

Use of Supplementary Medicines/Nutrients and Disease Behaviours during the COVID-19 Pandemic

COVID-19 Pandemisinde Takviye İlaç/Besin Kullanımı ve Hastalık Davranışları

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ABSTRACT

Objective: The study was conducted to reveal which type of supplementary people used against COVID-19 disease and determine their behaviours/ideas related to the disease.

Materials and Methods: This study is a cross-sectional was conducted between April and May 2021. It was limited to people over the age of 18, and the snowball sampling method was used along with a questionnaire form.

Results: Of the individuals participating in the study, 74.4% were in the 18-33 age group, 72.6% were female, 64.6% were single, 65.8% had bachelor's degrees and associate degrees, 49.5% were actively working, and 63.13% had 1-10 years of work experience. Of the participants, 72.1% did not catch COVID-19. Medicines or supplementary nutrients are used mainly by individuals in the 34-49 age group (51.7%).

Conclusion: The most used supplementary medicines and nutrients were antiviral and anti-flu medicines and paracetamol, vitamins C, D, B, iron, omega-3, green tea, honey, thyme, ginger, lemon, spicy teas, turmeric, and fruit tea. The use of non-medicine complementary methods has increased while studies on the treatment of COVID-19 are ongoing. Among these methods, there is a tendency to mostly use supplementary medicines, nutrients, vitamins, and herbal products, respectively.

Keywords: Behaviour, COVID-19, herbal products, medicine, nutrient

ÖZ

Amaç: Araştırma, kişilerin COVID-19 hastalığına karşı ne tür tamamlayıcı tedavi kullandığını ortaya çıkarmak ve hastalıkla ilgili davranışlarını/fikirlerini belirlemek amacıyla yapılmıştır.

Materyal ve Metot: Bu çalışma kesitsel bir çalışma olup, Nisan-Mayıs 2021 tarihleri arasında yürütülmüştür. 18 yaş üstü kişilerle sınırlı olup, anket formu ile birlikte kartopu örnekleme yöntemi kullanılmıştır.

Bulgular: Araştırmaya katılan bireylerin %74,4'ü 18-33 yaş grubunda, %72,6'sı kadın, %64,6'sı bekar, %65,8'i lisans ve önlisans mezunu, %49,5'i aktif olarak çalışıyor ve %63,13'ü 1- 10 yıllık iş tecrübesi bulunmaktadır. Katılımcıların %72,1'i COVID-19'a yakalanmamıştır. İlaç veya besin takviyesini en çok 34-49 yaş grubundaki bireyler (%51,7) kullanıyor.

Sonuç: En çok kullanılan takviye edici ilaç ve besinler ise antiviral ve grip ilaçları ile parasetamol, C, D, B vitaminleri, demir, omega-3, yeşil çay, bal, kekik, zencefil, limon, baharatlı çaylar, zerdeçal ve meyve çayları oldu. COVID-19 tedavisine yönelik çalışmalar devam ederken ilaç dışı tamamlayıcı yöntemlerin kullanımı da arttı. Bu yöntemler arasında en çok sırasıyla tamamlayıcı ilaçlar, besinler, vitaminler ve bitkisel ürünlere yönelme eğilimi vardır.

Anahtar Kelimeler: Besin, bitkisel ürünler, COVID 19, davranış, ilaç

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INTRODUCTION

COVID-19 is a viral infection that has spread as a pandemic. The disease is transmitted through droplets. Respiratory symptoms, fever, cough, and dyspnea are the common signs of the infection.^{1,2} Some patients may experience pain, nasal obstruction, nasal discharge, sore throat, or diarrhea. In some cases of infection, symptoms are not observed, and most cases (about 80%) recover without the need for medical treatment. Loss of appetite, insufficient food intake, dehydration caused by fever and hypovolemic shock accompany the main symptoms of COVID-19.³

