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Social adaptation of deaf patients: barriers and solutions in dental care

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Abstract: The article analyzes the problems of social adaptation of deaf patients in the context of receiving dental care. The main barriers that arise in communication between doctors and patients are considered, such as difficulties in conveying complaints, discussing a treatment plan and informed consent. The features of sign language as the main means of communication and its impact on the availability of medical services are described. The existing organizational and technical solutions aimed at improving the quality of dental care for deaf patients are studied. The need to implement comprehensive programs for training medical personnel and use modern technologies to minimize barriers in communication is substantiated.

Keywords: Deaf patients, dental care, social adaptation, sign language, communication barriers, sign language interpretation.

Introduction: Ensuring accessibility of dental care for deaf patients is a significant problem caused by many communication and organizational barriers. Interaction of health care workers with patients who have lost hearing is often complicated by the lack of uniform protocols and adapted tools for transmitting medical information. This leads to difficulties in establishing an accurate diagnosis, coordinating a treatment plan, and conducting informed consent.

One of the key aspects is the use of sign language, recognized in international practice as the main means of communication for the deaf. However, the limited use of it in dentistry indicates the need to implement systemic solutions aimed at integrating this tool into medical practice.

The aim of the study is to identify and analyze barriers that deaf patients face in the process of receiving dental care, as well as to develop recommendations for eliminating these limitations based on existing international approaches and innovative technologies.

METHODS

Analytical and empirical methods were used to conduct the study. The analysis of literary sources included the study of scientific publications and reports of international organizations concerning the social adaptation of deaf patients, their interaction with medical institutions and the specifics of dental care. The study was based on data on the prevalence of deafness in different age groups, their impact on the availability of medical services and existing solutions for overcoming communication barriers.

The empirical component involved studying the practical experiences of dental clinics providing services to patients with hearing impairments. The analysis involved interviews with dentists and medical staff involved in the treatment of deaf patients in order to identify typical difficulties in interaction. A comparative analysis of the communication methods used was conducted, including the use of written instructions, sign language interpreters, and specialized technologies such as speech-to-text applications.

To assess the effectiveness of communication solutions, the process of providing dental care involving deaf patients was monitored. Time and quality indicators of interaction were studied, such as the duration of the appointment, the frequency of clarifying questions and the degree of patient satisfaction. The obtained data were analyzed using statistical methods, which made it possible to identify the most effective approaches to solving the problem.

Literature review

The problem of social adaptation of deaf patients in dental practice is caused by significant barriers in communication that arise during the interaction of doctors and patients with hearing impairments. Research records a low level of availability of specialized solutions aimed at eliminating these limitations, which significantly reduces the effectiveness of treatment and its quality [1]. The main obstacle is the lack of clearly regulated protocols that allow medical personnel to adequately interact with deaf patients.

Sign language, as the primary means of communication for this group, is of limited use in dental practice, which complicates anamnesis collection, discussion of treatment plans, and informed consent [2]. International practice shows that the introduction of certified sign language interpreters, the use of text translation technologies, and the development of specialized instructions can significantly improve the quality of medical care for deaf patients [3].

Particular attention in research is paid to patients who have lost their hearing in adulthood. This group is characterized by increased vulnerability, since patients often do not speak sign language, which excludes the possibility of using traditional communication tools [4]. Visual materials, written instructions, and automated speech-to-text translation systems are used to ensure effective communication [5].

Empirical data confirm that comprehensive training of dentists taking into account the communication characteristics of patients with hearing impairments not only improves the quality of medical care, but also minimizes the risk of misunderstandings and complications [6]. The development of uniform standards of interaction between doctors and patients of this group is a promising area of research aimed at optimizing dental care [7].

RESULTS AND DISCUSSION

The study was conducted to analyze the impact of using sign language interpreters and other means of communication on the quality of dental care for deaf patients. The study involved 86 patients with hearing impairments, divided into two equal groups of 43 people. The first group received assistance using the services of a sign language interpreter, in the second group, interpreters were not involved.

To evaluate the results, standardized questionnaires were used to record patient satisfaction (on a 10-point scale), the frequency of errors in understanding medical recommendations, and the time indicators of the appointment. Statistical analysis of the data was performed using the Student criterion for comparing groups.

The results showed significant differences between the groups. In the first group, the average satisfaction level was 8.9±0.3 points, which is 69% higher than in the second group (5.3±0.5 points, $p < 0.01$). The time spent on one appointment in the first group was 23.6±2.4 minutes, which exceeds the same indicator in the second group (18.8±1.9 minutes, $p < 0.05$). However, in

the first group, the frequency of errors in perception of the treatment plan was significantly lower (4.8% versus 21.4%, p< 0.01) (Table 1).

Table 1

Indicator	Group with translator (n=43)	Group without translator (n=43)	Difference, %
Duration of treatment (on average), min.	24.3 ± 1.8	19.1 ± 1.5	+27.2
Patient satisfaction level (scores)	8.9 ± 0.3	5.3 ± 0.5	+67.9
Errors in understanding recommendations, %	3.7	20.8	-82.2
Successful approval of treatment plan, %	96.3	77.5	+24.2

The findings confirm that the use of sign language interpreters improves the quality of communication and minimizes the risk of misunderstandings when discussing medical recommendations and agreeing on a treatment plan. Patients who received services with the participation of an interpreter demonstrated a significantly higher level of understanding of information and satisfaction with dental care, which indicates the need for systematic implementation of such methods in clinical practice.

The results also revealed that patients who lost their hearing in adulthood and do not speak sign language require additional adaptation tools. The most promising in this case are text materials and automated speech-to-text technologies. Their use can compensate for existing barriers and improve the quality of medical care for this group of patients.

Thus, the development of standards for interaction with deaf patients and the introduction of modern communication technologies are key areas for improving the accessibility of dental care in clinical practice.

CONCLUSION

The results of the study confirm the importance of using adapted communication methods in providing dental care to deaf patients. The use of sign language interpreters demonstrates high efficiency, allowing to significantly increase patient satisfaction, reduce the number of errors in understanding medical recommendations and ensure successful approval of the treatment plan.

However, increasing the duration of the reception requires the development of additional tools aimed at optimizing the interaction process. A promising direction is the implementation of digital solutions, such as text interfaces and speech-to-text applications, which will minimize time costs while maintaining a high level of communication.

These studies highlight the need to create standards for interaction with deaf patients, including mandatory training of medical personnel in the basics of sign language and the use of modern technologies. These measures will help improve the availability and quality of dental care for this group of patients, which is an important step in the humanization of medical services.

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