ORIGINAL ARTICLE

Exploring self care in Tehran, Iran: A population based study

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Background: self care empowers individuals to self manage their minor ailments, chronic conditions, and to exert more control over their lives. Self care includes activities such as influencing prevention, health maintenance, and treatment of illness by individuals, this study was conducted to assess views about self care among the general population living in south of Tehran. **Materials and Methods:** This survey was cross-sectional study by using of two-stage random cluster sampling, 1200 individuals aged 17 years and over was surveyed regarding self care. A structured closed validated questionnaire was used to collect data. Data were finally analyzed by Kruskal-Wallis, Pearson Chi-square, Fisher exact test and linear by linear association. Questionnaire has totally five parts including knowledge, attitude, performance toward self care, views regarding general health and demographic characteristics as well. Furthermore; project number is 4276-62-02-85. **Results:** The mean age of subjects was 27.9 years (SD = 5.2); 50.2% ($n = 603$) were female; 54% ($n = 643$) were married (deleted), (55%, $n = 658$) reported that they were not knowledgeable about self care and (82%, $n = 986$) were interested in self care. Only 4% ($n = 53$) of subjects indicated they drank ≥ 7 glasses of water daily; fewer reported they consumed at least five portions of fruits/vegetables daily (3%, $n = 31$; and (4%, $n = 51$) engaged in physical activity more than 3 h weekly. There were statistically significant relationships between knowledge and interest ($P < 0.01$), knowledge and practice ($P < 0.001$), and interest and practice regarding self care ($P < 0.001$). **Conclusion:** The vast majority of subjects approximately two third felt satisfied with their health, most of subjects reported "feeling healthy" despite engaging in unhealthy life styles, it is revealed that more educated people, and likely those with more income, were interested in and knowledgeable regarding self care and were actually active in healthy life styles. In brief; this study suggests that physicians could support self care through their consultations with patients.

Key words: Iran, population based study, self care practice

INTRODUCTION

Self care is a multidimensional construct that requires individuals to accept and sustain a variety of behaviors which are influenced by factors such as health beliefs, economic conditions and life events.[1] Self care includes activities influencing prevention, health maintenance, and treatment of illness by individuals.[2] Evidence suggests that supporting self care will contribute to health benefits for people[3] and reduce the number of primary care and emergency department visits.[4] Self care activities have also resulted in increased patient satisfaction and quality of life, and thus overall benefits for the health care system.[3] Leading a healthy life style, treating minor ailments, managing long-term chronic conditions, and care provided after hospital discharge are four components of self care.[2] Thus, self care is involved in all three levels of health care, i.e., primary, secondary, and tertiary.[5,6] Fundamentally, self care empowers individuals to self manage their minor ailments, chronic conditions, and to exert more control over their lives.[2] As each society develops and promotes self care strategies, it must take into account the necessary dedicated resources and infrastructure such as funding, education opportunities, venues for information sharing including the Internet, facilitation of self care by health care providers, health literacy, and community consultation. Therefore, collaboration among sectors of the health system such as government ministries and policy makers, health care providers and consumers is essential for self care success.[7]

In particular, self care is dependent on the knowledge, attitudes and self care skills of the general population. Research suggests that in some developed and

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developing countries, self care is the most important form of primary care, with approximately 65-85% of health care carried out by persons or their family without physician or specialist assistance.[8,9] In contrast, the health care system in Iran is limited in its support and understanding about the effectiveness of self care. A previous study regarding the quality of life of people living 4 in Tehran[10] was conducted; however, to date, no population-based study about the views held by people regarding self care has been carried out in Iran.

Regionalization and the adoption of primary health care have not occurred in the Iranian health care system. Therefore, many citizens present themselves to specialists rather than to general or family physicians. Accessing specialists as the point of entry to the health care system may result in the inappropriate use of limited health resources. In contrast with general physicians, specialists may not have time to engage in patient education and other supportive self care activities. Tehran is a multicultural metropolitan city, divided into 22 districts which are distributed among four geographic regions. One of these districts – District 17 – is located in south of Tehran with a population of 270,000. Residents of this district are less educated and have lower socioeconomic status compared with people living elsewhere in Tehran. This study was conducted to assess views about self care among the general population living in south of Tehran. In addition, the sources of self care information and the factors enhancing or undermining self care were explored.

