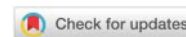


# THE UTILITY OF HEALTHCARE SYSTEM BEFORE AND DURING THE COVID-19 PANDEMIC

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**Abstract:** According to the European Charter of Patients' Rights, every person has the right to access health services in accordance with their health needs. The aim of this study is to analyze the utility of the healthcare service before and during the COVID-19 pandemic. **Material and methods:** An anonymous survey was conducted through a questionnaire in Google Forms among individuals over 20 years old (n=645), who were divided into several groups. Documentary, sociological and statistical methods were applied. **Results:** 58.4% of respondents reported that they maintained their GP visits during the COVID-19 pandemic. 43.3% of them had no obstacles to contact him/her by phone and 45.7% had no obstacles to visit him/her in person. **Conclusion:** The spread of the SARS-CoV-2 virus has presented the health system with many challenges, one of which is the burden on all its levels. However, between patient and doctor there is an established relationship, adequate communication and mutual trust.

**Keywords:** *health system, utility, Covid-19 pandemic*

Field: Medical Sciences and Health.

## 1. INTRODUCTION

Access to health care refers to the ease with which people can get the medical and health care they need. It is generally defined by Nunes (2021) as the ability to use appropriate services proportionate to health needs. According to the European Charter of Patients' Rights (2002), every person has the right to access health services in accordance with their health needs. Health services must guarantee equal access for everyone, without any discrimination. A key task in implementing rights and obligations in health care is to ensure everyone has fair access by balancing the right to health services and limited resources.

The patient's first contact with the healthcare system in our country is the general practitioner (GP). Hervas (2001) stated that he is the main figure in primary medical care, which provides continuous, high-quality and adequate medical care to people's health needs. In this way, approximately 80-90% of the patients' health problems are solved. GP has health-organizational, social and economic tasks, which are related to improved access to medical/dental care, as well as improving the timeliness of this care. One of the characteristics of outpatient healthcare is that it is aimed not only at the disease, but also at the personality of the patient. This activity includes curative, diagnostic, rehabilitative care, health promotion and disease prevention. Ordinance No. 8 (2016) regulates the type and frequency of preventive examinations.

## 2. AIM

The aim of the study is to analyse the utility of the healthcare service before and during the COVID-19 pandemic.

## 3. MATERIAL AND METHODS

A direct and anonymous patient survey was conducted through a specially developed questionnaire on the Google Forms platform. Participants were provided with information about the purpose and tasks of the study. The research is based on a statistical sample, representatively formed according to the

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determined units and signs of the observation. It includes health-insured persons over 20 years of age (n=645), for whom there are no exclusion criteria from the study.

To collect the primary information in the research, the following methods were applied: documentary, sociological and mathematical-statistical. The statistical processing of the primary data was carried out with Microsoft Office Excel software packages and with a statistical package of application programs - SPSS, and the method of interpretation was consistent with the theoretical material adapted to the program package. Part of the information from the survey cards is in the form of quantitative variables, the answers to the questions are coded and plotted in SPSS according to the system requirements. Graphical analysis was performed using Microsoft Office Excel.

#### 4. RESULTS AND DISCUSSION

We asked respondents about the frequency of visits to their GP before and during the COVID-19 pandemic in order to investigate healthcare service utility. In the analysis, we found that before declaring the state of emergency, the largest percentage of respondents visited their personal doctor twice (30.1%). 27.9% of them did it once. Almost the same percentage answered "three or more times" (27.0%).

