

Socioeconomic Status and Satisfaction with Public Healthcare System in Iran

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ABSTRACT

Background: The users' satisfaction is a method for evaluating the efficacy of healthcare system. We aimed to evaluate the association between the users' socioeconomic status (SES) and satisfaction with the healthcare system in Shiraz, Iran.

Methods: This cross-sectional study was conducted from December, 2013 to March, 2014, in Shiraz, Iran. 3400 households were recruited by multi-stage cluster random sampling. Information about demographic, insurance status, and users' satisfaction was derived from face-to-face interviews. Satisfaction with healthcare system was assessed by using 5-point Likert scale statements, which ranged from "very dissatisfied" to "very satisfied". All statistical analyses were performed using SPSS-21.

Results: Overall, 1.6% (55) of the respondents were very satisfied, while 6% (203) were very dissatisfied with healthcare system. Participants were classified into high SES (26.3%), middle SES (47.9%) and low SES (25.8%). It was discovered that the better the SES, the more frequent were the respondents dissatisfied with healthcare system ($P<0.001$). Also, dissatisfied respondents were significantly older ($P=0.036$). Moreover, women were more dissatisfied with healthcare system ($P=0.005$). Also, dissatisfied respondents had significantly a higher level of education than satisfied ones ($P<0.001$). Furthermore, logistic regression revealed that age ($P=0.04$), marital status ($P=0.01$), insurance status ($P<0.001$), SES ($P<0.001$), and having supplemental insurance ($P=0.02$) were determinant factors of satisfaction with healthcare system.

Conclusion: This study demonstrated that users' sex, age, educational level, and SES were related to dissatisfaction with healthcare system. Meanwhile, clients' age, SES, insurance status and marital status were recognized as determinant factors.

KEYWORDS: Healthcare system, Satisfaction, Socioeconomic status, Iran

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INTRODUCTION

In both developed and developing countries, healthcare is the fastest growing service, whereas improvement in the population's health is the main goal of every health system, and the quality of delivered health care is a matter of increasing concern to governments, health authorities and users.^{1,2} When individuals interact with the healthcare system, it influences their well-being through improvements in health.³ Surging demands and diminishing resources increasingly rise, and healthcare systems need to be sustainable as well as responsible. The users' satisfaction is a way to evaluate a healthcare system and determine its efficacy; subsequently, an accentuated attention has been designated to the users' satisfaction with healthcare system since the last two decades.^{4,5}

Studies revealed that the potential factors which affected the users' satisfaction with healthcare system were classified into three main groups; the first group was healthcare factors, which included travelling distance, waiting time for an appointment, the clinic's physical environment, healthcare payments, patient's privacy and the interpersonal skills of the staff.⁶ The second group was individual factors which included the participants' age, sex, job, and education level.⁷ The third group was socioeconomic status (SES) which has been shown as the main potential factor directly associated with the users' satisfaction; that is, people with higher income were significantly more satisfied with the overall quality of the delivered primary health care.^{8,9} One of the important determinants of access to health care is low SES, and these people seek healthcare less often when it is likely to be for an emergency, because they are more likely to be uninsured and have poor-quality health care.¹⁰⁻¹²

Regardless of the differences in the individual's income, age and gender, assurance regarding equitable access to high-quality healthcare for all Iranians is the goal of the health policy in Iran; however, in relation to SES, differences are observed in the use of healthcare services.¹³ Also, Iran is

a large country with the rankings of SES in various areas.¹⁴

Based on our search in validated data banks, there exist limited data regarding the relation between SES and users' satisfaction with healthcare system in Iran. Since this information is pivotal for health-policy makers, the present study was designed to evaluate the association between the users' SES and satisfaction with healthcare system in Shiraz, Iran.

MATERIALS AND METHODS

Between December, 2013 and March, 2014, this analytic cross-sectional study was conducted in Shiraz, the fifth populated city of Iran and the capital of Fars Province. To be eligible for participation in this study, the respondents should be residents of Shiraz, at least 18 years of age as well as being thoroughly aware of the household medical problems and expenditure in the last 6 months prior to the study. Those who were not willing to participate, unable to talk or had problem in recalling the events which occurred during 6 months prior to interview were excluded from the study. Ethical approval for the study was granted by the Review Board of Shiraz University of Medical Sciences, Shiraz, Iran.

Reviewing literature and considering z (1.96), sigma or " σ " (1.04) and precision or " d " (0.035), a total of 3400 households were included in this study. In order to attain the estimated sample size by multi-stage random sampling method, first the number of the households residing in each of the 9-municipality regions was considered as a sampling unit. Then, postal codes were chosen by simple random sampling proportionate to the size of households in each municipality region.

$$d = z \times \sigma / \sqrt{n}$$

After giving appropriate introduction regarding the study and its aim, the respondents were asked to express their verbal consent for participation in the study; this was followed by a face-to-face interview by trained field workers in the interviewees' house, using a

structured questionnaire.