While studies on medical treatment are conducted to find the most effective treatment methods, people take non-medicine supplementary measures in addition to effective vaccination and treatment methods.⁴⁷ The number of COVID-19 cases was 2,208,652, and the number of deaths was 20,881 in Türkiye in 2020. The number of cases was 7,156,747, and the number of deaths was 61,036 in 2021. Since COVID-19 cases started to be observed in our country, the total number of cases has been 13 million, and the number of deaths has been 94 thousand.⁸

Communities worldwide which have gone through the pandemic, and especially death, have panicked and resorted to non-medicine treatments.⁹⁻¹¹ Due to the difficulty in reaching and talking to healthcare professionals during the COVID-19 pandemic, information about supplementary has been obtained from the media and the internet¹. As in many countries, social sensitivity toward supplementary has increased in our country to avoid unnecessary medicine use.¹²⁻¹⁴ Studies on protection from COVID-19 and disease management continue rapidly all over the world. In this process, individuals can use supplementary methods to maintain their health. There are different types of supplementary methods such as chiropractic, ozone therapy, ayurveda, acupuncture, aromatherapy, homeopathy, naturopathy, herbal medicine and meditation. There are differences in the diversity of these treatment methods as well as their benefits.¹³ A study conducted in our country states that there is a lot of news about supplementary methods that can be used to protect against COVID-19 in the written and visual media.^{2-6,9-12}

This study was conducted to reveal which type of supplementary people used against COVID-19 disease and determine their behaviours/ideas related to the disease.

MATERIALS AND METHODS

Ethical Considerations: Before initiating the study, ethics committee approval was obtained from Artvin Çoruh University Ethics Committee (Date:06/02/2021, decision no: E-18457941-050.99-

4985). The study was carried out following the principles of the Declaration of Helsinki.

Study Design: In the online study, the participants were requested to read the part providing information about the study before completing the questionnaire form and then proceed to the questions. This study is a cross-sectional was conducted between April 1 and May 31, 2021. It was limited to people over the age of 18, and the snowball sampling method was used along with a questionnaire form. The criteria for inclusion in the study are that people who will participate in the study come on a voluntary basis and use a smartphone. The first parts of the snowball ring are the people the researchers can reach on social media, their friends, colleagues and students. This method was preferred because more people can be reached. The questionnaire form created with Google Forms was shared via social media, such as Facebook and WhatsApp. Information about the study was given in the questionnaire form sent. Those who wanted to participate gave their consent and filled out the form. Six hundred fifty-three people completed the questionnaire form between the specified dates.

Limitations of the Study: The snowball sampling method has some negative aspects in terms of reaching the desired entire population. However, this method was preferred because the pandemic was continuing at the time the study was conducted, and more people could be reached. There are limitations in generalizing the research results of online forms to the universe.

Tools: The survey form was created by the researchers by scanning the relevant literature.^{2-6,9-12} The questionnaire form consists of two parts. The first part of the questionnaire consists of 9 questions related to sociodemographic information. In the sociodemographic characteristics form, age, gender, educational status, occupation, work year and status, marital status, number of children, and catching COVID-19 were questioned.

The second part of the questionnaire form consists of 13 questions that address feelings and behaviours related to COVID-19 disease and the use of supplementary medicines and nutrients. The form of supplementary medicine and nutrient use during the COVID-19 pandemic consists of three parts. The first 'feelings' part includes the reasons for fearing the disease. The second 'behaviours' part addresses the measures taken for the disease. The last 'use of supplementary medicines and nutrients' part questions the use of supplementary medicines, supplementary nutrients/vitamins/minerals/teas and herbal teas.

Statistical Analysis: The research data were analyzed using SPSS 22.0 statistical packaged software.

The relationship between the participants' uses of supplementary medicines and nutrients during the COVID-19 pandemic and their ages, educational status, occupation, employment status, work experience, number of children, and status of catching COVID-19 was evaluated. Percentage and frequency distributions were used to determine the participants' descriptive characteristics and uses of supplementary medicines and nutrients during the COVID-19 pandemic. Pearson's chi-squared, Fisher-Freeman-Halton, and Fisher's exact tests were used to compare some sociodemographic characteristics and the use of medicines or supplementary nutrients during the COVID-19 pandemic. Statistical significance accepted $p < 0.05$.

