

Utilization of healthcare services by elderly people in southern Tehran in Iran: evidence from a survey

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Article Info

ABSTRACT

Article type:

Original article

Article History:

Received: Oct. 02, 2024

Revised: Nov. 07, 2024

Accepted: Nov. 25, 2024

Published Online: Dec. 14, 2024

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Introduction: The elderly are one of the main groups receiving healthcare services. Identification of the healthcare utilization rate by elderly and its determinants are essential to formulate the national priorities. This study was aimed to assess the utilization rate of health care by elderly in outpatient services and its determinants in Southern Tehran.

Materials & Methods: We performed a cross-sectional questionnaire survey on a random sample of the elderly aged 60 years and older, who are covered by south Tehran healthcare centers (n=440). Analyses included descriptive statistics and chi-square test.

Results: Generally, most of the elderly (60%) visited public hospitals to receive healthcare services in the past year. statistical relationships were observed between "visiting rates of the subjects" and gender (P=0.01), self-assessed of current health status (P=0.001), the habit of exercise (P=0.04) and perceived need for care (P=0.01).

Conclusion: The pattern of using healthcare centers in the elderly depended on some demographic characteristics, such as gender and personal exercise habits and also their preference toward the place where services are provided; which should be taken into consideration by policy makers in order to provide required services for the elderly.

Keywords: Aging, Elderly, Health Service, Iran

➤ How to cite this paper

Sadeghifar J, Mousavi SM, Toulideh Z, Khosravi S, Letafatnejad M. Utilization of healthcare services by elderly people in southern Tehran in Iran: evidence from a survey. *Journal of Health Sciences Perspective*. 2024; 1(1):01-08.

Introduction

Aging is one of the inevitable characteristics of life, which has become a global phenomenon in recent years(1). In 2018, the number of elderly people outnumbered children for the first time in history. It is predicted that by 2050, the elderly will make up 22% of the world's population(2). According to the announced statistics, Iran is the second country in the world in the rate of growth of the elderly population (3). In 2019, the population of people aged 65 and over is estimated at 4.6% and this proportion may increase to about 20% in 2040 and approximately 31% in 2050(3). Old age is a sensitive period of human life and paying attention to psychological and biological issues and needs of this stage is a social necessity (4).

Elderly need more healthcare than other population groups and they use these services more than others (5, 6). This highlights the importance of healthcare provision for this population and shows that the expansion of health services is needed in many countries (7). Research on the healthcare utilization rate helps to understand the accessibility of care, identify the unmet needs and decrease the health costs and will improve health system's efficiency (8).

In 1950 Iran was one of the youngest populations in the world. Although, the population composition of country has not dramatically changed but census reports reveal the beginning of ageing in the country. Iranians aged population in 1987 was 3% which has raised to 5.7% in 2011 (9). Current demographical trends also represent an aging bomb in 2030. it is predicted that 20- 30% of the country's population will be over 50 years old in that year (10). The main difference between developed and developing countries arises from the fact that while developed countries are fully prepared to deal with the challenges of growing number of the aged, developing countries still have a long way to go (11). Considering the importance of active aging, the need to plan and provide health services and appropriate

support to facilitate and increase the quality of life of the elderly seems essential(2).

The World Health Organization has warned all countries about inefficiency (poor efficiency) of health systems, even in high-income countries, to meet the needs of old people and called for establishing appropriate policies to increase the accessibility of health services for elderly. This study was aimed to assess the utilization rate of health care by elderly and its determinants in southern Tehran.

Methods

This was a cross-sectional study carried out in 2020 on the elderly population of southern Tehran. The research environment included 30 healthcare and medical centers located in 10-11-16-17 and 19 municipalities' districts of southern Tehran which affiliated to Tehran university of medical sciences. Considering the number of elderly people living in these five municipalities' (which was extracted from health care centers' census report) -about 45,000 elderly- using the Morgan table, the sample size estimated to be more than 380. However, 440 aged people participated in the study.