The questionnaire consisted of three main parts, including demographic, insurance status of the household, and users' satisfaction regarding different levels of healthcare services, assuming that at least one of the household had used healthcare services in the last 6 months prior to the investigation. Demographic part included age, sex, nationality, ethnicity, the family's bread winner marital status, educational level and occupation, family members, and income. Insurance status was defined as currently insured or uninsured. If they were insured, the presence of supplemental insurance was requested. A 5-score Likert scale was used to assess the respondent's satisfaction level with healthcare system. The scale ranged from 1 to 5, with 1=very dissatisfied, 2=dissatisfied, 3=Neutral (neither satisfied nor dissatisfied), 4=satisfied and 5=very satisfied.

Using principal component analysis for socioeconomic variables including education level and occupation of the household's head and partners and household-income, a SES was calculated. Based on percentiles of SES, the studied population was divided into three groups of high (SES score upper 75 percentile), moderate (SES score between 25 to 75 percentiles) and low (SES score under the 25th percentile) socioeconomic status. Monthly household income was categorized into four groups regarding household income distribution in Shiraz, Iran as follows; below 625,000 IRR (250 USD), between 625,000 and 1584,999 IRR (250 and 634 USD), between 1585,000 and 2960,000 IRR (634 and 1184 USD), and above 2960,000 IRR (1184 USD). Data were managed and analyzed by SPSS version 21 (SPSS Inc; Chicago, IL, USA). Descriptive statistics were reported as mean±standard deviation (SD) or number (%) as appropriate. A comparison of quantitative and qualitative variables was made using Independent sample t-test and Chi-square test, respectively, between satisfied versus dis-satisfied respondents. The predictors of satisfaction were calculated by using logistic

regression. Because of low number of subjects in some satisfaction levels, to assess the relationship between satisfaction level with the studied variables and in regression analyses, the respondent's satisfaction level with healthcare system was stated in two levels of dissatisfied (very dissatisfied or dissatisfied) and satisfied (satisfied and very satisfied). All statistically non-significant variables were excluded from the final model. Alpha was set at 5% and all probability tests used were two-tailed.

RESULTS

A total of 3376 (99.3%) participants answered all questions asked by the interviewers. The mean age of the studied population was 51.7±14 years old. Of the total respondents, 2427 (71.4%) were female. Forty (1.2%) subjects were not from Iran, and the most prevalent ethnicity was Persian (91.1%). 2659 respondents (78.2%) were married and the median of household size was four. 456 (13.4) of the respondents had postgraduate degrees and 3040 households were insured (Table 1).

Table 2 shows the levels of satisfaction with healthcare system and SES of the respondents in this study. Overall, 1.6% of the respondents (55) were very satisfied, while 6% (203) were very dissatisfied with healthcare system. Frequencies of the SES of the participants were as follows: high SES, 26.3%, middle SES, 47.9%, and low SES, 25.8. As shown in Table 2, most of the respondents who were classified into high or middle SES were neutral when asked to report their satisfaction level regarding the received healthcare during 6 months prior to the study. Among dissatisfied respondents, it was discovered that the better the SES, the more frequently were the respondents dissatisfied with healthcare system; consequently, about half of dissatisfied respondents belonged to high SES (369; 50.1%) while 267 (36.8%) were placed in middle SES and 89 (12.3%) in low SES. Conversely, satisfied or very satisfied respondents were mostly from low SES (479; 55.2%), when compared with the respondents

Table 1: Characteristics of the studied population (N = 3376)

| Characteristics | Mean±SD |
|---|---------------------------------|
| Age (year) | 51.71±14.01 |
| Male/Female | 973/2427 |
| Nationality | Frequency (%) |
| Iranian | 3360 (98.8) |
| Other | 40 (1.2) |
| Ethnicity | Frequency (%) |
| Persian | 3099 (91.1) |
| Turk | 153 (4.5) |
| Lur & Kurd | 91 (2.6) |
| Baloch (Baluch) | 4 (0.1) |
| Arab | 15 (0.4) |
| Other | 38 (1.1) |
| Marital status | Frequency (%) |
| Married | 2659 (78.2) |
| Single | 408 (12) |
| Divorced/widowed | 332 (9.8) |
| Education | Frequency (%) |
| Up to Secondary school | 1599 (35.9) |
| Holding high school diploma or undergraduate degree | 1338 (39.4) |
| Post holding graduate degree | 456 (13.4) |
| Family income* | |
| <625,000 IRR (<250 USD) | 1459 (45.6) |
| 625,000 and 1585,000 IRR (250 and 634 USD), | 1701 (50) |
| 1585,000 and 2960,000 IRR (634 and 1184 USD) | 117 (3.5) |
| >2960,000 IRR (>1184 USD) | 3 (0.1) |
| Currently insured people | 3040 (89.4) |
| | Median [Minimum- Maximum] |
| Supplemental insurance | 1346 (39.6) |
| Family members | 4 [1-10] |

