Volume 2, Issue 4, April 2024 ISSN (E): 2938-3765

FEATURES OF PHONETIC ADAPTATION AFTER PROSTHETICS WITH COMPLETE DENTURES

Хабилов Н. Л.
Икромидинова Р. У.
Мухитдинова Ф. Г.
Фарахиддинова М.Х .
Мухитдинова М. С.
Ташкентский государственный стоматологический институт.

Abstract
Removable dentures are perceived as irritants that cause a response of a compensatory-adaptive nature. This review attempts to summarize and systematize possible factors contributing to the adaptation of patients' phonetics to removable dentures.
Phonetic adaptation to removable dentures is a complex process that depends on various factors, the most significant of which are the functional quality of the denture and the patient's motivation to use the denture.

Introduction

Speech is a unique phenomenon that only humans possess. It is an important form of communication in society that directly or indirectly affects the quality of life of patients (Scott, 2001; Jindra , 2002; Ozbek, 2003; Papadaki , 2012). After tooth loss, patients experience chronic limitations in general functions, especially chewing, speech, and aesthetics. This can cause psychological and social problems (Fiske , 1998; Scott , 2001; Jindra , 2002; Papadaki , 2012). The goal of orthopedic rehabilitation is to replace missing teeth, improve aesthetics and restore impaired functions. In cases of extensive or complete tooth loss, conventional soft tissue supported dentures can be fabricated (Bilhan , 2013).

For a long time, traditional removable dentures were the only means of compensating for tooth loss and restoring their function in patients with partial or complete edentia. Müller studied various aspects of the physiological aging process of patients and their relationship to the success of prosthetic rehabilitation. According to forecasts, in the coming decades, about half of patients with complete absence of teeth will be people aged 30-50 years (Kurbanov O.R., 2002; Spirina V.Yu. and Sadykov M.I., 2003; Douglass S, Furino A ., 1990). The significance of these aspects may vary depending on the patient's age category, professional status and phenotypic changes. Complete edentulism is most often diagnosed in people over 60 years of age, despite the identified prevalence, when 15% of people aged 40 years also need complete removable dentures (see Vares E.Ya., 1993). Forecasts indicate that in the coming decades, about half of patients with complete edentia will be between the ages of 30 and 50 years (Kurbanov O.R., 2002; Spirina V.Yu. and Sadykov M.I., 2003; Douglass S. , Furino A., 1990).

As life expectancy increases, the demand for prosthetic rehabilitation for the aging population increases. Speech is a unique phenomenon that only humans possess. It is an important form of communication in society that directly or indirectly affects the quality of life of patients (Scott, 2001;

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

Jindra , 2002; Ozbek, 2003; Papadaki , 2012). After tooth loss, patients experience chronic limitations in general functions, especially chewing, speech, and aesthetics. This can cause psychological and social problems (Fiske , 1998; Scott , 2001; Jindra , 2002; Papadaki , 2012).

As part of a pronounced demographic shift, marked by an increase in the number of elderly people, there is an additional increase in morbidity (see Lutskaya I.K., 1995; Yushmanova T.N., 1999; Borisova E.N., 2000; Belokrinitsky D.V., 2003 ; Gorshunova N.K. et al., 2003). Age factors significantly affect the nature and complexity of orthopedic treatment, taking into account the limitation of the body's adaptive capabilities. Research by I.Yu. Lebedenko (2004) is devoted to aspects of orthopedic treatment of edentulous older patients (>75 years), revealing that 51.7% of them systematically use dentures, 26.2% - only during meals, 17.1% - do not resort to use of prostheses at all, and 2.7% use them only in the process of communication. It is noted that almost half (41.6%) of this age group of patients do not support hygienic procedures for caring for dentures and the oral cavity.

It is emphasized that elderly patients represent a heterogeneous group, where each person requires an individual approach, and dentists must be well aware of the gerontological features of dental treatment (Muller, 1993; Muller, 1995a; Muller, 1995b) . Fiske and his colleagues studied the emotional aspect of tooth loss and its impact on patients' adaptation to dentures (Fiske, 1998; Scott, 2001).

It has been established that the installation of removable dentures significantly changes the volume of the oral cavity, disrupting the flow of exhaled air, as well as the articulatory contacts of the tongue and teeth, the hard palate and the mucous membrane of the alveolar process when pronouncing speech sounds. It is known that at the initial stage of patients' adaptation to removable dentures, speech distortions are often observed, which decrease over time; however, in some cases they can become permanent (Dragobetsky , 1992; Ozbek, 2003; Rogrigues , 2010; Van Lierde , 2012; Knipfer 2012). Considering that elderly patients have a reduced ability to adapt. Taking into account the number of missing teeth and the financial capabilities of each patient, 25% of patients are provided with traditional acrylic-based partial dentures (Soboleva, 2006; This can be explained by age-related changes in both the nervous system and muscle coordination, as well as other aging processes (Muller , 1995a ; Helgeson , 2002; Critchlow , 2010; Mysore , 2012).As life expectancy increases, the demand for prosthetic rehabilitation for the aging population increases .

