



## Original Article

### Medication Problems from the Perspective of the Elderly: a Qualitative Study

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## ABSTRACT

### Article history

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**Introduction:** Aging is associated with non-communicable diseases and it gives rise to increase drug consumption. Regarding deeper cognition of the subject, a qualitative study was accomplished for recognition of taking medication problems from the elderly's viewpoint in Hamadan health centers.

**Methods:** The present qualitative study was done through conventional content analysis. The data were collected using semi-structured deep interviews with 15 elderlies referred to health-care centers in Hamadan. The participants were selected through purposive sampling from both genders and maximum variation of age, social and economic class and education level. Data strength was confirmed by member and external check. All the interviews were transcribed and analyzed using content analysis method.

**Results:** Analyzing data led to extraction of 7 themes of ignorance to medication use, medication forgetfulness, physical and mental status of the elderly, need to others help and support in medication use, relative negligence, economic and environmental problems in addition to 22 sub-themes of taking medication problems from elderly's viewpoint.

**Conclusion:** Study represented elderly people having some personal and environmental problems regarding medication. Alternatively, drug consumption difficulties in old people led to other side effects, individual's problems, and some problems related to their health.

**Keywords:** Medication Use, Qualitative Research, Aged

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### Introduction

As the elderly population increases, their health problems grow and matters. Moreover, for many of elderly social class reduction, loss of wife and relatives happens (1-4). On the other hand, by declining their preoccupation time and retirement, older people may feel emptiness and unimportance (4). This may have an influence on the quality of their life. In addition, there is a direct relationship between ageing and non-communicable diseases, so that elderly affection to chronic diseases increases (5). Besides, it will give rise to increase taking

medication for this age group that has numerous problems (5). Epidemiological evidence represent that the occurrence of most chronic, degenerative and progressive diseases such as cardiovascular diseases, cancer, chronic obstructive pulmonary diseases (6), dementia and other degenerative disorders increases dramatically by aging. Curing some of these diseases involves using several drugs simultaneously and poly pharmacy (7). Due to multiple problems and diseases caused by aging, elderly are considered the biggest group of drug consumers. A side-effect is an

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unwanted symptom caused by medical treatment, which are dangerous and unwanted experiences (8). Drug therapy difficulties among older people are actually very prevalent and its consequences appear naturally in different ways (8). Although, the process of increasing aging population is not matter itself, the effects of increased drug use on different health and socio-economic aspects of elderly and also its influence on society's health and policy are considered to be very important (3,9).

A study conducted in Iran shows that elderly's knowledge and attitudes toward medication adoption and consumption are low that would cause irreparable problems in this age group (9). The study of Notenboom et al. indicated that the elderly had many problems with taking medication (10). Other studies have also addressed specific problems with the use of medications in the elderly (11, 12) representative of the significance of appropriate use of medicines and the ways to promote this issue. This cause less age-related problems, and then the health system suffers less from the cost of inappropriate consumption of drugs and aging diseases. Particularly from the point of view of the health authorities, it is of great importance. Hence the significance of these problems, a qualitative study was carried out to recognize medication problems in the elderly of Hamadan.

## Methods

### *Study design and setting*

The present study was a qualitative study using conventional content analysis (13) on the elderly referred to health-care centers in Hamadan in 2016. Participants were selected from elderly people referred to the health-care centers using purposive sampling with age ranges from 60 to 75 years. Maximum variations were used in sampling to increase the generalizability of the findings. A health-care center is one of a network of clinics staffed by a group of general practitioners and nurses providing health-care services to people in a certain area. Typical services covered are internal medicine, pediatric, women's care, family planning, pharmacy, optometry, and laboratory testing (14).

### *Data Collection*

The semi-structured interviews was conducted to achieving predetermined questions and providing opportunities to express their experiences in the field of the research. Interviews were conducted in education room at health-care center. A brief description was taken from 15 elderly 60-75 year-old after an explanation about the objectives of the study from both genders, different socio-economic situation and different educational levels. Sampling and interviews continued until adding new participant did not provide new information (data saturation) (15-17).

Questions directed elderly's personal problems as well as socio-environmental problems associated with medication. Eventually, conclusions had been

achieved from the interviewee's states by the interviewers. The elderly were then asked if there was an ambiguous point to be elaborated more.