* Monthly household income in Iran 2012 in Iranian Rial (the equivalent US Dollars)

with middle (606; 37.4%) or high SES (22; 2.5%). The differences in the frequency of satisfaction levels between respondents in regard to their SES were statistically significant (P<0.001).

The results of the comparison of the respondents' characteristics with regard to satisfaction status with the healthcare system (satisfaction included satisfied and very satisfied respondents, and dissatisfaction included dissatisfied and very dissatisfied respondents) are shown in Table 3. There were significant differences between satisfied and dissatisfied respondents with regards to age, sex, education level and SES. Dissatisfied respondents were significantly older than satisfied ones (P=0.03). Female respondents were significantly more dissatisfied when compared with their male counterpart (P=0.005). Dissatisfied respondents showed significantly higher levels of education than satisfied ones (P<0.001). Respondents with low SES were significantly more satisfied when compared with respondents with high or middle SES (P<0.001).

As shown in Table 4, the adjusted odds ratio from logistic regression revealed that age, marital status, insurance status and SES were determinant factors of satisfaction with healthcare system. In fact, when compared with unmarried respondents, the married ones were more likely to be satisfied with healthcare system (OR 1.09, 95% CI 1.01-1.17). Also, insured respondents were more likely to be satisfied with the healthcare system when compared

Table 2: Socioeconomic Status (SES) satisfaction with healthcare system in the studied population

| | N | Satisfaction level frequency | | | | | P value |
|--------------|-------------|------------------------------|---------------|---------------|---------------|-------------------|---------|
| | | Very Satisfied | Satisfied | Neutral | Dissatisfied | Very Dissatisfied | |
| | | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%) | Frequency (%) | |
| Satisfaction | 3376 | 55 (1.6) | 1052 (31.2) | 1544 (45.7) | 522 (15.5) | 203 (6) | --- |
| SES | | | | | | | |
| High | 889 (26.3) | 7 (0.8) | 15 (1.7) | 498 (56) | 202 (22.7) | 167 (18.8) | <0.0001 |
| Middle | 1619 (47.9) | 18 (1.1) | 588 (36.3) | 746 (46.1) | 231 (14.3) | 36 (2.2) | |
| Low | 868 (25.8) | 30 (3.5) | 449 (51.7) | 300 (34.6) | 89 (10.3) | 0 | |

P values calculated by Chi square

Table 3: Comparison of respondents' characteristics in regard to status of satisfaction with the healthcare system

| Variables | satisfied (n=1107) | dissatisfied (n=725) | P value |
|---|-----------------------|-------------------------|---------|
| | mean±SD | mean±SD | |
| Age (year) | 50.9±14.6 | 52.4±13.4 | 0.03 |
| | Frequency (%) | Frequency (%) | |
| Male/Female [Ratio] | 285/822 [34.7] | 230/495 [46.5] | 0.005 |
| Marital status | Frequency (%) | Frequency (%) | 0.14 |
| Married | 862 (60.4) | 566 (39.6) | |
| Single | 121 (56.3) | 94 (43.7) | |
| Divorced or widowed | 124 (66.0) | 64 (34.0) | |
| Education level | | | <0.001 |
| Illiterate | 94 (69.6) | 41 (30.4) | |
| Elementary school | 32 (48.5) | 34 (51.5) | |
| Secondary school | 430 (66.9) | 213 (33.1) | |
| High school diploma or Associate degree | 420 (57.5) | 311 (42.5) | |
| Bachelor or higher degree | 128 (50.8) | 124 (42.9) | |
| | mean±SD | mean±SD | |
| Household size | 3.7±1.5 | 3.8±1.4 | 0.12 |
| | Frequency (%) | Frequency (%) | |
| currently insured | 1009 (91.2) | 654 (90.3) | 0.52 |
| Having supplemental insurance | 444 (40.4) | 308 (42.9) | 0.30 |
| Socioeconomic Status | Frequency (%) | Frequency (%) | <0.001 |
| High | 22 (5.6) | 369 (50.9) | |
| Middle | 606 (69.4) | 267 (36.8) | |
| Low | 479 (84.3) | 89 (12.3) | |

P values calculated by Independent Samples T-test, or Chi square.