RESULTS

Of the individuals participating in the study, 74.4% were in the 18-33 age group, 72.6% were female, 64.6% were single, 65.8% had bachelor's degrees and associate degrees, and 69.8% did not have children. Moreover, 41.5% were students, 49.5% were actively working, and 63.13% had 1-10 years of work experience. Of the participants, 72.1% did not catch COVID-19 (Table 1).

When the participants' emotions and health behaviours towards COVID-19 disease were examined, it was determined that 93.6 per cent were afraid of losing their loved ones, and 91.3 per cent were afraid of infecting their relatives with the disease. 97.9 per cent of the participants wore masks to protect themselves from COVID-19, and 98.5 per cent paid attention to personal hygiene. (Table 2).

Table 1. Socio-demographical characteristics. (n=653).

Variables	n (%)
Age	18-33 486 (74.4)
	34-49 151 (23.1)
	50 and above 16 (2.5)
Gender	Female 474 (72.6)
	Male 179 (27.4)
Marital Status	Single 422 (64.6)
	The married 231 (35.4)
Educational Status	Primary education 18 (2.8)
	High school 73 (11.2)
	Associate-License 430 (65.8)
	Postgraduate 132 (20.2)
Job	Student 271 (41.5)
	Health personnel 114 (17.5)
	Officer/worker 234 (25.8)
	Academician 34 (5.2)
Working Status	Working 339 (51.9)
	Not working 314 (48.1)
Working Year	1-10 year 214 (63.13)
	11-20 years and above 125 (36.87)
Number of children	Has no children 456 (69.8)
	1-2 children 156 (23.9)
	3 children and above 41 (6.3)
COVID-19 Previously Infected	Did not infected 471 (72.1)
	Contacted/isolated 81 (12.4)
	Passed 101 (15.5)

Table 2. Emotions and health behaviours towards COVID-19 disease.

Variables	n (%)
Feelings*	Losing loved ones scares me 611 (93.6)
	Being infected with COVID-19 doesn't scare me, 596 (91.3)
	I'm afraid of getting sick 463 (70.9)
Behaviours*	Increase in stress and anxiety 437 (66.9)
	I'm afraid if I get sick, I will die 258 (39.5)
	Being quarantined scares me 199 (30.5)
	Pay attention to hygiene 643 (98.5)
	Wearing mask 639 (97.9)
	Avoiding crowded places 539 (82.5)
	Keeping the immune system strong 508 (77.8)
	Stay home 504 (77.2)
	Balanced diet 448 (68.6)
	Decreased exercise 445 (68.1)
	Not using public transport 427 (65.4)
	Sports/exercise/walking 276 (42.3)
	Increase the number of meals 260 (39.8)
	Increase in the tendency to use supplements 242 (37.1)
Do nothing 56 (8.6)	

*: More than 1 answer was given to the options.

59.6% of the individuals participating in the research stated that it is possible to protect themselves from COVID-19 with supplementary medicines and herbal supplements, and 37.1% stated that they used medicines or supplements to protect themselves from COVID-19. 32.2% of the individuals participating in the research stated that it is possible to protect against COVID-19 with herbal supplements, and 10.6% stated that they used herbal supplements to protect against COVID-19. (Table 3).
Medicines or supplementary nutrients are used mainly by individuals in the 34-49 age group

(51.7%). Participants who use medicines or supplementary nutrients at the highest rates are postgraduates (53.8%) and academicians (61.8%). The groups that use medicines or supplementary nutrients at the highest rates are employed individuals (45.1%) and individuals working for 11-20 years or longer (56%). Medicines or supplementary nutrients are used mainly by individuals (53.8%) with 1-2 children. Individuals with COVID-19 and in isolation (51.5%) are the group that uses medicines or supplementary nutrients the most. (Table 4).