It should be noted that the factors influencing the phonetic adaptation of patients are not fully reflected in the literature, therefore practical recommendations for improving the results of prosthetic rehabilitation have not yet been developed. However, there are many patients whose circumstances (medical, psychological or financial) force them to stick to traditional prosthetic options (Critchlow , 2009; Carlsson , 2010).

It should be taken into account that elderly patients have a reduced ability to adapt. According to the World Health Organization (WHO, 1999), 20-26% of patients treated with complete removable dentures do not use them for various reasons, mainly due to unsatisfactory fixation, especially in the lower jaw (Tanrykuliev P.T., 1988 ; Kopeikin V.N. et al ., 1995). In accordance with studies by B.P. Markov (1966, 2001) and Costa E. et al. (1973), 55% of patients aged 60 years and older require repeated prosthetics. According to scientists' forecasts, the next 20-30 years may bring changes in statistics, increasing up to 50%, especially among patients in the age group from 30 to 50 years (C.A. Babush, 2004; A.A. Kulakov , 2006; S.N. Churygin , 2008).

Any dentures, like many pharmacological agents, in addition to therapeutic agents, also have undesirable side effects.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

1. The prosthesis will change the usual relationships of the organs of the maxillofacial system, since, by reducing the volume of the oral cavity, it complicates the movements of the tongue, while simultaneously disrupting the articulation points necessary for the formation of sounds.
2. New occlusal contacts of artificial teeth can change the pattern of jaw movements.
3. A change in the interalveolar distance, often inevitable and necessary during prosthetics, creates new conditions for the activity of the masticatory muscles and the temporomandibular joint.
4. The prosthesis disrupts various types of sensitivity of the mucous membrane of the prosthetic bed.
5. The denture delays the self-cleaning of the oral cavity, and with poor care, changes its microflora.
6. A removable denture transfers chewing pressure to the mucous membrane, which is phylogenetically not adapted for such a function.
7. The prosthesis is a foreign body and acts as a rejected substance.

When using complete removable plate dentures, the entire load during the act of chewing is distributed to the tissues of the prosthetic bed adjacent to the base. The mucous membrane of the gums falls, as it were, under a kind of "press" between the prosthesis and the bone, and therefore its blood supply and nutrition sharply deteriorates (Irsaliev Kh.I., Ziyadullaeva N.S., 2007)

Considering the number of teeth lost and the financial capabilities of each patient, 25% of patients are provided with traditional acrylic-based partial dentures (Soboleva, 2006; This can be explained by age-related changes in both the nervous system and muscle coordination, as well as other aging processes (Muller , 1995 a ; Helgeson , 2002; Critchlow , 2010 ;

Target

The purpose of the study is to analyze the literature on phonetic adaptation in wearers of removable dentures in order to identify factors influencing the degree of speech adaptation.

Result of the study

To date, there is no universal method for assessing speech quality after prosthetics. In some studies, the analysis of patients' speech was carried out using acoustic -phonetic methods (Runte , 2001; Runte , 2002; Jindra , 2002; Stojcevic , 2004; Zaki Mahross , 2015) (evaluated spectrograms, spectral analysis).

Other studies have recruited experienced speech-language pathologists (Ozbek, 2003; Rodrigues , 2010), while other authors recommend the use of palatograms to assess speech production and further personalize dentures, leading to improved phonetic adaptation (Farley , 1998; Kong, 2008) .

The phonetic aspects of prosthetics in the absence of teeth were studied by K.V. Rutkovsky (1970), E.I. Gavrilov (1973, 1979), Z.V. Ludilina (1973, 1975), N. Popov and G. Georgiev (1980), R. Devin (1960), N. Schutz (1969) , I. G. _ Agnello , L. Wictorin (1972) Correct design of the prosthesis base is one of the main problems of the phonetic aspect of orthopedic treatment of patients with complete absence of teeth. The act of speech is very complex and correct word formation in pronunciation depends not only on how artificial teeth are placed, but also on the shape of the vestibular and lingual surface of the prosthesis base, interalveolar height, level of location of the occlusal surface of the teeth and other factors.

It should be noted that another factor influencing the phonetic adaptation of patients is inflammatory and degenerative changes in the tissues of the prosthetic bed.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

In order to assess inflammatory and degenerative changes in the tissues of the prosthetic bed, laser Doppler flowmetry helped to avoid problems that may arise when wearing a full-removable prosthesis. (Khabilov N.L., Sharipov S.S., 2022)

Among the many research methods used to study speech - sound, graphic, spectrographic and others, palatography is recognized as the most acceptable in modern dentistry.

