

# Evaluation Medicine Management of Elderly During COVID-19: Descriptive Cross-Sectional Research Study

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## Abstract

**Objective:** It has been reported that medication adherence and routine controls of elderly and chronic patients are important during the COVID-19 pandemic. The research was conducted to evaluate medicine management and the opinions of elderly people during the pandemic.

**Methods:** The research was conducted with 410 individuals, aged 65 and over, in a province in the east of Turkey, between May and August 2021. The research data were collected online using a questionnaire through Google forms. The data obtained were analyzed by using numbers and percentiles in the SPSS 24 package program.

**Results:** Of the individuals with an average age of 73.09±7.76 years, 52.2% was female, 22.4% was literate, 67.6% had one or more chronic diseases, and 64.6% was taking medicine continuously. Of elderly people, 42.9% had problems accessing health services during the pandemic, 29.7% had problems accessing medicines, and 44.1% has obtained his/her medicines from pharmacies through his/her children. Of elderly, 40.7% has met the need for medicines from the pharmacy during the COVID-19 process, and 56.1% reported that social support for elderly is insufficient.

**Conclusion:** According to the study results, most elderly people were found to have chronic diseases and take medication regularly, and experienced problems with medication management and elderly need more support during the COVID-19 pandemic.

**Keywords:** Covid-19, Elderly, Elderly health, Health management, Medication management.

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## INTRODUCTION

It is observed that the elderly population is gradually increasing due to the increased longevity around the world. Aging is considered to be a public health problem, and diseases and health problems, seen in line with increasing age, negatively affect the quality of life of elderly and increase mortality rates (1,2).

Elderly individuals may use numerous medicines due to their health problems. While the average number of drugs used is 3 to 4 in the 65-70 age group, the average increases up to 3 to 6 in the 70 and older age group (3). Failure to correctly manage multidrug use during increased chronic diseases in the elderly may adversely affect treatment and cause some problems related to unwanted adverse effects of the drug (2,4,5). The new type of COVID-19 disease, which first appeared in China in 2019 and spread worldwide in 2020 as a pandemic, continues to adversely affect people's entire lives, especially their health, to this day. Along with the measures implemented to prevent the epidemic, hospitals have closed most of their wards for routine patient admission to treat patients with coronavirus. During the rapid spread of the epidemic, normal patient admissions were postponed in hospitals, and it was stated that difficulty in accessing a physician for routine treatments would pose serious problems, especially for chronic and elderly patients (6). Medication adherence and management are important in the treatment of chronic and elderly diseases (i.e. diabetes). It has been reported that individuals with COVID-19 disease have an increased chance of survival when the optimal level of medication adherence is maintained in the treatment of chronic

disease. It has also been reported that increased stress during the treatment of patients, which does not receive adequate support due to the restriction/prohibition measures applied throughout the epidemic, has a negative effect on medication adherence and treatment (7,8). It has been stated that physicians can reduce the potential risks that may occur in patients taking multiple drugs by controlling prescribed drugs during the COVID-19 pandemic with effective drug management (9). This study was conducted with the aim of evaluating the opinions and medicine management of elderly during the COVID-19 pandemic.

## METHODS

### *Study Design*

This study has a cross-sectional and descriptive research design.

### *Study Population and Sample*

The study population was consisted of elderly people aged 65 and over who were living in the central neighborhoods of a province located in the eastern Turkey. Without performing a sample selection, 410 elderly individuals, who agreed to participate voluntarily in the study and were reached between May-August 2021, constituted the sample of the study.

### *Data Collection*

The questionnaire used in the research was developed by the researcher based on the literature (9-12). The first part of the 24-item, the two-part questionnaire consists of eight items on socio-demographic characteristics, and the second part consists of 18 items that determine the status of taking medicine and the opinions of elderly regarding drug management during the COVID-19 pandemic.

Purposive sampling method was used to reach the participants. The research data were collected online from the participants through the Google forms, using a questionnaire developed by the researcher.

