

# Changes in the Quality of Life of People as A Result of Aesthetic Dental Prosthetics

Alexander A. Kopytov <sup>1</sup>, Olga A. Volkova <sup>2</sup>, Oksana V. Besschetnova <sup>3</sup>, Shapi I. Aliev <sup>4</sup>

<sup>1</sup>Belgorod State University, Russia, Belgorod

(Correspondent postal address: 9 Office, 78 Preobrazhenskaya Street, Belgorod, 308000, Russia; E-mail: volkovaoa@rambler.ru; [oksanabesschetnova@yandex.ru](mailto:oksanabesschetnova@yandex.ru))

<sup>2</sup>Institute of Demographic Research of the Russian Academy of Sciences, Russia, Moscow

(Correspondent postal address: 6, building 1 Fotievoy Street, Moscow, 119333, Russia; E-mail: volkovaoa@rambler.ru)

<sup>3</sup>Moscow State University of Food Production, Russia, Moscow

(Correspondent postal address: Volokolamskoe shosse, 11, Moscow, Russia, 125080; e-mail: oksanabesschetnova@yandex.ru)

<sup>4</sup>Branch of Dagestan State University in Izberbash, Russia, Izberbash

(Correspondent postal address: 35, Buinakskogo str., Izberbash, Republic of Dagestan, 368502, Russia; E-mail: dguizber@mail.ru)

## Abstract

The purpose of the study is to identify the relationship between the procedure of aesthetic dental prosthetics and changes in the quality of life of patients. The study involved 120 patients of the dental department of the hospital. The following methods were used to collect data: a semi-structured interview of people who underwent the procedure of aesthetic dental prosthetics; the analysis of individual patient records. Methods of grouping, comparative analysis, synthesis, and computer data processing were used to process the obtained data. Conclusions were made as follows: people who underwent the procedure of aesthetic dental prosthetics improved the quality of life, which was confirmed by a change in objective indicators (improved nutrition; getting a more prestigious and highly paid job than the previous one; expanding leisure practices) as well as a change in subjective indicators (increased self-esteem; expanding the circle of contacts; the emergence of romantic relationships).

**Keywords:** aesthetic prosthetics, quality of life.

## Introduction

In the modern world, most people suffer from the dental pathology. The prerequisites for its widespread occurrence are: the transition of humanity to a diet rich in carbohydrates and deeply processed types of food, as well as constant stress (Novitskaya, Drum, Gorbatovskaya, 2017). Against the background of a steady incidence rate, the number of lawsuits regarding the quality of treatment increases, amounting to 20-27%. This fact leads to the need to improve the quality of dental services and to take into account the psycho-emotional state of the patient (Borisova, Tolmachev, Ahmerov, 2017). The non-recognition of damage to health by the court does not mean the absence of moral suffering and psycho-emotional trauma of the patient. This leads to the requirement of compensation for moral damage, regarded as physical and moral suffering and manifested in such emotions as resentment, rage, humiliation, etc.

According to K. Golubev and S. Narizhny, the moral sufferings are a person's emotional reactions to

circumstances that he/she is unable to change, prevent, or adapt to them; they manifest on the mental level in the form of neurosis and lead to physical suffering, sensations of social and physical inferiority (Golubev, Narizhny, 2004; Emanuel, Sorensen, 2018; Gao et al., 2020; KC, 2021).

In the context of the issue, we have to clarify the concept of "quality of life", based on the term proposed by the World Health Organization: quality of life is considered as a multidimensional structure, which includes a person's perception of the following: his/her physical and psychological state; level of independence; relationships with other people; personal beliefs as well as his/her attitude to environmental characteristics (The World Health Organization Quality of Life, 2019).

From A.A. Novik and T.I. Ionova's points of view, "quality of life" is an integral characteristic that combines physical, psychological and social functioning of the patient, based on his/her own assessment (Novik, Ionova, 2012). The authors pay particular attention to the subjective aspect of

assessment of one's quality of life that can lead to a false conclusion, because the distortion of reality is explained by the fact that in the world of intense competition between enterprises, costly aesthetic prosthetics does not always lead to positive changes regarding employment. Comparing the aesthetics of a smile before and after the expensive treatment, the person can come to a false conclusion about the possible achievement of a high quality of life.

The Russian scientist E. Kozhevatin argues about the subjectivity of the person's perception of the conditions of his/her existence; therefore, according to the author, the person cannot objectively appreciate the quality of life. Therefore, personal, deprived of social confirmation, the conclusion about the dynamics of the quality of life is not distinguished by certainty (Kozhevatin, 2009).

Quality of life presupposes that a person's psychosomatic state corresponds to his/her social status (Volkova et al., 2019). However, the following components are not taken into account here, for example, the desires and opportunities to improve the existing social status, to achieve greater demand for society (Araujo et al., 2020). There is a possibility of a long-term decline in the quality of life and the occurrence of negative emotional reactions among members of poor social groups after they have paid for expensive aesthetic prosthetics (Volkova et al., 2018).