Table 4: Factors associated with satisfaction regarding healthcare system

| Characteristics | P value | B | Odds ratio | 95% Confidence interval | |
|--|---------|------|------------|-------------------------|-------|
| | | | | Lower | Upper |
| Age | 0.04 | 0.01 | 1.01 | 1.00 | 1.02 |
| Sex (reference, male) | | | | | |
| Female | 0.12 | 0.06 | 1.06 | 0.98 | 1.14 |
| Marital status (reference, unmarried) | | | | | |
| Married | 0.01 | 0.08 | 1.09 | 1.01 | 1.17 |
| Insurance status (reference, no) | | | | | |
| Yes | < 0.001 | 1.03 | 2.79 | 2.07 | 3.77 |
| Supplemental insurance (reference, no) | | | | | |
| Yes | 0.02 | 0.07 | 1.08 | 1.01 | 1.15 |
| Socioeconomic status (reference, Low) | | | | | |
| Moderate level | 0.01 | 0.03 | 1.03 | 1.01 | 1.42 |
| High level | <0.001 | 0.5 | 1.64 | 1.57 | 1.72 |

Logistic regression analyses was used.

with the uninsured respondents (OR 2.79, 95% CI 2.07-3.77). Moreover, when compared with interviewees having middle (OR 1.03, 95% CI 1.01-1.42) or high (OR 1.64, 95% CI 1.57-1.72) SES, those with low SES were more likely to be satisfied with healthcare system.

DISCUSSION

There has been a steady growth in the interest of policymakers in Iran concerning the methods in which people could increase their involvement in the planning, delivery and

evaluation of healthcare demand for voluntary and social activities. There are several reasons in putting premium on the users' perspective, as well as their satisfaction regarding healthcare services. Researchers have found satisfaction to be linked to various factors, and SES is one of the important factors.^{15,16} Consequently, the present study examined the association between the users' SES and satisfaction with healthcare system.

The overall satisfaction with healthcare system in the present study was 67.4% which was similar to Emadi's et al.¹ and Sohrabi's et al.,² who reported overall satisfaction rate of 75% in Qatar and 80% in Tehran, Iran, respectively. However, the results of our study showed remarkably a higher rate of satisfaction with healthcare systems, compared to the results of the study conducted in nine countries of former Soviet Union.³ However, these inconsistencies might be interpreted by the variation in the used questionnaires, differences in pervasive cultures, expectations and some other external factors, such as political context.

Also, the present results showed that SES was one of the most significant factors which affected the users' satisfaction regarding the healthcare services received. Those having low SES were significantly more satisfied when compared with those having middle or high SES. In contrast to the present study, other studies demonstrated that people with higher income experienced significantly better overall primary care quality when compared with people of the lowest income.⁸⁻¹⁰ In previous studies, the majority of participants mentioned that they preferred to be visited in a private healthcare center, although they had to pay through out of pocket payment method. Moreover, other surveys reported that individuals stated lower satisfaction level if they lived at or below the poverty line and the families' income was low.¹⁷⁻¹⁹ The differences between the results could be explained by taking the type of healthcare center into account, whether private or governmental, from which the users had received healthcare

services and the users' expectations. Most of the respondents in the present study used governmental healthcare system; however, other studies were conducted in countries with a large for-profit private sectors and high out-of-pocket payments; consequently, the quality of services tends to vary with the cost.⁸⁻¹²

People who were insured and had supplemental insurance were significantly more satisfied than those who were uninsured or lacked supplemental insurance.

Among the characteristics of respondents, age, gender, educational level, and marital status were proved to be significant factors in enhancing the satisfaction level with the healthcare system. As revealed in the present survey, older people and those who were married were significantly more satisfied with healthcare system. Similarly, other studies showed that satisfied participants were older, and they were illiterate or had primary education.²⁰⁻²²

Some limitations were identified in the study; data from this study were cross-sectional, which did not allow for demonstration of causality. Also, recall and misclassification bias would be possible because all instructive variables were self-reported and unverified. So, there is a need for further studies to better understand the effects of SES on healthcare system satisfaction. However, the large sample size which was selected by cluster random sampling could properly show the relation between SES and satisfaction with the healthcare services.

CONCLUSION

In summary, this study demonstrated that users' sex, age, educational level and their SES were related to dissatisfaction regarding healthcare system. Meanwhile, the clients' age, SES status, insurance status and marital status were recognized as determinant factors of satisfaction regarding healthcare system. Therefore, a multidisciplinary approach should be adopted by health policymakers in order to increase the clients' satisfaction rate.

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Conflict of Interest: None declared.

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