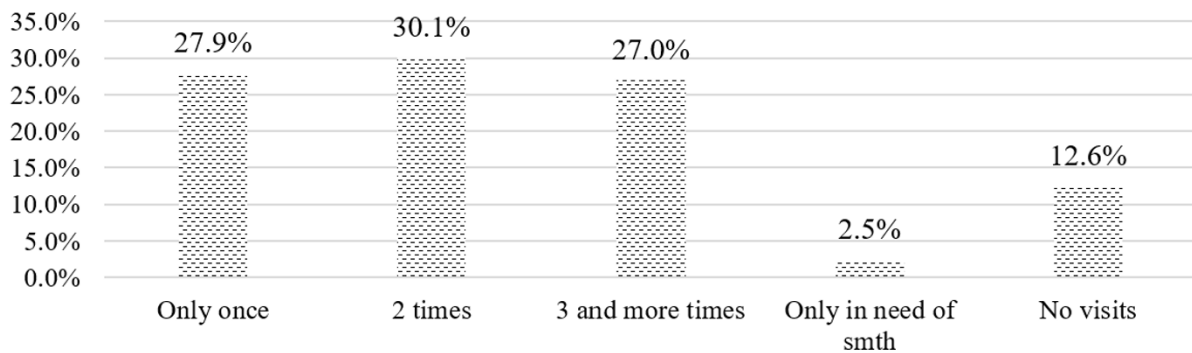


Fig. 1. Distribution of respondents' answers regarding health service use before the pandemic

81 individuals from our survey did not meet with their GP. In recent years, the low percentage of health-insured persons who undergo an annual preventive examination has been increasingly discussed. According to some sources, nearly 50% of Bulgarians with healthcare insurance do not go through their personal doctors for the mandatory annual preventive examination, according to a report by the National Health Insurance Fund.

On fig. 2 we have presented the distribution of respondents' opinion regarding a change in their visits after the start of the COVID-19 pandemic. As a result of the pandemic, they reported that in 58.4% of the cases their visits to the GP remained the same number. 21.6% indicated that visits had increased, and 9.8% - they had decreased. Factors that could influence patients' visits were many of the restrictive measures (lockdown, quarantine, etc.). Other factors for this could be worry and fear about visiting any health facilities during the peaks of the pandemic due to possible transmission of the disease.

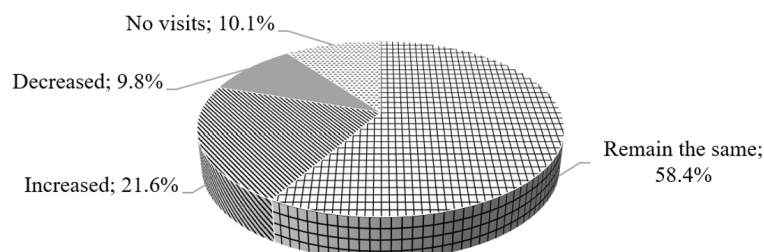


Fig. 2. Distribution of respondents' answers regarding GP visits after the start of the pandemic

As it could be seen from the figure the largest percentage the visits of the respondents to their personal doctor were preserved. This speaks of an established relationship, adequate communication

and mutual trust between patient and doctor.

One of the instructions of the health authorities in our country was that in case of need for health services and care, patients should first contact their GP by phone and only then take actual action. This was as a result of high virulence, efforts to limit the spread of the virus, reduction of contact persons in health and medical facilities, and last but not least concern for the health status of the medical staff.

The study of Penchev & Zlatanova-Velikova (2023) found out that 60.6% of the respondents would contact their personal physician first in the presence of symptoms of COVID-19. This confirms the figure of the GP, who tracks their health over the years and is one of the entrances to the health system.

In our research, we have investigated whether the respondents had difficulties in making contact (by telephone or at the medical facility) with their GP. In the following figure, we have presented the results of the answers of the respondents regarding difficulties in contacting by telephone. The data are divided by gender, because statistically significant differences were observed:

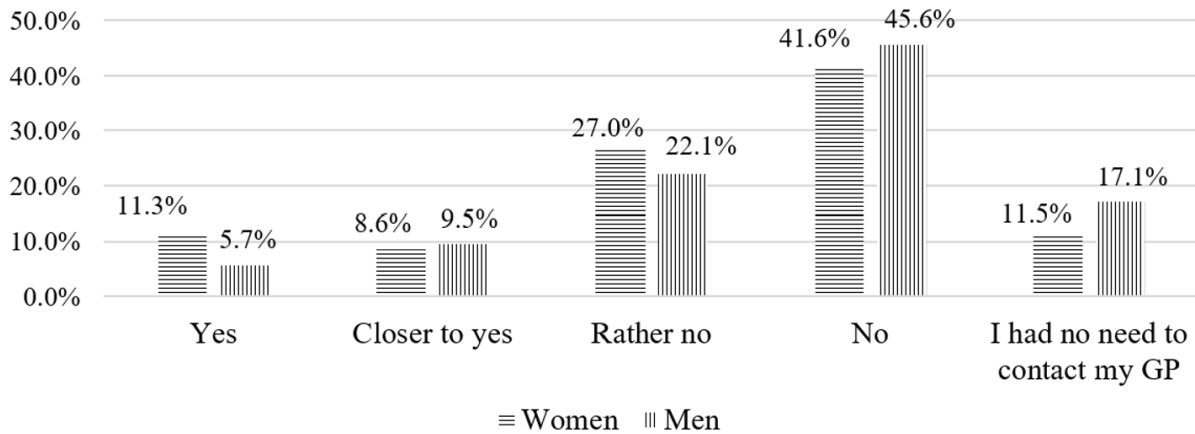


Fig. 3. Distribution of respondents' answers regarding their ability to contact their GP by phone during the pandemic,  $p=0.004$

As can be seen from figure 3, the highest percentage of the respondents stated that they had no difficulty contacting their personal physician by phone. There are statistically significant differences between men and women. Typically, men contact the health service less often and are more likely to ignore symptoms and illness. With this we can explain that 45.6% of them give a negative answer to the question against 41.6% of women. 11.3% of women and only 5.7% of men gave a positive answer that they had difficulties contacting the GP. It can be seen that there are responses indicated by respondents who did not need to speak to their GP on the phone (11.5% of women and 17.1% of men).

We investigated whether survey participants had difficulty visiting their GP locally. 45.7% of them did not have such an obstacle. We have analysed the results by gender and place of residence because they have statistically significant differences.

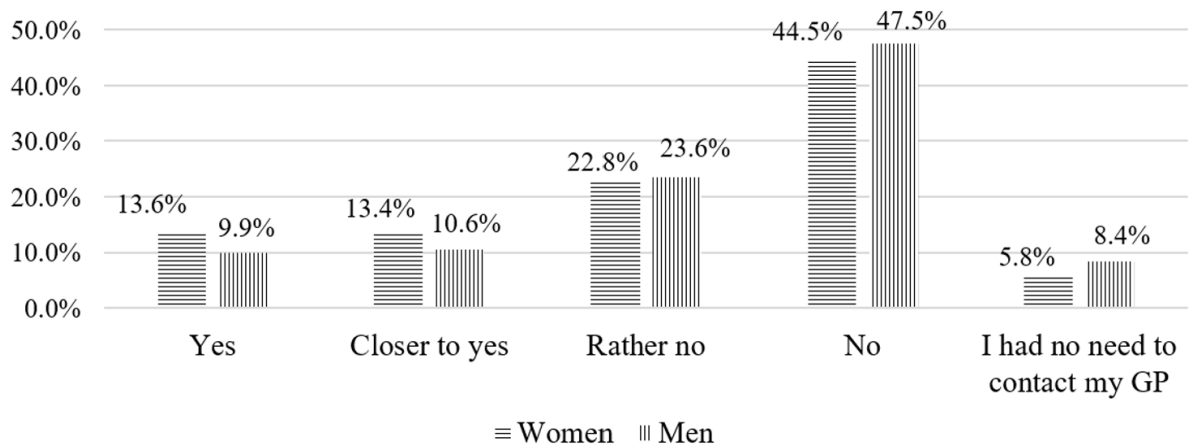


Fig. 4. Distribution of respondents' responses by gender regarding difficulties in visiting the GP during the COVID-19 pandemic,  $p=0.043$

A serious impact during the COVID-19 pandemic was the place of living. This can be explained by several facts. Many of the workers who had the opportunity to work from home preferred to live outside the capital and big cities. The reasons for this were also different. On the one hand, in large settlements, the probability of infection was much greater. On other hand, during the peaks of the waves, the national restrictions imposed by the governing bodies were associated with some inconveniences such as difficulties leaving home, traveling, walking outside, etc. There were quite a lot reports of families choosing to stay with relatives in the countryside or to rent houses with courtyards, especially if they had children. But living far from the big city also brings some disadvantages, such as the lack of a healthcare service and difficulties to have a personal contact with a GP or a specialist. This was also confirmed by our research (see fig. 5). 28.6% of those living in villages had difficulties visiting their personal physician face-to-face in a medical facility, in contrast to 11.9% of residents of the capital and 14.1% of those living in regional cities.