According to research, made by I. Walker, S. Eapen-Simon and S. Gibson, dental health is one of the important public health issues in England. Key points include making changes in official documents governing public health care; the collaboration of all major stakeholders; conducting an examination of the quality of dental services by Public Health England (Walker, Eapen-Simon, Gibson, 2018).

In addition to that, J. Selander writes about current trends in increasing state attention to the problems of quality of life of the entire population and to issues of health care management (Selander, 2016). Prospects for improving patients' quality of life are associated with the presence of common organizational problems in the country and private difficulties arising from specific situations (Tscymbalystov et al., 2018). It is proposed to consider the issue of insurance not with the special services, but with the employer as well.

## Materials and Methods

The research was conducted in January–April 2022 in Belgorod city and its suburbs. The authors used an interdisciplinary medical-social approach to considering the quality of life, which took into account the consumption of medical services (The World Health Organization Quality of Life, 2019). In this study, under the “expensive aesthetic prosthetics” we meant dental care, for which the patient paid at least 150 thousand rubles, which was equivalent to the average wage of a person, working in Belgorod region for six months.

During the study, the following questions were raised: Did the respectability of a person's appearance increase from the other people's points of view? Did the economic efficiency of the patient's professional activity increase? What were the payback periods for dental services? Answering the questions, it was important to take into account that the expensive aesthetic prosthetics was often a necessary but not sufficient resource for improving the quality of life. One of the key questions was to reveal the nature of the impact of expensive aesthetic prosthetics on the rehabilitant's quality of life.

The sample included 120 dental patients living in Belgorod city ( $n = 60$ ) and its suburbs ( $n = 60$ ). Both groups of respondents were consisted of two subgroups, including men and women aged 30-40 and 51-65. There were two main criteria for the informants' selection: 1) patients who got expensive aesthetic prosthetics (at least 150 thousand rubles and more); 2) the informants who could participate at study after the treatment had been finished. Recruitment was carried out in the dental clinics of Belgorod city and in its surrounding areas.

Exclusion criteria were the following: generalized and/or severe periodontitis, increased tooth erosion, temporomandibular joint pathology, chronic general somatic pathology, inability to assess the results of prosthetics on the quality of his/her life.

The distribution of the number of respondents who participated in the study, according to various criteria, was presented in Table 1.

**Table 1 – Distribution of respondents by type of settlement, age and sex**

Type of settlement							
Belgorod residents				Residents of suburbs			
Age							
30-40		55-65		30-40		55-65	
Group							
I group		II group		III group		IV group	
Sex							
Male	Female	Male	Female	Male	Female	Male	Female
Rehabilitants (persons)							
15	15	15	15	15	17	14	14

The evaluation of the clinical-psychological state of the rehabilitators was carried out two months after the implementation of expensive aesthetic prosthetics using such methods of collecting primary information as content analysis of medical records of patients and semi-structured interviews.

### Emperical Results

Knowing about the tendency of orthopedic physicians to impose costly aesthetic prosthetics, rehabilitants were asked the question: “Did the orthopedic doctor tell you about the possibility of restoring the chewing apparatus in a low-budget way?”, 13.3 % and 14.2 % of participants respectively aged 55-65 from both group (city and suburbs) gave positive answers. Anyway, most of them mentioned the negative

reactions of orthopedic physicians about low-budget prosthetics, who had characterized it as “the technology of the stone age”.

In addition to that, 53.3 % of the respondents of the first group, 63.3 % of the second group, 68.8% of the third group and 78.6 % of the fourth group stated the very high cost of dental care and the need to reduce household spending for the next 2-6 months. Despite this, all rehabilitants denied receiving a loan for the needs of dental treatment; 30.8 % participants asked relatives or friends for a financial assistance for this purpose. The results of the survey of respondents regarding the impact of expensive aesthetic prosthetics on their quality of life were presented in Table 2.

**Table 2 – Respondents’ opinions about the impact of expensive aesthetic prosthetics on their quality of life**

Respondents’ opinions	Type of settlement			
	Belgorod residents		Residents of suburbs	
	Group			
	I	II	III	IV
	Age			
	30-40	51-65	30-40	51-65
	Score			
Positive expensive aesthetic prosthetics’ influence on quality of life	11 (36,6%)	7 (23,3%)	7 (21,9%)	0 (0)
Impact costly aesthetic prosthetics on employment / non-employment	7 (23,3%)	0 (0)	3 (9,4%)	0 (0)

	4 (13,3%)	7 (23,3%)	4 (12,5%)	0 (0)
Lack of costly aesthetic prosthetics' influence on quality of life	10 (33,3%)	19 (63,3%)	14 (43,8%)	12 (42,8%)
Negative expensive aesthetic prosthetics' influence on quality of life	2 (6,6%)	4 (13,3%)	8 (25,0%)	16 (57,1%)

After conducting expensive aesthetic prosthetics, the following results were obtained from patients regarding their opinion about their quality of life. The proportion of positive responses ranked according to the group of respondents: in the first group it was 36.6 %, of which 23.3 % claimed successful employment after dental care; in the second group – 23.3 % without any changes in their social status; in the third group – 21.9 %, of which 9.4 % of respondents noted the transition to a more prestigious job; in the fourth group, none of the rehabilitators noticed the positive effect of costly aesthetic prosthetics on their quality of life. Thus, in general 8.3% patients were employed in a prestigious job after treatment, what might be an indirect confirmation of the improvement of their quality of life.

