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Original Article

Home Visit Services Provided for Elderly Dwellers in Isfahan Province: A Cross-Sectional Study

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A B S T R A C T

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Introduction: As the elderly population increases, chronic diseases and disabilities also become more prevalent. Home care programs as hospital services supplement, not only can prevent elderly from get worse in their disabilities but also make it easier for governments to manage elderly people's needs; therefore, we aimed to determine the home visit services provided for elderly residing in Isfahan province, Iran.

Methods: The cross-sectional study was conducted on 100 elderly persons aged 60 years and above who were randomly selected from the list of the aged people which took services from seven home visit service centers. Data were analyzed through descriptive statistics.

Results: Mean ± standard deviation age of the participants was 76 ± 8.8 years and about 70% were illiterate. Only about 56% of included participants were able to care themselves. A large number (56.3%) of participants' income source was personal and 5.7% were did not have any insurance at all. The costs of 93.5% of services were provided by the welfare organization. The services provided at these centers include general physician visits, nursing cares, physiotherapy and occupational therapy services, psychologist and social worker visits.

Conclusion: As the home visit services might be effective for providing health care for the aged people and increasing their quality of life, policymaking to spread these services seems to be crucial especially for Iran.

Keywords: Aging, Home Care Services, Isfahan

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Introduction

Today, people with 60 years and older are almost the same as the population of children under age 5, and it is estimated that by 2050, the senior's population will be several times more than the population of children under 5 years of age (1). In fact, the world's seniors populations will become more than the population of children under 15 years. This demographic transition (aging population) in developed countries has occurred in the past 100 years and this change is estimated to happen in the developing world within 25 years as well (1). Therefore, poorer communities have less time to plan for an aging population. The aging process resulted from an increase in life expectancy that reflected the rapid decline in death rates since 1950 and also it shows a rapid decline in the fertility rate (1). Sixty percent of elderly populations live in developing countries. In Eastern Mediterranean countries, 5% of the total population was over age 60, by 2000. In Iran according to the 1996 Population and Housing Census, about 6.6% of the total population aged 60 years, and it became 7.3% in 2006. It is proposed that this population will rise to about 9.24% by 2050 (2). Between 1950 to1995 the average annual growth rate

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of people 60 years and older in developed and developing countries were alike and was about 8.1 percent; however, this rate has been different after 1995 and in developing countries (2.5%) it has become almost about three times more than that of developed countries (0.9%) (3). the occurrence of chronic diseases, inabilities and disabilities increases with the rise in the seniors' population (1). Although, the quantity, process, and certain types of disease differ in men and women (4), the main diseases that affect the seniors and are similar in men and women, include: cardiovascular diseases, cancers, musculoskeletal diseases, diabetes mellitus, mental disorders; sensory disorders, urinary incontinence and infectious diseases in poor areas.

Early diagnosis and treatment of elderly acute and long-term problems are of great importance important for two reasons: 1) to avoid consuming expensive hospital resources; and 2) the potential that hospitalization could lead to unpleasant consequences of poor health. Taking care of seniors who are suffering from many chronic diseases should be done effectively to prevent them from disability (5).

It is assumed that empowering seniors may help them to prevent health deterioration and increase independence in activities of daily living (6). How to provide resource and care of the elderly have raised many questions among policymakers, seniors and their families. Most seniors prefer to stay home rather than go to nursing homes. It is proposed that home cares costs are less than nursing homes. Knowing the factors that will determine the type and amount of elderly care are important to choose the effective policies (7).

Home care programs are a complement of hospital services and are defined as medical and social services (8, 9). Home care services not only prevent health decline of seniors but also are helpful for governments to manage the scarce social resources (10). Home care, as an alternative service for some hospital services, is costing about 20 to 30% less than hospital services. Health experts believe that 70 to 90% of disease conditions can be treated at homes (11). Since the seniors have little access to financial home services, accessing to these services are very important and impact of these services depends on their standards and quality (10, 12). Studies have shown that the number of treatments is related to increasing of inability, age and amount of disease but it is not associated with living alone and marital status (7, 11). Also the cost of these services is correlated with disability, medical conditions and frequency of treatments (7, 11).

In the 2006 census, 7.6% of people in Isfahan were seniors, and home services and health care through home visits paid by the government had started in 2005.The issue in Iran is more important considering these facts that in Iran 5.71% of seniors are illiterate, 2.9% are living alone, 0.4% are unemployed with no income, 1.71% feeling their income is not adequate, 2.23% are totally dependent, 6.43% are partially dependent, and 8.36% are with cardiovascular diseases (1). Regarding the importance of home services and seniors` treatment at home, the present study aimed to evaluate the quality these home visit services and their related costs in the context of a cross-sectional study done among elderly people residing in Isfahan province, Iran.