All interviews were conducted individually and face to face by a dispose interviews with the elder participants and had all appliances for interview such as note book, voice recorder and other appliances. The time of each interview was between 30 to 40 minutes. However, all non-verbal messages were noted by an associate interviewer.

### *Ethical Considerations*

Participants were justified on how to carry out the plan, confidentiality of information, aim of the project and free for participants to withdraw from the study, and in case of participation, sign a written consent. Research code of ethics number was REC.1394,2 from Hamadan University of Medical Science Ethics Committee.

### *Analysis*

Graneheim and Lundmen approach was used in order to analyze the data (18). After each interview, the notes were reviewed and transcribed in a word software. Then the initial codes were assigned to meaning units by both researchers. In the next step, by ongoing comparing codes, similarities and differences, the concepts were extracted and a type of integration was induced in similar topics. Thereby themes were extracted and finally by reviewing the codes and themes, the main topics of the study were obtained (18).

In order to approve major and minor subjects that were extracted by both researchers, the data were again evaluated separately by a couple of researchers. They also analyzed the information and regarding themes and sub-themes and finally the research team reached a consensus.

## Results

From fifteen elderly taking part in the study, there were six women and nine men. The majority of them were illiterate (67%) and 40% were housewives. Diabetes drugs allocated 26.5% of drug consumption among them. Table 1 shows the demographic characteristics of the participants.

Data analysis led to three main themes regarding personal problems and four main themes regarding socio-environmental problems. Personal problems themes included: 1) Ignorance to medication use (to the sub-theme of consumption and self-medication, ignorance, having wrong medicine, not knowing drug's side effects, taking continuously inappropriate drugs, not taking drug until worsening the situation, 2) Medication forgetfulness (to the sub-themes of forgotten time of drug use, forgotten possession of drugs, forgot that drugs run out, forgotten location of the drugs) and 3) Physical and mental status of the elderly (with sub-themes of mental and physical abnormalities). (Table 2)

**Table 1. Demographic characteristics of the participants (n = 15)**

Characteristics	Number (%)	
<b>Gender</b>	Men	9 (60%)
	Women	6 (40%)
<b>Age group (in years)</b>	60-61	7 (40%)
	66-70	4 (30%)
	71-75	4 (30%)
<b>Educational level</b>	Illiterate	10 (67%)
	Primary school	3 (20%)
	University	2 (13%)
<b>Employment status</b>	Housewife	7 (40%)
	Free	4 (30%)
	Retired	4 (30%)
<b>Marital status</b>	Married	10 (67%)
	Widow and single	5 (33%)

**Table 2. Categories major themes and sub-themes of elderly's personal problems**

Themes	Sub-themes
<b>Ignorance to medication use</b>	Consuming and cutting drugs arbitrary
	Ignorance and having the wrong drug
	Knowing nothing about side effects and continue taking medication
	Lack of medication to worsening disease
<b>Medication forgetfulness</b>	Forgotten time-consuming
	Forgot to possession of drugs
	Forgetting from running out of drugs
	Forgetting the location of the drugs
<b>Physical and mental status of the elderly</b>	Physical abnormalities
	Psychological problems

Majority of the elderly pointed to self-medication and arbitrary cut of drugs. The P1 states "*although I have eye disorder, I cut my drugs arbitrary*". The P4 states "*sometimes that I feel sick, I go to the drugstore on my own and buy some kinds of drug which I think are suitable*". Elderly participating in the study were illiterate or had low educational level. They declared that this case may adversely affect drug consumption. Furthermore, they may make mistakes in taking medication. The P11 states "*illiteracy threw me in trouble. Sometimes I eat the wrong drug and I recognize how to use them only from their colors*". Also, most elderly acknowledge that they are not aware of side effects and when they are suffering from complications such as dizziness and distraction they have no idea what to do or

consider that as a part of their illness thus they continue taking medicines which are harmful for

*confused and distracted and I did not know that I'm not fine. After some times my son came to me, I told him the story. He took me to my doctor; the doctor*

*also warned me that I had to come to him sooner". Most of the elderly are not taking their drugs as long as their general condition and sickness worsen and they feel their body condition is going to be poor, they start taking medication. The P14 states "I get distracted and nervous by taking my medicines. I get tired of this state thus, I stop using them and I don't take my drugs always, but because of my illness and that I feel bad, I have to take them again".*