Table 3. Distribution of supplementary medicines and herbal supplements used in the COVID-19 pandemic.

Variables	n (%)	
Use of supplements*	Antiviral medicines	177 (27.1)
	Paracetamol	169 (25.9)
	Flu medicine	134 (20.5)
	Aspirin	104 (15.9)
	Ibuprofen	84 (12.9)
Use of supplements/vitamins/minerals/tea*	Vitamin C	303 (46.4)
	Vitamin D	279 (42.7)
	vitamin B	177 (27.1)
	Iron mineral	165 (25.3)
	Omega-3	142 (21.7)
	Zinc mineral	120 (18.4)
	Vitamin A	116 (17.8)
	Vitamin E	113 (17.3)
	Vitamin-mineral complex	100 (15.3)
	Pre-biotic	96 (14.7)
	Magnesium mineral	91 (13.9)
	Selenium mineral	41 (6.3)
	Copper mineral	37 (5.7)
	Pickle	7 (1.1)
	Propolis	7 (1.1)
	Green tea	22 (3.4)
	Honey	14 (2.1)
	Thyme	13 (2.0)
	Ginger	13 (2.0)
	Linden	11 (1.7)
Lemon	11 (1.7)	
Spiced teas	11 (1.7)	
Turmeric	7 (1.1)	
Fruit tea	4 (0.6)	

*: More than 1 answer was given to the options.

Table 4. Comparison of some sociodemographic characteristics and the situations of using medicines or supplements in the COVID-19 pandemic.

Demographic Information	Uses n (%)	Not Using n (%)	χ^2 and p values
Age	18-33	157 (32.3)	$\chi^2=18.81$ p<0.001
	34-49	78 (51.7)	
	50 and above	7 (43.8)	
Educational Status	Primary and secondary school	7 (38.9)	$\chi^2=20.19$ p<0.001
	High school	23 (31.5)	
	Associate and license	141 (32.8)	
	Graduate	71 (53.8)	
Job	Student	75 (27.7)	$\chi^2=26.43$ p<0.001
	Health personnel	56 (49.1)	
	Officer/Worker	90 (38.5)	
	Academician	21 (61.8)	
	Working	153 (45.1)	
	Not working	89 (23.39)	

Table 4. Continue.

Working Experience	Never worked	89 (28.3)	225 (71.7)	$\chi^2=29.72$ p<0.001
	1-10 years	83 (38.8)	131 (61.2)	
	11-20 years and above	70 (56)	55 (44)	
Number of children	Has no children	142 (31.1)	314 (68.9)	$\chi^2=25.76$ p<0.001
	1-2 children	84 (53.8)	72 (46.2)	
	3 children and above	16 (39)	25 (61)	
COVID -19 Passing Status	I didn't pass	154 (32.7)	317 (67.3)	$\chi^2=14.74$ p=0.001
	I've been contact-isolated	36 (44.4)	45 (55.6)	
	I've been through and isolated	52 (51.5)	49 (48.5)	

DISCUSSION AND CONCLUSION

This study shows the results of using supplementary medicines and nutrients during the COVID-19 pandemic.

The majority of the participants stated that it was possible to protect themselves against COVID-19 with medicines and supplementary nutrients and used medicines or supplementary nutrients for protection. In many studies conducted in our country and worldwide, the use of medicines and nutrients during COVID-19 is mentioned.¹⁵⁻¹⁹ In a study conducted on students in Türkiye, the medicine and nutrient usage rate was high and similar to our study.¹²