### Statistical Analysis

SPSS Version 24.00 for Windows (IBM, Armonk, New York, USA) was used for the statistical analysis of the study data. Obtained data were entered into the SPSS package program in a computer environment. Percentage, mean and standard deviation were used in the evaluation of the data.

## RESULTS

It was determined that 52.2% of elderly people with an average age of  $73.09 \pm 7.76$  was female, 22.4% was illiterate, 91.5% was not working in an income-generating job, 65.2% lives with his/her spouse, and 58.4% had expenses less than the average monthly income (Table 1).

**Table 1.** Descriptive Characteristics of Elderly

Characteristics	N	%
<b>Age (X±SD)</b>	73.09±7.76 (Min=65, Max=95)	
<b>Gender</b>		
Female	214	52.2
Male	196	47.8
<b>Education status</b>		
Illiterate	33	8.0
Literate	92	22.4
Primary school	86	21.0
Secondary School	63	15.4
High school	84	20.5
Bachelor's degree and above	52	12.7
<b>Employment status</b>		
Working	35	8.5
Nonworking	375	91.5
<b>Perceived average monthly income</b>		
Lower than expenses	229	55.8
Balanced	150	36.6
Higher than expenses	31	7.6
<b>The people who he/she lives together (n=376)</b>		
Spouse	245	65.2
Children, grandchildren, sibling	82	21.8
Alone	31	8.2
Caregiver	18	4.8

**Table 2.** Distribution Medicine Management and Taking Medication Statuses of Elderly During the COVID-19 Pandemic  
\* Number of respondents giving more than one answer

Characteristics	N	%
<b>Chronic disease</b>		
Yes	275	67.6
No	135	32.4
<b>Diseases *</b>		
Hypertension	147	56.8
Diabetes	83	32.0
Asthma	20	8.2
Chronic Obstructive Pulmonary Disease (COPD)	13	5.4
Renal problem	29	11.8
Heart diseases	63	25.2
Joint disease	49	19.8
Stomach disease	25	6.1
Ophthalmic diseases	39	9.5
Cancer	19	4.4
Mental problem	18	4.4
<b>Regular use of medication</b>		
Yes	262	64.6
No	145	35.4
<b>Number of medicine taken</b>	3.67±1.59	
<b>Taking medicine other than those that are used constantly</b>		
Yes	72	17.6
No	338	82.4
<b>If yes, the types of medicine (n=72)</b>		
Painkiller	51	70.8
Physician's prescription	17	23.6
Vitamin	4	5.6
<b>How the medicines are procured (n=174)</b>		
I bought them myself at the pharmacy	53	30.5
My children bought them at the pharmacy	78	44.8
My relatives bought them at the pharmacy	36	20.7
My caregiver bought them at the pharmacy	4	2.3
I couldn't buy them	3	1.7
<b>Where the medicines are stored (n=197)</b>		
At room temperature	157	79.7
In the refrigerator	40	20.3
<b>Problems with access to medicines</b>		
Yes	122	29.7
No	288	70.3
<b>The problem experienced in accessing to medicines (n=122)</b>		
I didn't get any information from the physician since I couldn't leave the house	101	82.8
I had no one to bring medicine	17	13.9
I didn't know how to buy my medication	4	3.3

Of elderly, 67.6% had one or more chronic diseases, 64.6% were on medication all the time. During the coronavirus pandemic, 44% of elderly people reported that his/her children bought medicines at the pharmacy, 79.7% kept their medicines at room temperature, and 29.7% had problems accessing the medicines (Table 2).

During the COVID-19 pandemic, 42.9% of elderly people had problems accessing health services, only 32.9% had visited family medicine for an examination, 88.2% had received information to protect themselves from the epidemic, and the source of information was the media (56.1%), a physician (46.3%), and close circle (40.7%), respectively (Table 3).

