validity of the questionnaire were evaluated after the mentioned changes.[11] In this study, we made use of Rashidi *et al*.'s questionnaire with some changes based on our study context and recheck its validity and reliability. The final questionnaire was distributed between 11 experts in health-care management and community medicine. Content Validity Ratio (CVR) and Content Validity Index (CVI) were calculated for each question. CVR was between 63.6 and 81.8 for all questions which were included in the questionnaire. Average CVI for questions was equal to 0.83.

Two types of questions are included in the questionnaire. In the first part, respondents were asked to fill out demographic information (birth year, gender, marital status, place of residence, education level, years spent at school, occupation status, and the number of people in the family), economic information (residency status, household monthly income, and insurance status), and other background information assumed to be related to health-seeking behavior. The second part includes

specific questions related to health-seeking behavior such as suffering from acute and chronic diseases in the past 6 months (in similar studies conducted in this field, different periods were considered to estimate the incidence of illness).[12-14] In our study, like Boerema *et al*. study,[8] the incidence of illness in the last 6 months was evaluated. The question being asked was: Have you been sick in the last 6 months?).

The degree of illness severity, the pursued treatment options and their frequency, who they consult during illness, at which stage of the disease they seek treatment, the first unit people visit to receive health services, completion of treatment period and the reasons for noncompliance, and perceived satisfaction with Ahram health-care providers.

Three dependent variables were measured using questionnaires including seeking treatment, self-medication, and inattention to treatment. Seeking treatment was measured using five Likert-answered questions which were merged into a single quantitative variable. Self-medication was asked with a yes/no question and inattention to treatment was surveyed via a question which asked participants at which level of illness do you visit health provider. We considered perceived satisfaction with Ahram health-care providers as a quantitative variable that was created from merging variables such as waiting time to receive medical care, hospital hygiene status, doctors and staff behavior, medical care cost, treatment quality, geographical access, health facilities, and availability of the gender-matched doctor.

Dependent variables were age, gender, education years, living place, severity of illness, having complementary insurance, and perceived satisfaction from health-care providers at the region.

Statistics

Most of the questionnaires were filled completely, and the missing rate was lower than 5% per each variable. The missing values were imputed using regression imputation. Data were analyzed using STATA 11.0 software (StataCorp, College Station, TX, US). Based on three dependent variables, three regression models were tested. Seeking treatment, self-medication, and inattention to treatment models was tested using linear, logistic and ordinal regression, respectively. As well, independent sample t-test, Chi-square, and one-way ANOVA were used to determine whether a significant correlation was present between the variables to select them for entering regression models ($P \leq 0.1$).

Ethics

Several ethical issues were taken into account in performing the study. Individuals participating in the study were provided with explanations regarding the study goal and were reassured about the confidentiality of their information. In addition, verbal informed consent was obtained from all participants. As well the study protocol was approved by the Ethics Committee of Shiraz University of Medical Sciences (code: IR.sums.med.rec. 1397.546) and comply with Helsinki Declaration.

Results

A total of 397 participants from rural and urban households included in the study. As shown in Table 1, 64.5% of the population were male and 35.5% were female. Most of the studied population were married (82.4%). About 82% of participants lived in city and 18.4% in villages. The average age of the participants and average years spent at school were 36.77 and 12.53, respectively. The average number of family members was 4.03.

About 82% of participants have suffered from illness in the last 6 months. Of these, 36.7% suffered from

Table 1: Frequencies of population's demographic and socioeconomic features

Variables	Division	Frequency	Valid percent
Gender	Male	256	64.5
	Female	141	35.5
Marital status	Single	70	17.6
	Married	327	82.4
Education level	Below diploma	84	21.2
	Diploma	130	32.7
	Associate degree	109	27.5
	Bachelor and higher	74	18.7
Place of residence	City	324	81.6
	Village	73	18.4
Employment status	Employed	217	54.7
	Unemployed	27	6.8
	Retired	28	7.1
	Student	10	2.5
	Housekeeper	64	16.1
	Forced soldier	9	2.3
	Others	42	10.6
Income per month ($)	<250	167	42.1
	250-500	178	44.8
	>500	52	13.1
House owning status	Owner	332	83.6
	Tenant	57	14.4
	Organizational and free	8	2.0
Basic insurance services	Iran health insurance	151	38.0
	Social security	163	41.1
	Armed forces	47	11.8
	Other insurances	11	2.8
	Without insurance	18	4.5
Having complementary insurance	Yes	71	17.9
	No	326	82.1