We used stratified-random sampling required data was gathered using Persian version of Sanjel's questionnaire which measures health care utilization by the elderly and its determinants. This questionnaire is consisted of three parts: demographic data (11 items), personal daily habits (8 items) and use of healthcare services (6 items). The content validity of the questionnaire was verified by 5 academics and 10 experts. The reliability was approved by Cronbach's Alpha ($\alpha=0.79$).

In June and July of 2014, the subjects were invited to centers, received the questionnaires and were asked to complete them accurately. Study objectives were fully explained to the subjects and they were assured about the confidentiality of their personal information. Those who refused coming to centers were called and questionnaires were completed by interviewers due to participants' responses. Data

were analyzed using SPSS software version 21, descriptive statistics and Chi-square test.

Results

81 of the subjects were males (41.1%), 55 were older than 80 (12.5%) and 291 were married (66.1%). Females had visited the centers more in search of medical services (50% versus 30.9%) and this was more remarkable for married participants than singles or widows. Illiterate and academic participants had the highest and lowest shares of subjects in the sample respectively (193 versus 10 subjects). The academic subjects had visited healthcare centers less than any other groups. Azeri people had the highest number of subjects in terms of ethnicity with 247 subjects (56.4 %). Most subjects were housewives

(51.3%). The majority of the subjects also claimed that they enjoyed the support of their families. Only 9 subjects (2%) stated their monthly income was more than 15 million Rials (more than 500 United States dollars, at a rate of about 31,000 Rials per dollar). 63.4% of the subjects had Social security organization coverage. details of demographic characteristics are presented in table 1.

Chi-Square revealed gender as the most influential demographic variable on the visiting rates of the subjects ($p<0.05$). However, this significance was not observed for age, marital status, education, ethnicity, occupation, family structure, family support, family dependence, monthly income and social insurance coverage ($p>0.05$). (Table 1).

Table 1. Healthcare utilization rate of Participants Based on Demographic Characteristics

| Variable | Referred to medical center (n=356) | | | | Total | | P-value | |
|----------------|------------------------------------|---------|------------------|---------|-------|---------|---------|-------|
| | I've visited | | I've not visited | | | | | |
| | N | Percent | N | Percent | N | Percent | | |
| Age | 60-69 | 192 | 43.6 | 43 | 9.8 | 235 | 53.4 | 0.43 |
| | 70-79 | 123 | 28 | 27 | 6.1 | 150 | 34.1 | |
| | ≥80 | 41 | 9.3 | 14 | 3.2 | 55 | 12.5 | |
| Sex | Male | 136 | 30.9 | 45 | 10.2 | 181 | 41.1 | 0.01 |
| | Female | 220 | 50 | 39 | 8.9 | 259 | 58.9 | |
| Marital Status | Single | 20 | 4.5 | 4 | 0.9 | 24 | 5.5 | 0.817 |
| | Married | 233 | 53 | 58 | 13.2 | 291 | 66.1 | |
| | Widowed | 103 | 23.4 | 22 | 5 | 125 | 28.4 | |
| Education | Illiterate | 162 | 36.9 | 31 | 7.1 | 193 | 44 | 0.196 |
| | Primary level (1-5) | 133 | 30.3 | 42 | 9.6 | 175 | 39.9 | |
| | Middle and high school | 51 | 11.6 | 10 | 2.3 | 61 | 13.9 | |
| | academic | 9 | 2.1 | 1 | 0.2 | 10 | 2.3 | |
| Ethnicity | Fars | 124 | 28.1 | 33 | 7.5 | 157 | 35.7 | 0.153 |
| | Azeri | 206 | 46.9 | 41 | 9.4 | 247 | 56.4 | |
| | Other | 26 | 5.9 | 8 | 2.1 | 34 | 7.9 | |
| Occupation | Employed | 21 | 4.9 | 9 | 2.1 | 30 | 6.9 | 0.446 |
| | Retired | 97 | 22.5 | 24 | 5.6 | 121 | 27.8 | |
| | Unemployed | 41 | 9.6 | 9 | 2.2 | 50 | 11.5 | |
| | Housewife | 186 | 42.9 | 37 | 8.5 | 223 | 51.3 | |
| | Other | 8 | 1.9 | 3 | 0.7 | 11 | 2.5 | |
| Type of family | I live with my wife | 161 | 36.6 | 44 | 10 | 205 | 46.4 | 0.696 |
| | I live alone | 65 | 14.8 | 14 | 3.2 | 79 | 18 | |
| | I live with my married child | 39 | 8.8 | 8 | 1.8 | 47 | 10.7 | |