Methods

Procedures

A cross-sectional design was used for the study and the study population was all the seniors 60 years and older who were using home visit service centers which are supported by the city of Isfahan welfare which support approximately 500 persons. The sample size was calculated to be 100 elders using the standard deviation of treatment costs (99,880 IRR) (1 USD ≃ 30000 IRR) found in a pilot study on 30 seniors of this community. The power was defined to be 80% and 0.05% error. Permissions to access the records in 7 home visit centers of welfare organization in Isfahan province were acquired by the research team and data were collected by trained people in the area.

The cost of services were as follow: Physician Visit (100000 IRR), nursing visit (30000 IRR), Physiotherapist visit or occupational therapists Visit (72000 IRR), Psychologist Visit or Social Worker Visit (30000 IRR). A list of people receiving services from seven home visit centers of Isfahan was recruited. Fourteen to fifteen subjects were randomly selected (using systematic random sampling method) based on the number of clients from each center's list and data were extracted from their files. Inclusion criteria as follows: being alive and receiving services until the beginning of 2012.

Measures

Data collection forms included seniors' demographic characteristics (including age, gender, marital status, education level, occupation, and independence) and socioeconomic status (house ownership and insurance status), the most important health problems, type of services received and sources of funding for their services.

Data analysis

Data were entered into the Statistical Package for Social Sciences (SPSS, version 15.0 for Windows, 2006, SPSS, Inc., Chicago, IL) and analyzed using descriptive statistics.

Results

One hundred medical records were reviewed. Most of the participants were female (67%), and married (69%). Their average age was 76 years with 40% being 80 years or older. Seventy two percent of the participants were illiterate while 37% were

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housekeepers. Eighty seven percent owned their own home. There were no significant differences between the number of independent individuals and individuals who needed help. Most of included participants were covered by social insurance (Table 1).

Table 1. Distribution of seniors according to Demographic characteristics

Variable	N (%)
Age	
60-69	23 (23)
70-79	37 (37)
+80	40 (40)
Sex	
Male	33 (33)
Female	67 (67)
Material Status	
Married	69 (69)
Widow	31 (31)
Education Level	
Illiterate	72 (72)
Elementary and higher	28 (28)
Occupation	
Housekeeper	37 (37)
Disabled	35 (35)
Other	28 (28)
Level of Activity Status	
Independent	56 (56)
Dependent	44 (44)
Housing	
Personal	87 (87)
Leased	13 (13)
Insurance Status	
Social security	41 (41)
Health care	36 (36)
Welfare	5 (5)
No insurance	5 (5)
Unknown	13 (13)

Main home visit services provided for the seniors included general physician visits and nursing cares (to check vital signs). (Table 2)

Table 2. Types and costs of services provided for supported seniors

Type of Service	Average Visits per year	Average Cost
Physician Visit	7.8 ± 3.7	484600
Nursing Visit	7.5 ± 6.3	24408
Physiotherapist Visit	3.1 ± 4.8	140850
Occupational Therapists Visit	0.02 ± 0.2	800
Psychologist Visit	2 ± 2.6	61530
Social Worker Visit	1.86 ± 3.4	55800

The costs were calculated based on the Welfare Organization fees in Rials

Table 3 shows the frequency of major health problem among the Isfahani seniors covered by health care centers. The major health problems of the participants were disability and the most commonly diseases were musculoskeletal diseases, hypertension, diabetes and heart disease.

Table 3. Distribution of the main problems of seniors who supported by home visit centers

The major problem of seniors	N (%)
Disability	22 (22)
Musculoskeletal	19 (19)
Hypertension	19 (19)
Diabetes	18 (18)
Cardiovascular	18 (18)
Aging	16 (16)
Kidney/Renal	7 (7)
Alzheimer	2 (2)
Eyesight	2(2)
Hearing	1 (1)
Depression	1 (1)
Other*	50 (50)
Hypertension and Diabetes	6(5)
Disability and Musculoskeletal	1(1)
Eyesight and Hearing	1(1)
Depression and Alzheimer's disease	0(0)
Kidney/Renal and Cardiovascular	0(0)
Hypertension and Diabetes and Kidney/Renal	1(1)