Palatography is a recording of contact marks between the tongue and palate when pronouncing a sound. An objective method for the formation and correction of speech articulations Z.F. Vasilevskaya (1971) considers the comparison of palatograms speech production on wax bases or prostheses. Palatography data can be used for phonetic correction of prostheses - for the articulation of consonant sounds. Poor modeling of the palatal surface of the base, incorrectly modeled shape of the artificial dental arch, thickening on the palatal side in the cervical part of the base reduce the volume of space called the resonator, which affects the clarity of the pronunciation of the anterior lingual stop sounds “t”, “d”, “n” To clarify the zones of speech formation of the boundaries of the bases of prostheses K.V. Rutkovsky (1970), N.V. Kalinin and V.A. Zagorsky (1990) suggest phonemes, especially "C" and "3" Phonemes such as “sh” and “zh” are pronounced with a lisp if the base of the prosthesis is sharply thickened in the anterior section.

Each of these methods has a certain disadvantage, so other objective and fairly independent methods of assessing speech are needed. Recently, several scientific papers have appeared in which the speech quality of patients was analyzed using stand-alone computer speech recognition systems (Inukai , 2006; Ando , 2006; Stelzle , 2010; Wada , 2011; Knipfer , 2012; Wada , 2014).). These methods turned out to be objective and quite simple to implement. However, due to technical limitations, this type of analysis is only available for some languages, namely German (Stelzle , 2010; Knipfer , 2012) and Japanese (Ando , 2006; Inukai , 2006; Wada , 2011; Wada , 2014).

Conclusion. Phonetic adaptation to removable dentures is a complex process that depends on various factors, the most significant of which are the functional quality of the denture and the motivation of patients to use the denture.

When studying the literature on this topic, differences were identified in methods for assessing the quality of speech after dental treatment. To date, there is no universal methodology for this assessment. Scientific studies lack systematic data on the time of speech adaptation to dentures and the factors influencing this process. In the future, the use of computer technology will play an important role in the manufacture of dentures, especially for patients for whom speech is important in professional activities. Modern technical means make it possible to more accurately control speech restoration during orthopedic treatment, therefore it is advisable to conduct scientifically based methods for assessing phonetic adaptation to dentures using new technologies. Thus, the development of a comprehensive methodology for assessing the quality of prosthetics based on the speech production factor is one of the objectives of our research.

The results of this study can be implemented in clinical practice, providing doctors and dental technicians with modern methods of obtaining dentures that satisfy patients in functional, aesthetic and psychological terms.

References

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5

1. Abramovich, A.M. Quality of life of patients with partial and complete absence of teeth [Text]: dis . ...cand. honey. Sciences: 14.00.21 / Abramovich Alexander Maksimovich. —Tver, 2005. —140 p.
2. Agapov, V.V. Orthopedic treatment of patients with acquired defects of the upper jaw using psychopharmacotherapy [Text]: abstract . dis . ...cand. honey. Sciences / V.V. Agapov. - M., 2002. - 23 p.
3. Barer , G.M. The use of dental measurements of quality of life / G.M.Barer , K.G. Gurevich, V.V. , Smirnyagina, E.G. , Fabrikant // Dentistry for everyone. - 2006. - No. 2. — P.36-38.
4 . Bizyaev, A.A. The influence of bridges in the anterior dentition of the upper jaw on the phonetic adaptation of patients [Text]: dis . ...cand. honey. Sciences: 14.00.21 / Bizyaev Aleksey Alekseevich. —Volgograd, 2009. —96 p.
5. Salimov O. R. et al. Prosthetics with removable structures for patients with type 2 diabetes mellitus // Scientific Impulse . – 2022. – T. 1. – No. 5. – pp. 1507-1514.
6. Galunov, V.I. Acoustic theory of speech production and system of phonetic features [Text] / V. I. Galunov, V. I. Garbaruk // 100 years of experimental phonetics in Russia: materials of the international . conf . —2001. —P. 14 –17.
7. Dadabaeva , M. U., Khabilov , N. L., Sharipovich, S. S., Madrakhimova , M. (2022). CRITERION OPTIMIZATION OF FIXATION OF ALL-CERAMIC CROWNS. *Journal of new century innovations* , *18* (2), 181-197.
8 . Dadabaeva M.U. (2022). COMPREHENSIVE ASSESSMENT OF THE FUNCTIONAL STATE OF THE DENTAL SYSTEM IN PATIENTS WITH TYPE 2 DM BEFORE AND AFTER PROSTHETICS. *Journal of new century innovations* , *18* (2), 169-180.
9. Dadabaeva , M. U., Azimov, K. A., Tursunova, M. O., & Boltaev , S. T. (2022, December). EVALUATION OF THE EFFICIENCY OF DIFFERENT TYPES OF CEMENTS FOR FIXATION OF ALL-CERAMIC CROWNS. In *Conferences* (pp . 21-28).
10. Dadabaeva M.U. et al. CRITERION FOR OPTIMIZATION OF FIXATION OF ALL-CERAMIC CROWNS // Journal of new century innovations . – 2022. – T. 18. – No. 2. – pp. 181-197.
1 1. Lutskaya, I.K. Restoration of anterior teeth with correction of the incisal edge [Text] / I.K. Lutskaya, N.V. Novak // Institute of Dentistry. —2008. —No. 3. —P. 48 –52.
12. Mukhitdinova, M. S., Dadabaeva , M. U., Moon, T. O., & Abdurakhmanova, S. I. (2023, April). COMPREHENSIVE ASSESSMENT OF PROSTHETICS IN CLIMACTERIC WOMEN WITH DENTAL DEFECTS. In *Conferences* (pp . 332-333).
13. Batyrova , S. Z., Safarov, M. T., Dadabaeva , M. U., & Babazhanova , O. A. (2023). USE OF RESECTION REMOVABLE PLATE DENTURES WITH OBTURATOR IN PATIENTS WITH COMPLICATIONS OF OSTEOMYELITIS OF THE MAXILLOFACIAL AREA. *Eurasian Journal of Medical and Natural Sciences* , *3* (4), 30-41.
14. Irsaliev Kh.I., Ziyodullaeva N.S., Hemodynamic parameters of the prosthetic bed of the edentulous upper jaw and ways of their correction // Medical Journal of Uzbekistan. – 2007. - No. 4.- P.75-79.
15. Xabilov N. , Sharipov S. T o ' liq adentiyasi bo ' lie bemorlarni olinadigan plastinka protezlar bilan davolashning asosiy jihatlari //collection of abstracts of the International Scientific and Practical Conference “ Relevant problems of orthopedic dentistry and orthodontics. – 2022. – T. 10. – P. 176-178 . (14.00.00)