| | | | | | | | | |
|-------------------------------------|---------------------------------------|-----|------|----|------|-----|------|-------|
| | I live with family (4 people or more) | 91 | 20.7 | 18 | 4.1 | 109 | 24.8 | |
| Having supportive family | I have | 247 | 56.3 | 55 | 12.5 | 302 | 68.8 | 0.766 |
| | I Sometimes have | 56 | 12.8 | 15 | 3.4 | 71 | 16.2 | |
| | I have Not | 52 | 11.8 | 14 | 3.2 | 66 | 15 | |
| Dependency on family | I have | 305 | 69.3 | 65 | 14.8 | 370 | 84.1 | 0.062 |
| | I have Not | 51 | 11.6 | 19 | 4.3 | 70 | 15.9 | |
| Monthly family income(million Rial) | <5 | 161 | 36.6 | 40 | 9 | 201 | 45.6 | 0.268 |
| | 5-10 million | 173 | 39.2 | 37 | 8.4 | 210 | 47.7 | |
| | 10-15 | 17 | 3.89 | 3 | 0.7 | 20 | 4.6 | |
| | >15 | 6 | 1.2 | 3 | 0.8 | 9 | 2.1 | |
| insurer | Social security organization | 234 | 53.3 | 45 | 10.2 | 279 | 63.4 | 0.139 |
| | health Service | 56 | 12.7 | 17 | 3.9 | 73 | 16.6 | |
| | Armed Forces | 15 | 3.5 | 5 | 1.1 | 20 | 4.6 | |
| | Rural | 9 | 2 | 6 | 1.4 | 15 | 3.4 | |
| | I have Not | 41 | 9.4 | 11 | 2.5 | 52 | 11.7 | |

For personal habits, 83.6% of participants stated they never smoked and 94.3% also claimed that they never had drug habits. Less than half of the subjects (44.9) were regular users of herbs. 39.4% of the subjects had used off-the-label painkillers. 11.8% of the participants assessed their health status as “poor” and 39.4 felt they needed others’ help and support to survive. 72.5% of the participants stated they were independent for their daily activities (Table 2).

our results revealed that there are no statistical relationships between smoking, drug habits, off-the-label use of painkillers, using herbs, dependence on others for daily life and visiting rate of participants ($p>0.05$). Current health status and need for care ($p<0.05$) affect their visiting rate (Table 2).

Table 2. Visiting Rates of the Participants Based on Daily Personal Habits.

| Variable | | Referred to Medical center | | | | Total | | Chi-Square | |
|----------------|---------------------|----------------------------|---------|------------------|---------|-------|---------|------------|--|
| | | I've visited | | I've Not visited | | | | | |
| | | N | Percent | N | Percent | N | Percent | | |
| Smoking | I have never smoked | 300 | 68.2 | 68 | 15.5 | 368 | 83.6 | 0.313 | |
| | I already do | 31 | 7 | 6 | 1.4 | 37 | 8.4 | | |
| | I'm now | 25 | 5.7 | 10 | 2.3 | 35 | 8 | | |
| | Total | 356 | 80.9 | 84 | 19.1 | 440 | 100 | | |
| Using drugs | I have never use | 335 | 76.3 | 79 | 18 | 414 | 94.3 | 0.217 | |
| | I already do | 12 | 2.7 | 5 | 1.1 | 17 | 3.9 | | |
| | I'm now | 8 | 1.8 | 0 | 0 | 8 | 1.8 | | |
| | Total | 355 | 80.9 | 84 | 19.1 | 439 | 100 | | |
| Exercise Habit | I'm used to | 142 | 32.3 | 24 | 5.5 | 166 | 37.8 | 0.045 | |
| | I'm not used to | 214 | 48.5 | 60 | 13.7 | 274 | 62.2 | | |
| | Total | 356 | 80.9 | 84 | 19.1 | 440 | 100 | | |