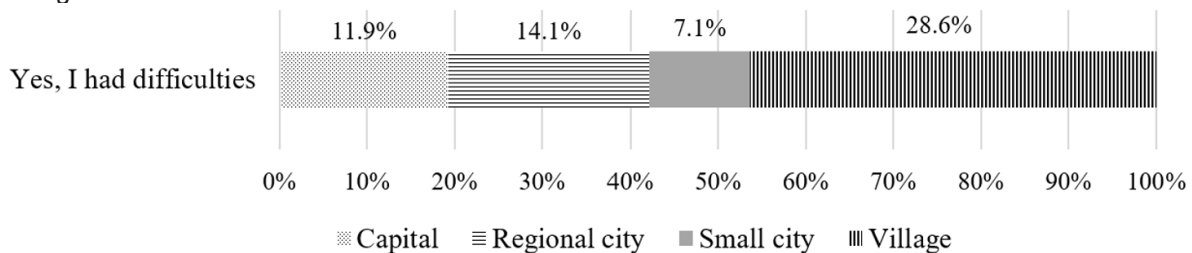


Fig. 5. Distribution of respondents' answers by place of residence regarding difficulties in visiting the GP during the COVID-19 pandemic,  $p=0.031$

Replacing face-to-face medical appointments with phone calls during the COVID-19 pandemic had both positive and negative consequences. A study by Caton (2021) found that some patients reported that this approach saved them time, transport and money. They even report that doctors were more attentive, spent enough time and listened more thoroughly to their complaints. We could say that the inclusion of self-management is one of the factors to control the disease, to take an active part in self-care and to prevent late complications.

The spread of the SARS-CoV-2 virus had put the healthcare system in front of many challenges, one of which was the burden on all its levels - outpatient, specialized, hospital and emergency medical care. The shortage of personnel (medical and non-medical) had a particularly big impact. According to Miteva & Vodenicharova (2022) and Naseva & Krasteva (2023) this inevitably led to a revision of the work schedule and an increase in the employment of workers. The additional load on the system led to increased workload, overloaded schedule of doctors, burnout.

Another challenge was the use of alternative medical care during the COVID-19 pandemic. According to Folayan et al. (2023) many individuals may have resorted to the use of alternative medical care because of poor access to conventional healthcare facilities. This study also determined that some socio-demographic factors influenced access to healthcare service, medications and use of alternative medical services during the first wave of the COVID-19 pandemic. Mahmoud, Jaramillo and Barteit (2022) had published that for citizens in high-income countries it is easier to access different health facilities, use new technologies and a reasonable number of healthcare professionals compared to people in low resource settings.

Pavlova (2021) stated that implementation of telemonitoring in medical facilities (for patients with coronavirus, post-covid syndrome and chronic diseases) is an effective way to ensure timely, affordable and quality medical care, which would lead to the improvement of many public health indicators. The widespread introduction of telemonitoring in the activity of outpatient and inpatient medical care will affect the effectiveness of the fight against the pandemic and reduce the pressure on hospitals.

## 5. CONCLUSION

The COVID-19 pandemic has been a serious threat to public health worldwide, challenging the provision of healthcare services and their accessibility, regardless of the country's level of development. The sudden onset of the emergency during the peaks of the waves led to a serious burden and difficulty for the population to make contact with the healthcare system. The spread of the SARS-CoV-2 virus has put the healthcare system in front of many challenges, one of which is the burden on all its levels.

Our research has confirmed the importance of the GP figure in the provision of medical services and

implementation of health care. Despite the heavy workload, there is an established relationship between patient and GP, adequate communication and mutual trust.

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