a new illness and 63.3% from a chronic illness. Less than 1% of the illnesses were reported as very severe, 10.9% severe, 27.1% nearly severe, 47.8% mild, and 13.3% very mild.

Table 2 shows the probability of visiting different health centers for treating disease based on their behavior in the last 6 months. Regarding that, the studied population visited public hospitals more than the other health facilities. After public hospitals, specialists' offices, clinics, private hospitals, and general physicians' offices were the mostly visited centers, respectively.

About 44% of the population visited health providers when they were sure about having an illness. 26.5% visited when they had moderate symptoms, 13.5% visited when they had mild symptoms, 9.4% visited health facilities a few days after illness onset, and 6.6% did not visit at all.

Public hospitals (43.4%) were the initial centers that the study population visited during the illness. Specialists' offices (22.1%), clinics (20.6%), general physicians' offices (12.2%), and private hospitals (1.8%) were the next centers in order of increasing.

Of participants, 78.7% (80.1% of city residents and 72.6% of rural residents) reported self-medication. Among them 51.3% of people visited the drugstore, 18.3% used herbal medicine, and 14.7% used drugs available at home. City residents (57.1%) visited drugstores as the main way of self-medication, while village residents (32.9%) used herbal medicine instead.

Most people in this study consumed their medications until their symptoms resolved (31.4%) and only 26.8% of them completed their treatment course. When they were asked why they did not complete their treatment course, most of them replied that it was because they felt they had recovered from the illness (55.1%). The other reasons were financial problems (18%), those who were using the medications to complete the treatment course (17%), and the perceived ineffectiveness of treatment (9.9%).

According to Table 3, in linear regression, seeking treatment as a dependent variable has a significant relationship with age ($P = 0.037$), living place ($P = 0.018$), and complementary insurance ($P = 0.013$). There is a relationship between self-medication and age ($P = 0.015$), gender ($P = 0.039$), education years ($P = 0.031$), living place ($P = 0.005$), complementary insurance ($P \leq 0.001$), and perceived satisfaction ($P = 0.003$) in logistic regression. Inattention to treatment, in ordinal regression, has a relation with education years ($P = 0.044$), living place ($P = 0.042$), severity of illness ($P = 0.031$), and having complementary insurance ($P = 0.049$).

Treatment, self-medication, and inattention to treatment models are estimated using linear regression, logistic regression, and ordinal regression, respectively.

Table 2: Probability of visiting different health center by respondents

Providers	Probability				
	Very low (%)	Low (%)	Medium (%)	High (%)	Very high (%)
General physician	201 (50.6)	81 (20.4)	96 (24.2)	11 (2.8)	8 (2.0)
Public hospital	48 (12.1)	65 (16.4)	124 (31.2)	121 (30.5)	39 (9.8)
Private hospital	167 (42.1)	99 (24.9)	81 (20.4)	36 (9.0)	14 (3.5)
Specialist	39 (9.8)	70 (17.6)	159 (40.0)	99 (24.9)	30 (7.5)
Clinic	37 (9.3)	95 (23.9)	162 (40.8)	74 (18.6)	29 (7.3)

Table 3: Factors affecting seeking treatment, self-medication, and inattention to treatment among participants