| | | | | | | | | |
|--|--|-----|------|----|------|-----|------|-------|
| use of painkillers without a prescription | I use | 142 | 32.1 | 32 | 7.6 | 174 | 39.4 | 0.118 |
| | I do not use | 214 | 48.9 | 51 | 11.5 | 265 | 60.3 | |
| | Total | 356 | 80.9 | 84 | 19.1 | 440 | 100 | |
| use of herbal drugs | I use | 169 | 38.9 | 29 | 6.7 | 198 | 44.9 | 0.112 |
| | I do not use | 187 | 42.9 | 55 | 12.4 | 242 | 55.1 | |
| | Total | 356 | 80.9 | 84 | 19.1 | 440 | 100 | |
| self-assessed health status | Good | 103 | 23.5 | 42 | 9.6 | 145 | 33 | 0.001 |
| | Average | 205 | 46.7 | 37 | 8.4 | 242 | 55.1 | |
| | Bad | 48 | 10.9 | 5 | 1.1 | 53 | 11.8 | |
| | Total | 356 | 80.9 | 84 | 19.1 | 440 | 100 | |
| Perceived need for care | I have | 150 | 34.2 | 23 | 5.4 | 173 | 39.4 | 0.01 |
| | I do not have | 206 | 46.6 | 61 | 13.7 | 267 | 60.6 | |
| | Total | 356 | 80.9 | 84 | 19.1 | 440 | 100 | |
| dependence on others to perform daily activities | I am not affiliated | 251 | 57 | 68 | 15.5 | 319 | 72.5 | 0.054 |
| | I am dependent on one activity | 63 | 14.3 | 6 | 1.4 | 69 | 15.7 | |
| | I am dependent on more than one activity | 42 | 9.5 | 10 | 2.3 | 52 | 11.8 | |
| | Total | 356 | 80.9 | 84 | 19.1 | 440 | 100 | |

In terms of using healthcare centers, most participants opted to visit state-run hospitals and public healthcare centers. Private offices came second for the number

of visitors. Traditional medical centers had the lowest visitors (Diagram 1).

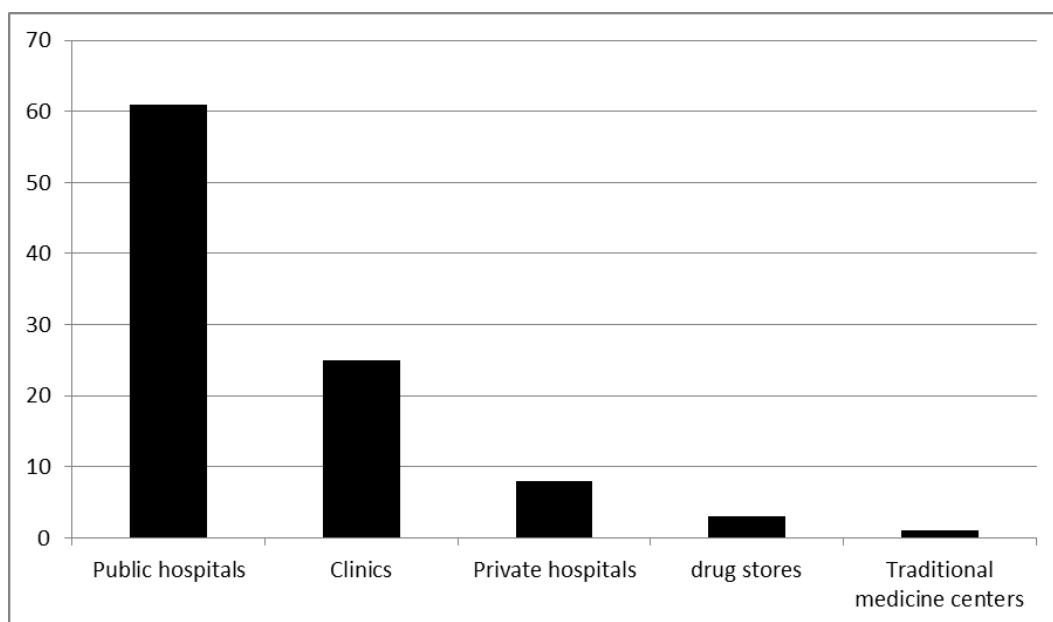


Diagram 1. Centers Selected in Search of Medical Services.