∗ Other mainly Hyperlipidemiaand stroke

Discussion

Primary aims of the home care for seniors are to diagnose medical problems, provide interventions for prevention of disease, provide treatment and maintain. The oldest age group in this study were 80 years and older. This was found to be the same in Branch and colleagues study where the oldest age group was 85 years and older (30.2%) (15). In other studies the oldest age group were 85 and 76 years (13, 14). In another study most of the 75 to 84 year olds, white (comparison 45.14% of participants) (16). A study done in Finland revealed that the need for home care services rises with age. The need is higher among married couples because they live longer and the risk of dementia also increases with age (17). More than two-thirds of the sample in the study was married (69%). In the study done by Branch et al, 58% of participants were married Also Martikainen in his study by referring to this issue and increasing the life longevity of married people concluded that home care is more necessary for this group (15, 17). According to our study, this issue that the largest group in study were 80 and above is a challenge: on the one hand is a success, as we could see the time that aging is admitting in our country, on the other hand is a threat, as it is not clear whether the substrate of prevention, treatment and rehabilitation of diseases have been provided for this group or not. The survival and health of each spouse to maintain a healthy senior family is one of the family and its member's duties. Removing the obstacles is one of the most important responsibilities of the health sector vanguards. One of

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the major causes of depression in senior couples is death of one of them that follow by other problems for seniors.

The majority of participants of the study were illiterate (72%) and illiteracy is considered as one of the most important problems for the seniors to improve their quality of life (18). Educated seniors have their own health management for receiving the information that related to the prevention and primary health check-ups. Also these people have enough information about treatment process and rehabilitation and hence the speed of each process is done in an appropriate manner.

Main complaints of the participants in our study included, disability, musculoskeletal disorders, hypertension, diabetes and cardiac problems. In the Ackerman et al.'s study complaints were: respiratory syndrome (14.4%), dementia (10.1%), gastrointestinal problems (9.9%) and falls (8.2%) (13). Disability is commonly defined as a "disturbance or dependency in carrying out activities essential to independent living, including essential roles, tasks needed for self-care and living independently in a home, and desired activities important to one's quality of life." (19). In a study done by Mcdermott et al. main problems were mentioned as dementia (58%), heart problems (43 %), depression (38%), diabetes (27%), lung problems (23%), kidney problems (19%), cancer (18%) and stroke (%15) (14). According to the World Health Organization in countries with middle and low income, common causes of disability among seniors are: respiratory and lower limbs infections (6.7%), AIDS (6.6%), meningitis (4.6%), diarrheal diseases (4.6%) and unipolar mood disorders (4%) (20).

Disability, musculoskeletal problems, hypertension, diabetes and cardiac diseases are chronic conditions (needs long-term care, rarely care completely, and need to care) and related to many factors including genetic, pathologic, iatrogenic; therefore, efficient coping with these diseases should include social and environmental principles comprehensive for situation (safety, performance and economy). Community has been observed to reduce by more than seventy percent of deaths from chronic diseases. Lower intermediate physical activity, Mediterranean-type diet and consumption of fruit and vegetables have a strong inverse association with disability. It is also mentioned that smoking more than 15 years is positively related to disability (19).

In this study, 56% were independents and 44% needed help, but Branch. et al. showed that 8.8% of men and 11.1% of women need support and 21.9% of men and 25.2% of women were supported by one or more (15). The results of a study on the ability of self-care in South Norway showed that 83% of seniors had ability to self-care, negative factors of self-care were: frustration, receiving nurse at home and anxiety in high age; such that 85 years and above individuals had worse health status, less physical activity and greater risk of malnutrition. The positive factors of self-care were good physical and mental health, the lack of malnutrition and life satisfaction (21).

A study showed that the best ways of care are: caring at home by children, neighbors and friends (22). Seniors home visit and home care play a significant role in preventing recurrent hospitalizations and reducing overall cost of treatment. The results of organized home care under the direction of a trained physician in geriatric medicine at the head of a trained medical team and trained family help health system to achieving the overall goal of prevention and improve the quality of seniors' life.

Conclusion

Disability is commonly defined as a "disturbance or dependency in carrying out activities essential to independent living, including essential roles, tasks needed for self-care and living independently in a home, and desired activities important to one's quality of life." (19). Based on our results, the policy makers should be encouraged to continue to make facilities for elderly health problems including literacy, more access to food and home visits. Older adults should be better known in the public health community and the activities should lead to creating and delivering usable, appropriate health information for all Iranians.

Study limitations

Cross sectional nature of this study limits the generalization of the results. So for achieving a more complete and precise results, it is suggested to perform this study in a broader level. Also the study conducted in a single province in Iran which may not completely represent the entire status in Iran.

Conflict of interest

Authors do not report any conflict of interest.

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