**Table 3.** Access of Elderly to Health Services and Getting Information During the COVID-19 Pandemic

Characteristics	N	%
<b>Problems with access to health services</b>		
Yes	176	42.9
No	234	57.1
<b>The status of examination by a specialist physician</b>		
Yes	54	13.2
No	356	86.8
<b>The status of examination by a primary care physician</b>		
Yes	135	32.9
No	275	67.1
<b>Getting information for protection from Covid-19</b>		
Yes	362	88.2
No	48	11.8
<b>From whom he/she received information*</b>		
Media	230	56.1
Physician	190	46.3
Close circle	167	40.7
<b>Did any institution provide information about Covid-19?</b>		
Yes	104	32.2
No	306	67.8
<b>Who informed (n=102)</b>		
Governor's office (authorized services)	57	55.8
Primary care provider	45	44.2

\* Number of respondents giving more than one answer

**Table 4.** Distribution of opinions and recommendations on health services provided to the elderly during the COVID-19 pandemic

Characteristics	N	%
<b>The status of success of the services provided during the epidemic</b>		
Successful	230	56
Unsuccessful	180	44
<b>Access to medicines</b>		
We met the need for medicines from the pharmacy during the pandemic	167	40.7
Delivery of medicines from the pharmacy without visiting a physician facilitated access	93	22.6
<b>Social support status</b>		
Sufficient	180	43.9
Insufficient	230	56.1
<b>Opinions and recommendations on the epidemic process *</b>		
Social and economic support for the elderly should be increased	191	46.6
The personnel needs of the units dealing with the elderly should be met	173	42.3
Governorship and municipality should cooperate regarding the services for the elderly	160	39.0
Health care professionals should bring medicines to home and provide information about them	145	35.4

\* Number of respondents giving more than one answer

Of elderly, 40.7% has met the need for medicines from the pharmacy during the COVID-19 process, and 56.1% reported that social support for the elderly is insufficient. Opinions and suggestions of elderly people about the epidemic process were as follows: social and economic support for the elderly should be increased (46.6%), the personnel need of units related to the elderly should be met (42.3%), the governor's office and the municipality should cooperate regarding the services for the elderly (39%), and health care professionals should bring medicines and provide information to the elderly (Table 4).

## DISCUSSION

Along with the COVID-19 pandemic, restriction and prohibition measures have been implemented throughout the countries in order to prevent and control the disease. It has been reported that patients with chronic diseases and elderly patients had difficulty in accessing health services, and medication controls have also been disrupted along with their treatment due to the restrictive measures (such as staying at home) applied during the pandemic. It has also been reported that the pandemic has affected other vulnerable groups more, along with the elderly, by increasing social inequalities in various dimensions, especially health services, in all countries (13–15). Therefore, it has been emphasized that solidarity with the elderly is important during the epidemic, and it has been reported that the social support that will be provided together with the protection and support will positively affect the health of elderly (11,16). In this study, the fact that the monthly incomes of elderly were less than their expenses, more than three-quarters was unemployed, and the majority have a low level of education indicate that they are a disadvantaged group that could be affected negatively by the epidemic, in line with the literature.

Aging is considered a public health problem worldwide and chronic diseases seen in the ever-increasing elderly population have been reported to negatively affect the quality of life of elderly and increase mortality rates (1,2). It was determined that there was an increase in the number of drugs used with age and that 65-70-year-old patients take an average of 3-4 drugs while those aged 70 and older take an average of 3-6 drugs (3). It has been