MATERIALS AND METHODS

This population-based study used cross-sectional data obtained from face-to-face surveys with people living in south of Tehran, Iran. The study was conducted from April 2007 to February 2008. To obtain a representative sample from the 270,000 inhabitants living in this city sector, two-stage random cluster sampling and a structured closed validated questionnaire was used to collect information. In the first stage, 40 neighborhoods which were located in different geographical points of District 17, were randomly selected. In the second stage 10 households from each neighborhood were randomly selected. Eligible households included resident individuals (aged 15 years and over, fluent in understanding and speaking Farsi, and willing to participate) who were home at the time of the survey questionnaire administration. For those who were not available at the time of study, a subsequent survey was arranged. Thus, from all 1354 eligible subjects who were available at home at the time of the study or at the time of 5 subsequent survey, 1200 subjects signed the consent forms and answered all the survey questions. A team of interviewers, who were trained by researchers, did the survey.

Face-to-face interviews were conducted through a structured survey questionnaire which included five sections; demographic characteristics, views regarding general health, self care knowledge, interest in self care, and self care practices. Self care practices included a healthy lifestyle, caring for minor ailments, and managing long-term health conditions.

Questions about barriers and enabling factors to self care, as well as the sources of self care information was posed. In this study, long-term health conditions were defined as those conditions that cannot, at present, be cured, but can be controlled by medicines or other therapies. Minor ailments were defined as non-chronic or episodic illnesses, not viewed as serious.

The survey questionnaire was used in a previous study conducted in England.[6] Prior to collecting data, the questionnaire was first translated from English to Farsi. Then it was back translated into English. Minor translation adjustments were carried out until the two versions of the English format were identical. To establish content validity of the questions, they were reviewed by ten specialists including five physicians, three nurses and two health care providers who were experienced in self care. Their considerations were then applied to the questionnaire. To test reliability, internal consistency, was assessed using Cronbach's alpha coefficient. An alpha equal to or greater than 0.70 was considered satisfactory; the alpha coefficient for this questionnaire was as 0.79. The Cronbach's alpha from the original survey was not reported by Kruskal-Wallis, Pearson Chi-square, Fisher exact test and linear by linear association was used for data analysis. SPPS version 11.5 was used to analyze data. There were no ethical issues encountered during the course of this study. The study was approved by the Medical Ethics Committee of Tehran University Medical Sciences. Study procedures were explained to prospective subjects over the age of 18 years. Adult subjects who were willing to participate provided informed consent. At least three adult household residents were to be surveyed; however, in those households with only one or two adults, children under the age of 18 were interviewed after parental consent was obtained.

RESULTS

In total, 1200 individuals from 400 households took part in the study. The mean age of subjects was 27.9 ± 5.2 years (range 17-45 years). Half of the sample was female (50.2%, $n = 603$) and just over half of the subjects (54%, $n = 648$) were married. A significant percentage of the sample (43%, $n = 517$) was illiterate or had obtained a primary education of less than 6 years. Most subjects, 27.25% ($n = 327$) were housewives and unemployed; 9.1% ($n = 107$) were employed by government

and they earned a fixed salary; and, 24.9% ($n = 299$) worked on daily wages Among the sample, 89% ($n = 1070$) held positive attitudes toward self care, and 23.9% ($n = 287$) engaged in recommended self care practices. There were statistically significant relationships between knowledge and attitude towards self care by using of Chi-square ($P = 0.004$, $\chi^2 = 8/463$), as well as knowledge and practice of self care by using of Chi-square ($P = 0.00$, $\chi^2 = 11/244$).

Table 1 shows how subjects viewed their health in terms of demographic characteristics. As indicated in this table, there were significant statistical differences between the variables of age and education in terms of feeling satisfied with their health by using of Kruskal-Wallis ($P = 0.000$, $k = 126/619$). Accordingly, younger and more educated subjects reported better health in comparison with others.