The amount of informants who subjectively estimated the improvement in quality of their life after expensive aesthetic prosthetics was the following: in the first group – 13.3%; in the second group – 23.3%; in the third group – 12.5%. However, 45.3% of the total sample could not formulate a clear opinion regarding the impact of expensive aesthetic prosthetics on quality of their life, citing the need for this procedure in any case.

The results of the survey revealed that many respondents noted the negative impact of expensive aesthetic prosthetics on their quality of life: in the first group – 6.6%, in the second group – 13.3%, in the third group – 25.0%, in the fourth one – 57.1%. Moreover, one person from the second group and two people from the fourth one complained about a previously absent somatic of neurological nature.

### Conclusion

The quality of life is perceived by a person, firstly, as the possibility of acquiring a higher social and professional status and is characterized by the possibility of employment and getting a prestigious job, and secondly, as the reason for receiving approval from the close environment.

The lack of confirmation of improving the quality of life, taking into account the significant financial costs

of expensive aesthetic prosthetics, performed at a satisfactory clinical level, can play the crucial role in the occurrence of negative emotional reactions in rehabilitators of older age groups.

### References

- [1] Araujo R.D., Villoria G.E.M., Luiz R.R., Esteves J.C., Leao A.T.T., Feres E. 2020. Association between periodontitis and Alzheimer's disease and its impact on the self-perceived oral health status: a case-control study. *Clin Oral Investig*, 25:555–62.
- [2] Borisova E.G., Tolmachev I.A., & H.O. Ahmerov, 2017. Expert analysis of defects and adverse outcomes in the provision of dental implant care. *Journal of scientific articles Health and education in the XXI century*, 19 (10): 282-284 (in Russian).
- [3] Emanuel R, Sorensen A. 2018. A study of oral health prevention behaviours for patients with early stage dementia. *Br Dent J*. 224:38–42.
- [4] Gao S.S., Chen K.J., Duangthip D., Lo E.C.M, Chu C.H. 2020. The Oral Health Status of Chinese Elderly People with and without Dementia: A Cross-Sectional Study. *Int J Environ Res Public Health*,17:1913. <https://doi.org/10.3390/ijerph17061913>.
- [5] Golubev, K.I. & S.V. Narizhny, 2004. Compensation of moral harm as a way of protection of non-property benefits of the person. 3rd edition, Saint Petersburg, The faculty of Law Press center, p. 90-94 (in Russian).
- [6] KC, S., Aulakh, M., Curtis, S. *et al.* 2021. Perspectives of community-dwelling older adults with dementia and their carers regarding their oral health practices and care: rapid review. *BDJ Open* 7, 36. <https://doi.org/10.1038/s41405-021-00091-4>.
- [7] Kozhevatin, E.F., 2009. To clarify the content of the correlation of the categories "quality of life" and "standard of living". *Issues of economic structuring*, 2: 125-129 (in Russian).

- [8] Novik, A.A. & T.I. Ionova, 2012. Guide to the study of quality of life in medicine. 3rd edition. Moscow, Russian Academy of Natural Sciences. p. 527 (in Russian).
- [9] Novitskaya, I. Drum, M. & N. Gorbatovskaya, 2017. In. Hypoxia in the pathogenesis of periodontitis (literature review). Journal of dentistry, 1 (98): 69-75 (in Russian).
- [10] Selander, J., 2016. Is Employer-Based Disability Management Necessary in a Social-Democratic Welfare State like Sweden? International Journal of Disability Management, 11 (4). Date Views 19.04.2022. <https://doi.org/10.1017/idm.2016.3>.
- [11] The World Health Organization Quality of Life (WHOQOL), 2019. Date Views 03.05.2022. <http://www.who.int/en>.
- [12] Tscymbalystov, A.V., Kopytov, A.A., Volkova, O.A., Leontiev, V.K. & Besschetnova, O.V. Preclinical Manifestations of Students' Eating Disorders as an Impact of the Information and Communication University environment. International Journal of Advanced Biotechnology and Research (IJBR), 9(1): 1002–1007.
- [13] Volkova, O., Ananchenkova, P., Besschetnova, O. 2018. Distance education as a condition of elderly's social activity. Proceedings of the 13th International Conference On Virtual Learning, October 26-28. Date Views 06.05.2022. <http://www.c3.icvl.eu/2018/call-papers>.
- [14] Volkova, O., Besschetnova, O., Kadutsky P., Bembena, A. 2019. Using distance educational methods for training people, experienced high psycho-emotional stress. Proceedings of the 14th International Conference On Virtual Learning, October 25-26, Romanian Ministry of Research and Innovation, Europe – Romania. Date Views 05.05.2022. <http://www.icvl.eu>.
- [15] Walker, I., Eapen-Simon, S. & S. Gibson, 2018. Dental Public Health in Action: Putting oral health on the local public health agenda. Community Dental Health Journal, 35 (3): 132-135.
- 1.