

CHALLENGES IN DENTAL CARE UTILIZATION

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ABSTRACT

INTRODUCTION: *Most oral diseases can be avoided by taking regular preventive measures and having access to well-timed dental care, but various obstacles can prevent consumers from receiving it. The fear of dental manipulations, the lack of sufficient time on the part of the users, the lack of awareness of the need for dental treatment, mobility impairments, and financial restrictions are the most common reasons for postponing examination or treatment at a dental office.*

AIM: *The purpose of the study is to determine the limitations to the usability of dental care by dental service users, depending on the type of dental service needed.*

MATERIALS AND METHODS: *An anonymous survey was conducted among dental service users throughout the country. A survey card was provided for participants to fill out. In the statistical analysis, Pearson's χ^2 test was used, along with the non-parametric Kruskal-Wallis test for comparison of three or more independent cases.*

RESULTS AND DISCUSSION: *The degree of influence of individual barriers is not equal, with the strongest limitation on the use of dental care being the cost of dental services. The sum of barriers when using dental services more strongly restricts consumers who seek medical care for an acute oral problem or a chronic oral disease. Patients with the fewest restrictions on accessing the dental care they need are those who last visited a dentist for prophylactic purposes.*

CONCLUSION: *Reducing the limitations to the utilization of dental care can be achieved by improving patients' awareness of the importance of using preventive dental services.*

Keywords: *dental care, limitations, usability*

INTRODUCTION

The majority of oral diseases and their complications among the population can be avoided through preventive care and timely dental visits. However, studies show that most patients visit the dentist primarily for symptomatic reasons, with pain being the main motivator according to some studies (2–4). Various restrictions can lead to delays in seeking dental treatment, preventing patients from getting the care they need. Fear of dental interventions, lack of time, lack of awareness about the need for dental examinations (2,3,5), and financial constraints are among the most frequently reported reasons for postponing a dental visit (1). Additionally, the unbalanced geographic distribution of dentists and the resulting difficulties in accessing dental care are other commonly reported reasons limiting the usability of dental services (6). According to the scientific literature, these obstacles can be summarized and classified into three main types of barriers: financial, structural, and personal (7).

PURPOSE

The purpose of the study is to determine the limitations to the usability of dental care depending on the type of dental service that patients need.

MATERIALS AND METHODS

A research was conducted in the PubMed and Google Scholar databases to identify scientific articles relevant to the topic, using the following keywords: dental care, limitations, usability. An anonymous survey was conducted, for which a specific survey card was provided to be filled out by users of dental services in June 2022. The survey cards were distributed through the survs.com online platform using the respondent method. A wide range of potential respondents from all over the country received an invitation to participate in the research, and 953 users took part in it (response rate = 80%). The sample is not representative of the general population, and accumulations of respondents are registered according to certain characteristics. Respondents were given the opportunity to rate the reasons that limit them

from visiting a dentist on an impact rating scale from 1 to 5, where 1 means that the reason stated does not limit users at all and 5 means that the reason stated is the most severely limiting. Additionally, dental care users reported the purpose of their last dental visit. Statistical analysis used Pearson's χ^2 test, as well as the non-parametric Kruskal-Wallis test for comparison of three or more independent samples.

RESULTS

In the conducted research, 56.7% (n=541) of users indicated that they had to postpone a visit to a dental doctor ($\chi^2=51.79$, $p<0.001$). The Kruskal-Wallis test ($p<0.001$) for independent samples was used to test the differences between the various reasons that limit the use of dental services. The analysis found that the degree of influence of individual barriers is not the same and there is a statistically significant difference between them, with the two most limiting barriers being the cost of dental services (2.73¹) and the lack of time (2.79¹). Next comes the fear of dental procedures (2.48¹), and the least limiting factor is the distance to the dentist (1.50¹).

The deterrent force exerted by complex barriers to the usability of dental services can vary in intensity for individual dental care users depending on the type of dental service they need (Table 1). To investigate this relationship, an analysis of the reasons for the last visit to the dentist among consumers was carried out. The average score they gave to the degree of influence by the sum of barriers, which caused them

to postpone a dental visit (payment of dental services, dental fear, lack of time, transportation limitations, unrealized need for dental treatment), was also analyzed.

The patients most severely restricted from receiving dental care by the effects of the barrier complex are those who had to see a dentist because of bleeding gums. This most likely indicates that these patients suffer from a chronic oral disease (periodontitis), and barriers to access to dental care systematically have a negative effect on them. Consumers who experienced an acute need for dental care due to a toothache or the need for oral surgical services (tooth extraction, wisdom tooth problem) also had greater difficulty obtaining the dental care they needed. At the diametrically opposite end are consumers who last visited a dentist for a preventive check-up and cleaning of dental calculus. For them, the barriers are the least restrictive, as these patients most likely care about maintaining their oral health and take periodic measures to do so. The complex of barriers to access to dental care further restricts consumers who seek medical care only in the presence of an acute oral problem, impaired oral health, or a chronic oral disease.