There were no significant differences between men and women in this regard. Table 2 outlines knowledge of self care, interests in engaging in self care, self care rating, and subjects' practices of self care activities. As this table indicates, the majority of participants stated they were not knowledgeable regarding healthy lifestyles, as well as managing minor ailments and long-term chronic conditions. However, more than 70% of participants stated they were interested in self care and also self rated themselves as active in self care. Of interest, a minority of subjects were active in eating healthy balanced diets and engaging in physical activity.

Table 3 shows barriers and enabling factors related to self care. Five hundred and forty three subjects 46% reported that a lack of knowledge regarding self care was the most significant barrier to self care activities. The majority of subjects (81% [$n = 969$]) suggested that the support and encouragement from health professionals was the most important enabling factor to self care. Almost two-thirds of the subjects (60%, $n = 717$) obtained information about self care from their family, friends and colleagues. The Internet was assessed for information about self care by only 2% ($n = 23$) of the subjects. Nine hundred and thirty four subjects (78%) indicated lack of money was not a barrier to engaging in self care.

Table 1: Subjects' views of their health at the time of the study (*n*=1200)

Variables	Feeling satisfied with their health			*P*
	All/most of the time *n* (%)	Sometimes *n* (%)	Seldom *n* (%)	
Sex				0.154
Female	491 (40.9)	83 (6.9)	29 (2.4)	
Male	484 (40.3)	83 (6.9)	30 (2.5)	
Age (years)				0.001
15-24	381 (31.7)	30 (2.5)	14 (1.16)	
25-39	392 (32.6)	61 (5.08)	23 (1.9)	
40-54	135 (11.3)	42 (3.5)	9 (0.75)	
≥55	67 (5.6)	33 (2.75)	13 (1.08)	
Education level				
Illiterate	58 (4.8)	32 (2.6)	17 (1.41)	0.001
Primary (≤6 years)	322 (26.8)	71 (5.9)	13 (1.08)	
Secondary	452 (37.6)	49 (4.08)	23 (1.9)	
College graduated	140 (11.6)	14 (1.16)	6 (0.5)	

DISCUSSION

This study explored the views of the general population living in south of Tehran, regarding their overall health

Table 2: Knowledge, interests, self rating, and practices of self care (*n*=1200)*

Variables	Yes *n* (%)	No *n* (%)	Unknown *n* (%)
Are you confident in having knowledge about			
*Healthy life style	431 (36)	658 (55)	111 (9)
Caring for minor aliments	332 (28)	747 (62)	120 (10)
Caring for long term conditions	315 (26)	714 (60)	159 (14)
Are you interested in self care such as			
**Leading a healthy life style	986 (82)	214 (18)	
Doing exercise regularly	853 (71)	374 (29)	
Having a balanced diet	857 (72)	343 (28)	
Being responsible for your own health	962 (81)	238 (19)	
Playing greater role in treating your minor aliments	858 (72)	342 (28)	
Are you currently involved in self care such as			
***Leading a healthy life style	1035 (86)	165 (13)	
Caring yourself for monitoring minor aliments	845 (70)	355 (30)	
Caring for your long-term health conditions	420 (35)	780 (65)	
****How active are you in healthy eating practices.			
Eating<3 glasses of water daily	259 (22)	941 (78)	
Eating 3-6 glasses of water daily	888 (74)	312 (26)	
Eating≥7 glasses of water daily	53 (4)	1147 (96)	
Eating<3 portion of fruits daily	923 (78)	277 (22)	
Eating 3-4 portions of fruits daily	231 (19)	969 (81)	
Eating≥5 portion of fruits daily	31 (3)	1169 (97)	
*****How active are you in physical activity practices			
No walking	128 (11)	1072 (89)	
Walking<1 h weekly	720 (60)	840 (40)	
Walking 1-3 h weekly	197 (17)	1003 (83)	
Walking>3 h weekly	152 (13)	1048 (87)	
Doing no regular exercise weekly	402 (33)	798 (67)	
Doing regular exercises<1 h weekly	637 (53)	563 (47)	
Doing regular exercises 1-3 h weekly	110 (9)	1090 (91)	
Doing regular exercises>3 h weekly	51 (4)	1149 (96)	