Discussion

Due to growing trend of ageing in Iran and the importance of the issue, the present study attempted to examine the use of healthcare services by the elderly and to identify its determinants.

The Majority of the subjects had the age range of 60-69 (43.6%), followed by age groups of 70-79 and over 80. In Sanjel's study (2012) in Nepal, most visitors came from the age group 70-79 (12). Vadla (2011) suggested that ageing resulted in more visits to healthcare centers, but this trend fell for those aged 85 or higher. Vadha ascribed this to costs and difficulties of access to health care (13). Although the collected information indicated that inclination and the ability to use of healthcare services decreased as a result of growing older, Chi-Square tests revealed no significant differences between different age groups ($p>0.05$) which is consistent with Sanjel's.

Based on the results, women tend to seek healthcare services more than men, which is consistent with researches of Amon, Zhang and Nie (14-16). In contrast, two studies in Thailand and Taiwan showed that men sought healthcare services more than women (17, 18). These conflicts challenge claims of increased tendency of aged women to use healthcare services in comparison to old men.

The present study showed that there was no significant relationship between people of different level of education, regarding using healthcare services. In other words, level of literacy is not a major player for encouraging or dissuading the elderly for using healthcare services. Although consistent with Sanjel's research, the results contrasted other studies conducted in Thailand, Taiwan and Norway (12, 13, 17, 18).

According to the results, marital status does not affect the decision to use healthcare. This was also true for as occupation, ethnicity, family structure and support, dependency of participants to their family, income and social insurance coverage status. Sanjel suggested that there were significant relationships between marital status and health care using rate.

However, we couldn't find sufficient evidence to support this claim. He also found out that income, family dependence and family support are not related to healthcare utilization rate of elderly. This finding is consistent with our findings.

Analyzing the results of daily personal habits component revealed no significant relationship between smoking and using healthcare services in the elderly. It was also true for drug habits which were confirmed in Sanjel's study as well (8).

Although smoking and drug habits were expected to prompt more visits considering their damaging impacts on health, our findings failed to prove it. This may be caused by lack of attention (poor attention) to personal health in this group of people (18).

There is no significant relationship between the use of painkillers and herbs and the use of healthcare centers by the elderly. Due to dependence on others and visits to health centers by this population, there was no significant relationship between the results such as Sanjel study (8).

Based on the results, there were significant relationships between the evaluations of the current health status and visiting rates of healthcare centers with those evaluating their health as positive visited healthcare centers more often. In the end, those who rejected the care of other people visited healthcare centers more than others. This was statistically significant. Sensitivity to health status could be suggested as a factor prompting the elderly to visit medical and healthcare centers more than the other elderly

Conclusion

Less attention is paid to the fact that the population of Iran is aging and therefore it is necessary to consider factors affecting the utilization of health services of the elderly. Identification of these factors could help health and medical policy makers and managers to better deal with health and medical needs of the elderly in coming years. The findings of this study showed that gender, educational habits, self-

assessment of health and the preferences of individuals toward the place of receiving services can be effective in health services utilization in the elderly. However, the topic needs further research.

Mental and physical limitations of the elderly may cause a significant difference between their demands and their perceived needs for health services, which may decrease the generalizability of the results.

Acknowledgements

The authors gratefully acknowledge of the Deputy of Public Health at the Tehran University of Medical Sciences for facilitating of data gathering.

Ethics approval

Ethical approval for this study was obtained from Deputy of Public Health for Tehran University of Medical Sciences.

Financial support

None.

Conflict of interest

The authors report no conflict of interest in this study.

Authors' contributions

Data gathering, analyses and interpretation and drafting of the paper were done by ML, JS and ZT. SM and SKH wrote the literature review. All authors read, revised, and approved the final manuscript.

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