16. Khabilov N. L. and others hospital Department of Orthopedic Dentistry year during publication done theses reports // Conferences . - 2023. - S. 114-118.
17. Lukmanovich HN et al. with COVID-19 burned toothless patients mouth mucus floor in the system disruptions //Journal of new century innovations. - 2022. - T. 14. – no. 4. – S. 152-154.
18. Khabilov N., Sharipov S. Peculiarities of patient reception by dentists during the pandemic of the new coronavirus infection (COVID -19) // Zbirnik scientific fuck off SCIENTIA . – 2021.
19. Inoyatov A. Sh. et al. Features of clinical manifestations of COVID -19 in the oral cavity // Integrative dentistry and maxillofacial surgery . – 2022. – T. 1. – No. 2. – pp. 37-39.
20. Khabilov N. L. i dr. Toothless bottom jaw bone texture structures bone inside tooth to implants based on removable prostheses with mutually effect //Journal of new century innovations . - 2022. - T. 15. – no. 2. - S. 98-101.
21. Sharipov S. S., Khabilov N. L. METHODS OF SAFE DENTAL PROSTHETIC PRACTICE DURING THE PANDEMIC OF COVID-19 //EURASIAN JOURNAL OF ACADEMIC RESEARCH. - 2021. - T. 1. – no. 2. - S. 845-854.
22. Sharipov S. Khabilov Nigman . THE SIGNIFICANCE OF SALIVA SEPARATED FROM PATIENTS IN THE PROCESS OF DENTAL PROSTHETICS DURING THE OVID -19 PANDEMIC //Vestnik TMA. - 2021. - T. 2021. - S. 137-138.
23. Gaffarov S., Sharipov S. Analysis of macro and microelements in teeth, saliva, and blood of workers in fergana chemical plant of furan compounds //European Medical, Health and Pharmaceutical Journal. – 2014. – T. 7. – №. 2.
24. Lukmanovich K. N. Salomovich SS METHODS OF SAFETY OF DENTAL PROSTHETIC PRACTICE DURING THE COVID-19 PANDEMUM //Web of Scientist: International Scientific Research Journal. – 2022. – T. 3. – №. 11. – C. 819-828.
25. Muller F., Hasse-Sander I., Hupfauf L. Studies on adaptation to complete dentures. Part I: Oral and manual motor ability. J Oral Rehabil, 1995a; 22: 501–507.
26. Mysore A. R., Aras M. A. Understanding the psychology of geriatric edentulous patients. Gerodontology, 2012; 29 (2): e23–e27.
27. Papadaki E., Anastassiadou V. Elderly complete denture wearers: a social approach to tooth loss. Gerodontology, 2012; 29 (2): e721–e727.

Web of Medicine: Journal of Medicine, Practice and Nursing
webofjournals.com/index.php/5