DISCUSSION

The published results of a survey conducted among the population of the European Union in 2021 report that 3.0% of the population in Bulgaria has unmet needs concerning dental check-ups

Table 1. Comparison of reasons for the last dental visit and mean scores of the degree of influence of the complex of barriers to the usability of dental services

Reasons for the last visit to the dentist	Number (%)	Average grade of the degree of influence of the barriers	P - value (Kruskal - Wallis)
Bleeding from the gums	51 (5.4%)	2.54	<.001
Toothache	208 (21.8%)	2.51	
Wisdom tooth problem	59 (6.2%)	2.40	
Tooth extraction	110 (11.5%)	2.36	
Dental trauma	28 (2.9%)	2.45	
Placement/adjustment of prosthesis	63 (6.6%)	2.30	
Other treatment planned	76 (8.0%)	2.37	
Caries treatment	313 (32.8%)	2.28	
Cleaning tartar	306 (32.1%)	2.13	
Medical check	66 (6.9%)	2.04	

¹*A 1-5 impact rating scale, with 1 meaning that the specified barrier does not restrict users at all and 5 meaning that the specified barrier most strongly restricts users.

and treatment. The main reason for this, according to the participants in this study, is the high cost of services in our country. The next most frequently re-

ported reason was fear of dental procedures, at 0.4% of respondents. For 0.3% of the population, a lack of time to visit a dentist is a limiting factor. Less common reasons for refusing treatment are the long wait times to get dental care and the tendency of patients to wait to see if their problem will resolve itself. Difficulties in traveling to the dental office were rarely reported in the study (8). These results largely align with and correspond to the conclusions of our study: the strongest limitations on receiving dental care are the cost of services, lack of time, and fear of the dentist, while the weakest are the unconscious need for treatment and the distance to the dentist.

In the current study, in addition to assessing the degree of influence of individual barriers to the use of dental services, an analysis of the limitations imposed by these barriers in a complex manner was also carried out. It was found that these barriers affect dental care users with different intensities depending on the type of dental service they need. A complex of barriers to access to dental care further limits consumers seeking medical care for bleeding gums. One possible reason for this is that the package of dental services provided by the National Health Insurance Fund in Bulgaria does not cover the treatment of periodontal diseases, making them financially inaccessible. In Slovakia, for example, although this country provides more limited coverage of dental services compared to many other European countries, dental calculus cleaning is covered by patients' compulsory health insurance and is part of the program for preventing the progression of periodontal diseases. In Estonia and Lithuania, patients have the option to share the costs of dental calculus cleaning with health insurance funds (9). Gum disease is the second most common oral disease in the population, progressing over time and being the main cause of increased tooth mobility and subsequent tooth loss in adults (10). This, in turn, affects the patient's quality of life and necessitates more expensive treatment to restore missing teeth (11, 12). The focus of the publicly covered program by the National Health Insurance Fund is on treatment, while the prevention of oral diseases and the promotion of maintaining good oral health among the population are poorly covered. International public health experts have systematically reported that the introduction of preventive programs in healthcare has a positive impact on the main causes of oral diseases and significantly reduces the postponement of treatment by patients (13). Besides the limited coverage of public dental care, another possible reason why patients with bleeding gums often delay visiting a dentist is that treating this oral disease usually requires multiple visits to a spe-

cialist (9). Here, the negative effects imposed by barriers related to difficult movement and lack of time accumulate and can also be significant restrictive conditions for receiving dental treatment.

In a diametrically opposite direction, the analysis takes into consideration preventive procedures. The complex of barriers has the least limiting effect on patients when they visit a dentist for a preventive examination or tartar cleaning. Preventive care is not expensive, and regular visits to the dentist are associated with better oral health (14). However, various studies have found that patients tend to neglect routine examinations of the oral cavity (2). Reduced awareness of the benefits of regular dental visits leads to less frequent dental check-ups, poorer health outcomes, more postponement of dental visits, increased use of emergency dental care, and higher dental costs for patients (15). Strategies for the promotion and prevention of oral health should be aimed at stimulating the performance of preventive examinations. The complex of barriers has the least limiting effect on the prevention of oral diseases. At the same time, preventive examinations are the foundation of oral disease control, on which the barriers to the use of dental services actually exert the strongest pressure.

CONCLUSION

Regular preventive visits to dental specialists have great potential for preventing some of the most common oral diseases, such as caries and periodontitis in adults. The analysis of the study results showed that performing a prophylactic examination rarely deters consumers from postponing a dental visit, and the complex of barriers exerts the weakest limiting force on prevention. Improving patient awareness regarding the importance of using preventive dental services and considering oral health with a higher priority would contribute to reducing the restrictions on the usability of dental care in the country.

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