The participants expressed the exact time of taking the medication. They also stated while they knew the accurate time of consuming the drugs, they often forget it. This problem is more often in the elderly who were alone at home. The P15 states "*I know my drugs consumption time but, sometimes I forget that*". The participants mentioned that when they go to other places other than their home or when they are working outdoors, they forget to take their medication. The P8 also states "*I often go to the park and my doctor asked me to take my medicine with myself but I forget to do that*". Some elderly admit when their drug is over, they forget to prepare it on time or informed the person who prepared the medication on time. The P12 states "*Sometimes it comes to me that my medication has all been over and I forgot to buy or asked my son to buy and bring me*". Most participants express they frequently forget where they place their medication. This may have may have adverse effect on drug consumption. The P6 states "*Sometimes I have no idea where I put my eye drops*".

Regarding the main theme of physical and emotional state of the elderly, most seniors complained from physical and psychological problems that have impact on other aspects relating to drug use including medical care and drug supply. The P1 states "*I don't have ability to walk and my hands tremble. Furthermore, I can't prepare my medicine. Moreover, because I cannot see well, I cannot take my medicine correctly*".

Socio-environmental problems of the subjects included the following 4 main themes: 1) need to others help and support in medication use (to the sub-themes of loneliness in elderly, buy medicine by others, accompanied by an entourage for the purchase and transportation of drugs, excessive employment of the elderly), 2) relative's negligence of the elderly (to the sub-themes of being isolated by people, not caring medication, buy medication errors), 3) environmental problems (to the sub-themes of habitat and pharmacy distance, transportation difficulties for treatment) and 4) economic problems (to the sub-themes of poor financial situation, the high costs of medication, lack of health insurance coverage.) (Table 3).

**Table 3. Categories major themes and sub-themes of elderly's social and environmental problems**

<b>Themes</b>	<b>Sub-themes</b>
<b>Need of others help</b>	Loneliness Purchase of medicines by others Accompanied by relatives in order to buy and transport the drugs Too much occupation
<b>Relative's negligence of the elderly</b>	Isolated by relatives Not caring drugs Buy drugs incorrectly
<b>Environmental problems</b>	The long distance between pharmacy and the elderly habitat Transportation difficulties
<b>Economic problems</b>	Poor financial situation High costs Lack of insurance coverage

Sometimes elderly cannot use their drugs due to loneliness. The P13 states *"Loneliness is so hard for me; I often ask my neighbors to help me take my drugs. The majority of elderly mentioned that they need people to help them in order to buy medicine and in their absence elderly cannot prepare drugs alone"*. The P9 states *"Since my eyes cannot see well, only my children can afford my medicine because my wife who helped me had died two months ago"*. Elderly expressed as sometimes people are wrong in buying their drugs and the elderly themselves are unable to go to the pharmacy due to physical problems, they should wait till one of their relatives or the people around take them to the pharmacy in order to get their drugs. The P6 states *"When my drugs run out, I don't get my medicine. Since the pharmacy is too far for someone to come and buy drugs with me"*. Most elderly in the study reported being busy with household chores, traffic of children and relatives in their house as adverse factors on drug use. The P3 states *"Most of the times I don't take my drugs because I'm busy in the yard"*.

One family problem that affects drug use and drug regimens in elderly is the isolation of the elderly by relatives such as lack of family cares especially their children. The P13 expressed *"One of my sons is near me, but his son does not allow him to come and see me. I have to be very careful because of chemotherapy in order to do that I need someone"*.

Some elderly mentioned in the interview that their relatives don't care to their drug consumption. The P8 states *"My children have nothing to do with my drugs and I and only I myself care my drugs"*. Majority of elderly mentioned when they asked their relatives to prepare their drugs in most cases relatives purchase the wrong one. The P7 states *"My wife sometimes purchase wrong drugs for me, thus I should wait until my son comes and diagnose drugs"*.

Some elderly expressed problems about away home from pharmacy. Most live in a border city and they expressed some problems for buying their drugs due to the long distance between their house and the pharmacy. The P6 states *"Although my drugs are not expensive, I'm not going pharmacy to prepare my medication for the long distance"*. Elderly reported some cases about inaccessibility or lack of proper, suitable vehicles according their terms for commuting buy and use their drugs. The P4 states *"I cannot drive and also public transport bothers me, that's why I don't go to buy my drugs"*.