Variables	Treatment			Self-medication			Inattention to treatment		
	Coefficient	SE	P	Coefficient	SE	P	Coefficient	SE	P
Age	0.066	0.021	0.037	-0.086	0.031	0.015	-0.069	0.071	0.193
Gender (male)	0.099	0.054	0.052	-0.126	0.061	0.039	-0.101	0.169	0.079
Education years	0.132	0.019	0.056	-0.276	0.126	0.031	-0.233	0.061	0.044
Living place (village)	0.192	0.194	0.018	-0.144	0.085	0.005	-0.133	0.046	0.042
Severity	0.041	0.028	0.114	-0.078	0.046	0.086	-0.067	0.080	0.031
Complementary insurance (yes)	0.071	0.285	0.013	-0.312	0.286	0.001	-0.108	0.061	0.049
Perceived satisfaction	0.076	0.042	0.096	-0.101	0.031	0.003	0.099	0.058	0.091
Constant term	3.446	0.294	0.000	-1.346	0.243	0.000	-0.694	0.032	0.000
Goodness of fit	*P*		0.0000	LR Chi-square (8)		69.30	LR Chi-square (8)		13.49
	R^2		0.214	*P*		0.0000	*P*		0.0036
	Adjusted R^2		0.185	Pseudo R^2		0.1745	Pseudo R^2		0.0256
	RMSE		0.376	Log Likelihood		-168.25	Log Likelihood		-270.65

LR=Likelihood ratio, SE=Standard error, RMSE=Root mean square error

Discussion

In this study, we examined the health-seeking behavior and health-care utilization patterns among 397 participants. We also tried to determine the factors that predict treatment-seeking behavior, self-medication, and inattention to health problems.

Participants prefer to be visited in public hospitals more than the other health centers when they get sick. The same result with public hospitals was reported in Pourreza *et al*.[10] and Borhaninejad *et al*.[15] studies in Iran. On the other side, general physicians' offices were among the least visited health-care centers. This pattern was also seen in Pourreza study *et al*. and Rasoulinejad *et al*. studies.[10,15] One of the reasons could be the lesser cost of visiting doctor in public hospitals compared with private hospitals and clinics. Considering the fact that, most of the studied population were not from the affluent class of the society (87% of the people earned <$500), the financial reason is probably a valid one. Another reason may be related to the absence of family physician system in the studied province. With the unavailability of the family physicians, it could be expected that people would go to public hospitals for even nonemergency issues. On the other hand, people may assume that in public hospitals, patients are visited by more expert physicians. The third reason may be the lack of confidence in general practitioners. As previous studies in Iran have shown, the Iranian population does not trust general practitioners.[16]

Self-medication is defined as using medications without being supervised by health-care providers. The overall rate of self-medication in our study was 78.7% which is higher than the average rate of self-medication in Iran that is estimated to be 53% according to a meta-analysis done by Azami-Aghdash *et al*. in Iran.[17] The rate of self-medication in our study also greatly exceeds the rate observed in other countries like European countries (7.3–44.9),[18] Italy (69.2%),[19] and Taiwan (45.8%).[20] In fact, the World Health Organization has reported that Iran is among the top 20 countries that have the highest consumption of medications in the world.[21] Our rate was close to rates observed in India with numbers ranging from 85.4%[22] to 92.8%.[23] Several reasons could justify why people prefer self-medication over visiting a doctor including lack of time, high visit fees, the tendency to get quick relief of symptoms, self-diagnosis of the disease, and prior use of the medications.[17,24,25]

Regarding the role of gender in seeking medical care, our results showed women are more compliant with their treatment course and more satisfied with their medical care. In our study, we did not find a significant relationship between gender and seeking treatment and inattention to treatment, but gender could play a role in self-medication which was more prevalent in men. Findings are contradictory in different studies; some studies showed women practice more self-medication than men.[26] While in another study, men reported more self-medicatinon than women[27] Regarding the role of gender in seeking treatment, different results are reported in the literature. In a large survey in the UK, women visited their primary health-care provider more than twice than men.[28] In a study in Canada and in some studies in the US which were mostly concerned with mental health, similar results were observed;[6,29] while in other studies, these gender differences were not significant.[30] This discrepancy with regard to the role of gender can be explained by the utilization of different study designs and also by the fact that women and men are not homogeneous groups and socioeconomic factors within each gender do play a role.[28]

Education is an important determinant of health-seeking behavior including factors such as treatment course completion, self-medication, when to visit a doctor, etc., Studies have shown that implementing a behavioral model and educating people, significantly reduces the rate of self-medication.[31,32] In our study, the average years the individuals spent at school or university was 12.53. As expected, education was significantly associated with treatment course completion. Those with masters and higher degrees had more compliance than the other groups.