Almost all the participants in our study expressed that they feared transmitting the disease to others and losing their loved ones. Furthermore, the majority of the participants stated that there was an increase in their stress and anxiety states. In a study on COVID-19 and fear of death in Spain, similar results were observed.²⁰ In similar studies, many people stated that they experienced stress, fear of death, and fear of losing their loved ones due to the pandemic.^{16,21} Considering the behaviours exhibited for protection against COVID-19, almost all the participants stated that they wore masks and paid attention to hygiene. The vast majority reported that they did not enter crowded places, kept their immune systems strong, did not leave the house and did not use public transportation. A study investigating the behaviours exhibited for protection against COVID-19 in Bangladesh fully coincides with our study.²² In a similar study, the same results were observed.⁶

Many studies have proven that a strong immune system is required for protection against COVID-19.^{9,14,23,24} Many studies emphasize that balanced nutrition^{10,13,14,17,23} and healthy living are quite important for a strong immune system.^{14,16,23} Trace elements such as vitamins A, B, C, D, E, zinc, iron, selenium, magnesium, and copper play important and complementary roles in supporting the innate and acquired immune system. Deficiencies adversely affect the immune function and may reduce resistance to infections.^{10,20-16-19} In our study, the rate of individuals who used the vitamins and minerals

mentioned was higher than the rate of individuals who did not use them and said they could consider using them. These data are consistent with the literature and support our study.

In our study, the rates of using vitamins D and C were significantly higher compared to other vitamins. In studies, loading doses of vitamin D are recommended to be taken since they reduce the risk and severity of COVID-19 and protect against acute respiratory tract infection.^{23,30-32} The importance of vitamin C in both preventing viral infections and strengthening the immune system is indisputable.¹⁸ As with all viral infections, data from SARS and influenza indicate that it is more beneficial to start antiviral treatment early. Therefore, it is recommended to start antiviral medications as early as possible.^{29,30} In this study, the use of antiviral medication was found to be statistically significantly higher in participants using supplements and nutritional supplements compared to non-users. Other medications used are ibuprofen, paracetamol and aspirin. In a study examining medicines that are likely to be beneficial to COVID-19 patients, ibuprofen was seen to give promising results.³⁰ In a study examining the medicines used by patients with COVID-19, paracetamol was the most used medicine.²²

When many medicinal herbs were analyzed for the treatment of COVID-19 patients, it was revealed that medicinal herbs gave good results before the onset of the disease or in the initial phase when there were mild symptoms.¹⁹ In a similar study, about half of the participants benefited from medicinal herbs. A mixture of medicinal herbs such as chamomile, thyme, ginger, mint, cinnamon, fennel, apple cider vinegar and honey.¹⁵ In another study, a majority of the participants stated that you can consume tea, ginger, black cumin, honey and cloves to reduce the risk of COVID-19 infection.^{16,22} The results of our study are similar to other studies. This shows that herbal products are of great importance in people's efforts to protect themselves from COVID-19.

In this study, individuals between the ages of 42-49, individuals with postgraduate education and individuals who were sick and isolated used supplementary

medicines and nutrients at more significant rates. In a similar study, individuals aged 60 years and above and individuals who were extremely scared of the pandemic were found to be more likely to take preventive medicines. In the same study, participants with master's degrees consumed protective herbal foods/products more than others.²² As a result of another study, individuals aged 40 years and above and individuals with higher education were observed to be more likely to use traditional and supplementary. Individuals with higher education were seen to apply self-medication more than individuals with lower levels of education.¹¹ These results indicate that advancing age and education or experience make people more cautious.

In conclusion, individuals used supplementary medicines and nutrients to protect themselves from COVID-19 with the fear of losing their loved ones rather than their own lives. Many studies have revealed that having a strong immune system, balanced nutrition, and healthy living are extremely important for protection against COVID-19. Due to this situation, people insensibly gravitate toward using vitamins, minerals, and herbal supplements. To prevent this insensible gravitation, further research and information studies are needed.

Ethics Committee Approval: The study was approved by Artvin Çoruh University Non-Interventional Clinical Research Ethics Committee (Date:06/02/2021, Decision No: E-18457941-050.99-4985).

Conflict of Interest: No conflict of interest was declared by the authors.

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