Lack of proper financial status was the problem of most of the older people participating in the study. Lack of money was one of the difficulties which have great impact on the preparation of medicine by the elderly. The P10 states *"If my sons did not afford my medicines, I could not pay them"*. The majority of the elderly complained of high expenses of the drugs and they expressed that's because of that they cannot afford their drugs according to their poor financial status. The P1 expressed *"Medicines are expensive. Doctors do not care and prescribe high-cost drugs"*. The P7 also states *"My drugs are often expensive, thus I prefer not to buy them"*. Some elderly mentioned they do not have appropriate insurance since they do not have an obvious job and retirement. Furthermore, this issue would affect on their drug consumption. The P 8 states *"I was supposed to be insured, but so far I have not. I think for the insurance you should have which I don't"*.

## Discussion

Promoting health knowledge in addition to population ageing in the country has made the medication consumption to become a major problem in the elderly patient care. Consequently, this study was conducted with the aim of understanding medication problems from the viewpoint of senior citizen in Hamadan's health-care centers. Data analysis in this study has led to individual, family, environmental, and economic problems. Yavari et al. which represented the relationship between polypharmacy and socio-demographic factors among old people in Kahrizak, revealed that elderly encountered highly prevalent difficulties in drug consumption and also polypharmacy (19). The study of Notenboom et al. in 2014 entitled "The problems of taking medication" indicated from elderly's experience that they faced lots of problems for taking medication (20). Other studies also surveyed one or more special problems of old people due to drug consumption (21,12). Old people have more difficulties in this field compared with other groups of society according to their physical and psychological problems and other difficulties such as economic, environmental and familial problems (22-24). In this research one major theme which old people mentioned was lack of information from consuming and cutting drugs or taking drugs incorrectly and cutting use them headstrong. A qualitative study which was carried out by Modig et

al. on medication experiences, indicates that elderly information associated with details of drugs consumption would improve drug use and reduce the side effects. This requires attention to details in response to elderly regarding drug consumption by medical and health professionals (25). Rejeh et al. results indicated that old people needs getting some information from physicians and nurses about their remedy and taking medication (26).

One of the problems was forgetfulness such as forgetfulness in taking timely, where the drugs are and to carry drugs. Similar studies also showed that cognitive problems and forgetfulness causes taking medication difficulties (27, 28).

The results of the present study represented that the elderly need help and support from others, and some family problems have effects on their drug use. In previous studies, it has shown that social protection of elderly person increases the ability to deal with health problems (29, 30). The emphasis of the community research on the support for family members is in line with the study of Hamroonsawadi et al. that perceived social support from family is one of the factors is directly related to health promoting behaviors (30). A study in Thailand indicated that family networks by creating a sense of physical and mental well-being in elderly is a precursor for healthy lifestyle (31).

Another problem for the elderly was distance between the pharmacy and where they live and lack of transportation for commuting to drugstore. So that many elderly forebears from preparing their drugs. Most elderly complained from high costs of drugs and lack of suitable insurance. They stated that they ignore buying medicines since they have to pay lots of money and they sometimes cannot afford. Also insurance does not thoroughly cover their drugs or if they wish to use insurance to buy their drugs, they must pay a significant share.

### Conclusion

The findings represented the elderly referred to health-care centers of Hamadan had some problems associated with taking medication. Drug consumption in old people led to other side effects, individual's problems, and some difficulties related to their health. It is essential to pursue interventions in special groups with the history of drug consumption. Therefore, it is recommended that educational intervention be accomplished in supporting elderly people. According to significance of this research and lack of such studies with this type, this study can be one of research priority in the field of elderly. Authorities also can utilize the findings of this study to improve the living situations of the elderly population.

### Study limitations

The major limitation of the study, apart from small size, was that only elderlies who referred to health-care centers in Hamadan participated in the study and

those who were living in nursing homes were not included, hence generalization should be applied in caution.

### Conflict of interest

The authors declare that they have no conflict of interest.

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### Authors' contributions

PP, FRS, MA, AM and MA participated in the study designing. MA and AM participated in data collection. PP, MA and AM participated in the data analysis and PP and MA wrote the manuscript. All authors read and approved the final manuscript.

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