emphasized that the habits of taking medications have increased and drug controls have been disrupted in line with the sale of over-the-counter and unsafe medications to patients, without visiting a physician (12). In a study conducted in Turkey, it was reported that 90% of people aged 65 years and over had at least one chronic disease, 35% had two chronic diseases, 23% had three chronic diseases, and 14% had four or more chronic diseases, and that the increase in chronic diseases also increases drug use (17,18). It has been found that COVID-19 increases the risk of mortality in the elderly and those with chronic diseases (hypertension, diabetes mellitus, coronary artery disease, chronic lung disease, obesity, cancer), as well as individuals taking multiple medications (18–20). It has been stated that good management of multidrug use together with the management of nutritional problems, movement restriction, depression, and social problems in elderly individuals during the epidemic will have a positive effect on elderly health (4,21). It has been reported that adequate preventive measures and appropriate medication follow-up are necessary for elderly people who are at risk during the pandemic (12). Regulations on the use and management of drugs in the coronavirus process have also been implemented in Turkey. The regulation made by the Ministry of Health states that medicines without a report can be prescribed by a family physician by phone, and medicines with a report can be purchased from pharmacies without a prescription (22). The importance of pharmacists and health care providers to cooperate in drug management in order to protect chronic and elderly patients, who use multiple drugs during the epidemic, from the undesirable effects of

drugs has been emphasized (23). It has been reported that physicians can reduce the potential risks of patients using multiple drugs during the epidemic by following up and controlling the results of prescribed drugs in addition to effective drug management during the epidemic (2,9). Similar to the above-mentioned results, it was found in this study that most of elderly people (67.6%) have at least one or more chronic diseases and take medication regularly (64.6%). In the study, about a third (29.7%) of elderly was found to experience problems with the supply of medicines during the COVID-19 pandemic and missed their health checks. It is understood that pharmacists and service providers, especially health care professionals, can play an important role in eliminating these problems. It has been reported that restrictive measures applied to control the COVID-19 pandemic (including the inability to leave the house) will disrupt chronic disease control in the elderly, make it difficult to access medications, and increase anxiety, stress, and loneliness levels. For this reason, it has been emphasized that health and care services and social support to be provided to the elderly have become important in all countries because of the epidemic (24–26). In addition, another study has emphasized that non-pharmaceutical treatment methods also have a positive effect on the lives of elderly in cases of diseases that adversely affect their long-term health that requires medication (5).

It has been stated that half of elderly people in some developing countries of the world did not have access to basic health services before the COVID-19 pandemic and that this will worsen with the pandemic. In addition, it has been stated that there are double disease burdens (infectious, chronic diseases)

in these countries and that individuals who have a lot of disease burden will have more significant health risks (10,27). It has been reported that the disadvantaged groups in societies will be affected more in line with the COVID-19 crisis and that the crisis will lead to unemployment, reduced income, poor health conditions, and increased social and economic problems more in these groups (28). During the epidemic, it has been noted that elderly people living at home and elderly people in need of prolonged care were not adequately supported, and there were some problems in care services due to the insufficient number of personnel who provide care for the elderly (29). In addition, it has been observed that the physician visits of elderly for medical purposes have also decreased during the COVID-19 epidemic (30). It has been stated that the most important source of information for individuals forced to stay at home during the pandemic is the mass media. Another study states that unconfirmed information disseminated through media organizations negatively affects individuals at the start of the pandemic (7). Similar to these results, a significant part of elderly (42.9%) participating in the study research that they had problems accessing health services during the pandemic and received information from the media (56.1%), physicians (46.3%), and their relatives (40.7%), respectively, to protect themselves against the pandemic. More than half of elderly (56.1%) stated that social support was insufficient for the elderly, nearly half (46.6%) recommended increasing economic and social support for elderly people, more than a third (42.3%) has stated that the personnel need of the units that provide services for the elderly should be met.

**Study Limitation**

This research has some limitations. Firstly, the study data is based on self-reports of elderly individuals. Other limitation is that the study data were obtained in only one province.

**CONCLUSION**

The implementation of policies that will contribute to the healthy aging of elderly along with social and economic support during the COVID-19 pandemic and its aftermath will have a positive impact on the lives of elderly people.

**Ethics Committee Approval:** Ethical approval was obtained from Munzur University of Non-Interventional Research Ethics Committee with decision No:3, 03 November 2020.

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