*More educated people were significantly more knowledgeable in healthy life style (P=0.006), **Younger people were significantly more interested in leading healthy life style (P=0.017), ***There were no differences between different groups of age, gender and educated people. **** More educated people were significantly more active in healthy eating in practice (P<0.001), *****Younger and more educated people were significantly more active in walking and physical activity (P<0.001)

Table 3: Barriers and enabler factors for self care (*n*=1200)*

Variables	Yes *n* (%)	No *n* (%)
Barriers to self care		
Lack of knowledge regarding self care issues	543 (46)	657 (54)
Lack of supports from family, friend and community groups	505 (42)	695 (58)
Lack of interest	391 (33)	809 (67)
Lack of time	344 (29)	856 (71)
Lack of money	266 (22)	934 (78)
Enablers of self care		
Encouragement from family doctors and health professional	969 (81)	231 (19)
Having equipment at home to monitor long-term health condition	949 (79)	251 (21)
Skill training (e.g., going to classes)	934 (78)	266 (22)
Sources of self care information		
Family, friends and colleges	717 (60)	483 (40)
Leaflet, posters	599 (50)	601 (50)
Mass media	518 (43)	682 (57)
Book, magazine	179 (15)	1021 (85)
Family doctors	78 (6.5)	1193 (95.5)
Internet, emergency services and health organization	23 (2)	1177 (98)

*Not adjustment by gender, age or education

and their perspectives toward self care. As well as reporting "feeling healthy," more than two-thirds of subjects felt satisfied with their health, most or all of the time, and fewer than 5% stated they seldom felt satisfied with their health in the past 6 months. Older (aged 55+) and illiterate subjects were less likely than others to be satisfied with their general health. These results are, in some aspects, consistent with the study that was conducted in England in which it was reported that 76% of the public was satisfied with their general health, while older people and more socially disadvantaged groups were least likely to feel satisfied with their general health.[6] It is important to consider that what constitutes "healthy" is culturally and socially mediated and while the findings are comparable, there might also be some differences in how these respective populations understand the concept of "healthy."[11-13] In addition, most of subjects reported "feeling healthy" despite engaging in unhealthy life styles. Other research has revealed that an overall or gestalt rating of general health can exist concomitantly with illness or disease conditions and, with respect to this study, the presence of less healthy lifestyle activities.[13] Thus, the enterprise of health promotion, and self care practices in this regard, entails distinguishing between the concepts of health and absence of disease.[14] Furthermore, exploring the concept of health among Iranian people is recommended.

Socioeconomic status was not directly assessed in this study; instead, data related to education levels were collected. The correlation between education and socioeconomic status is well established. Findings revealed that more educated people, and likely those with more income, were interested in and knowledgeable regarding self care and were actually active in healthy life styles. Although one may challenge the central role of knowledge in fostering the presence of healthy life styles, other research has verified this finding in the present study.[15-17] In the present study, it was clear that less-educated subjects reported worse health compared with educated persons. This finding was also consistent with those from a study whereby patients who were older, and less educated were less knowledgeable about self-care practices[18] In another study conducted in Tehran,[10] it was found that women and older people indicated poorer health status compared with men and younger people. In contrast, women in this present study reported feeling as healthy as the men. As previously noted, the present study was conducted among people living in south of Tehran, a population that differs socioeconomically from other districts in Tehran, i.e., most people in District 17 were living in poverty and lacked formal education. Thus, these demographic characteristics could explicate the difference between these two studies. While the majority of subjects in this study indicated that lack of money was not a barrier to self care, few subjects engaged in preventive health behaviors. This would suggest that poverty (low income) may indeed be a barrier to engaging in health promotive self care activities. Further research is needed to highlight the impact of socioeconomic characteristics on people's perspectives regarding their own health as well as engaging in self care.[15] A key requisite of self care activity is interest in the idea of it. In this present study, when subjects were asked about their interest in self care, the majority of them – nearly two thirds – confirmed that they were interested in caring for themselves. Subjects conveyed the message that self care was a positive thing, and that there was "room" for them to be more active in this area. For example, the majority expressed an interest in leading healthy lives, engaging in exercise regularly, eating a balanced diet, and caring for their own ailments. Related to this finding; the vast majority of participants rated themselves as active in leading healthy life styles. The study also assessed some self care related behaviors such as walking and doing exercise regularly in relation to perceived levels of being active. Subjects were not as active as recommended by health promotion guidelines,[6] as less than five percent drank more than seven glasses of fluids, ate more than five portions of fruits and vegetables daily, or performed regular exercise more than 3 h weekly. Subjects reported lacking knowledge about self care and they may not have been fully aware of the desirable levels of self care activity. These findings are similar to those found in England,[6] a developed country in which the majority of people, who rated themselves as highly active in self care, were not active according to recommended guidelines. A significant difference between these two studies is that in