We detected a significant relationship between education and self-medication; the higher the education, the less people turn to self-medication. This is in contrast to most of the studies.[25-27,33-37] In general, it is believed that educated people like to feel in control of their health and therefore turn to self-medication more than uneducated or less well-educated people. The inverse relationship found in our study may be because these two groups differed in other demographic and socioeconomic variables such as the age, the occupation or income, the place of residence –urban or rural, and their insurance types.

The relationship between education level and inattention to treatment was a negative one as well; showing educated people to be more concerned about their health probably because of better knowledge of the consequences of not receiving the appropriate treatment.

Surprisingly, no association was found between the severity of the illness and the extent to which the individuals visited doctors. Furthermore, there was no association between the severity of the illness and self-medication. This is in contrast to findings from other studies.[38] On the other hand, there was an inverse relationship between the severity of the illness and

inattention to treatment. It can be hypothesized that when the disease gets severe, people seek treatment but do not necessarily go to doctors. Instead, they may seek traditional medicine. Another hypothesis could be about their perception toward severity level of their illness.

Place of residence was found to have an impact on people's health-seeking behavior. Villagers sought medical attention in illness more than urban populations. They self-medicated less than urban residents and had less inattention to treatment. This was in accordance with findings from other studies done in Pakistan, India, and Sri Lanka.[37,39,40] In studies that showed more self-medication in rural people, the tendency to go for traditional medicine was noted.[40] This pattern was also detected in our study as city residents visited drugstores as the main way of self-medication while village residents used herbal medicine instead. The difference observed between city and village residents in terms of self-medication may reflect the difference in educational and economical status between these groups.

According to the results of our study, having complementary insurance was positively correlated with seeking treatment and negatively correlated with self-medication. The negative association between self-medication and having insurance is observed in the literature.[41,42] It has been shown that providing more health insurance coverage reduces self-medication rate significantly.[41] The high rate of self-medication in our study and in our country is alarming. One of the facilitating factors in this regard may be the easy access to medicines through pharmacies. Distribution of non-Over-The-Counter drugs without prescription by pharmacists is frequently observed and in some instances like antibiotics, it may lead to disastrous complications. Some medications are not covered by insurance and this can further demotivate people to visit doctors. As previously mentioned, the diminished confidence of people in general practitioners as the primary caregivers is another causative factor. Educating people through mass media about the side effects and risks of using drugs without professional supervision is a must and policy-makers should take steps both to educate the public and to limit the distribution of non-OTC medications.

This study is one of the rare studies that focus on healthcare-seeking behavior in the Southern part of Iran which have different cultural background and health-care utilization behavior with other parts of Iran. In the present study, we surveyed different healthcare-seeking behavior, unlike many other studies that only focus on one behavior such as self-medication.

One of the limitations in this study was the unequal gender distribution with a preponderance of men

(about 65% men compared to about 35% women). One of the reasons is cultural; since the first person who appeared at the door filled in the questionnaire and it is customary for men to open the door in Southern parts of Iran. Furthermore, most of the sample population were city dwellers and village residents made up only about 20% of the sample population. This might make the differences in outcomes based on gender and the place of residence biased and not accurate for generalization. Studies with larger sample sizes are needed in order to be able to be confident about the associations observed in our study.

Conclusion

Based on the present study and previous studies, it could be found that self-medication is high in nearly all parts of Iran and some developing countries. The main causes are that individuals are not full insured and satisfied with provided health care. Taking into account all the factors influencing self-medication, measures such as providing better health insurance coverage and educating the public regarding diseases and when to seek medical care seem to be necessary. As well, delivered services should be more satisfying and high quality. Thus, health human resources should be trained based on society needs and demands to increase accessibility to health care. Furthermore, strict regulations regarding the distribution of non-OTC medicines should be implemented.

Conflicts of interest
There are no conflicts of interest.

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