England the majority of general population was confident about their knowledge regarding self care. In contrast, the majority of Iranian subjects stated they were not knowledgeable regarding self care. Thus, considering that there were significant relationships between knowledge, interest, and practice of self care, further awareness raising and education/training may be essential to foster self care activities including healthy eating and physical activity. These results and recommendations are consistent with other studies that suggest the need for linkage between health care and education systems to improve knowledge regarding self care.[16,19-21]

Given that relatively few subjects were actively engaging in health promotive behaviors (e.g., eating adequate portions of fruits and vegetables on a daily basis), a discussion beyond knowledge and the need for information is warranted. People who are not well educated and whose income is limited are likely to be concerned more so with their day-to-day survival (i.e., putting food on the table, clothing their children, etc.). People may not engage in healthy lifestyles because there are other more pressing matters at hand and which commands their attention. The demographic profile of south of Tehran supports this possible conclusion, i.e., this sector of the city was characterized by people who were not well educated, and many of whom were living in poverty. In the present study it appeared that there was some interaction between education and other socioeconomic factors, however, the central role of education in increasing self-care behavior has been previously established. For example, education and support from nurses in a hospital setting and at home significantly increased self-care behaviors in patients with heart failure, but no significant effects on resource utilization were found in this study.[20] The relative influence of these factors (i.e., socioeconomic, education, health determinants), on self care should be further assessed among the Iranian population.

Family, friends and colleagues were the most common sources of self care information, whereas physicians were ranked fifth. The mass media was the third most common source of self care information. Another finding was that only 2% of participants stated they used the Internet to obtain information about self care. This finding is not surprising given that computers and access to the Internet are not affordable to the majority of residents of District 17. The survey conducted in the UK revealed that physicians are the first and most important source of self care information. In addition, the Internet and along with it, other forms of information communication technologies including digital TV appeared to be valuable tools to support self care in the UK. In this study, Iranian people most often obtained self care information from their family or friends.

The implication here is that the information may or may not be accurate. Therefore, the provision of education within the school and health systems, along with media, are potentially important sources of self care information. At this time, however, obtaining self care information from family members, friends and neighbors was common in south Tehran given that the health care system lacked regionalization, access to the Internet was limited, and the presence of media was less dense. Further research to assess the impact of these related factors on people living in Iran is strongly recommended.

Iranian physicians and health care providers could better foster self care and educate people if the health care system was improved through regionalization of health services, i.e., family physicians and other health care providers serve as points of entry to the health care system. Furthermore, it is incumbent upon health policy makers to develop policies and allocate adequate resources to support further research and dissemination of research results to promote healthier life styles among the Iranian people. Obviously, such solutions are not just limited to education and information, but must also address the roles of family physicians, nurses, and other health care providers within a regionalized health care system. Fostering and supporting self care is also rooted in improving the determinants of health, and developing health literacy within the education system for people living in District 17 of Tehran. It would likely be useful and feasible to conduct in-depth, face-to-face interviews with physicians and nurses to explore those factors that may facilitate teaching and learning about self care, as well as identifying barriers to self care among people living in District 17.

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