

Analysis of The Quality of Life of Elderly Patients with Removable Orthopedic Constructions During Rehabilitation

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Abstract

The need for medical care, including dental care, is increasing in the elderly and senile age. Late appeal for dental care causes a change in the DMF-index, in consequence of which there is a partial or complete loss of teeth. The complete absence of teeth is accompanied by morphofunctional changes in all elements of the dentofacial system, a significant reduction in the chewing ability. Providing orthopedic dental care to the elderly, senile and old people is complicated due to the features of adaptation to removable dentures. The impact of removable dentures on the quality of life of a dental patient was assessed in this study.

Materials and Methods: The study involved 217 people aged 75 to 95 years. All patients needed removable dentures. Before prosthetics, a survey was conducted using the OHIP-14 questionnaire, which showed the level of satisfaction of the examined patients with their dental health. Then the prosthetics procedure was initiated. In the 1st group, the dentures were made using the standard method. In the 2nd group, the impression was removed with a modified individual tray, which should improve adaptation to a removable denture. One month after prosthetics, when all patients had a complete adaptation to the removable dentures, they were re-surveyed using the OHIP-14 questionnaire to identify the dynamics of the quality of life of the patients being examined.

Results and Discussion: The results showed the effectiveness of the proposed method. The number of patients with a good standard of living in group 2 increased by 58.8%, and in group 1 only by 34.5%. At the same time, in group 2, adaptation to removable dentures occurred faster.

Keywords: Gerontology; Removable denture; Quality of life; Prosthetic dentistry.

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Introduction

Human aging, like the aging of other organisms - is a biological process of gradual degradation of body parts and systems, and the loss of mental abilities, for example, is the consequence of this process. Disability has great importance for a person. In addition, psychological, social and economic aspects play an important role.

The need for medical care, including dental care, is increasing in the elderly and senile age. Late appeal for dental care causes a change in the DMF, in consequence of which there is a partial or complete loss of teeth. The complete absence of teeth is accompanied by morphofunctional changes in all elements of the dentofacial system, a significant reduction in the chewing ability. Providing orthopedic dental care to the elderly, senile and old people is complicated due to the features of adaptation to removable dentures.

In some cases, there is not enough clinical or laboratory correction of the dentures. Clinical experience shows that there is not always a direct dependence between the intensity of discomfort when using full removable dentures, morphofunctional features of the chewing system with tooth loss and the quality of manufactured dentures.

The aim of the work is to improve the level of orthopedic dental care for elderly patients who need removable dentures.

Material and Methods

The study involved patients (n=217) aged 75 to 95 years, who were divided into 3 groups of patients depending on the living conditions. The first group lived in the Russian Scientific and Methodological Gerontological Center, the 2nd group was under the care of relatives, and the 3rd group patients lived independently in their apartment (Table 1).

Each patient underwent orthopedic treatment in connection with partial secondary adentia. The study included elderly people only with terminal bilateral defects in the upper jaw with a length of not less than 4 teeth each, with extensive atrophy of the alveolar process,

Table 1: Distribution of the patients to the groups.

Groups	Group 1 (gerontological centr)		Group 2 (under the care of relatives)	Group 3 (self-sustaining)		
	Men	Women		Men	Women	Women
Sex						
n	38	42	31	39	29	38



previously no removable prosthetics was carried out to this category of patients, they all were previously surgically and therapeutically sanitized. Rehabilitation was carried out using a partial removable prosthesis. For the manufacture of removable dentures used plastic Etakril and headset artificial plastic teeth STDent-02 of the company HPO "Stoma". Patients were divided into 2 subgroups, 108 people each. In the 1st subgroup, the manufacturing protocol for a removable dental prosthesis was standard and included obtaining anatomical impressions using a conventional anatomical metal tray and alginate mass, making cast teeth models, planning the boundaries of the orthopedic construction, making an individual tray from acrylic plastic and wax bases and check bites from the base wax, obtaining compression functional impressions using an individual tray and a correlate mass of C-silicone, determining the height of the lower face and fixing the central ratio of the jaws using wax bases and check bites, making cast teeth models using individual compression functional impressions, making a wax base with acrylic artificial teeth, try-in a wax base in the oral cavity, correction; making a removable denture and try-in and fixing a removable denture prosthesis in the oral cavity. In the 2nd subgroup, we modified the tray by modifying its edges with a thermoplastic mass. The standard protocol for the orthopedic treatment of dental patients was performed when this tray was used.

Results

Before prosthetics, a survey was conducted using the OHIP-14 questionnaire, which showed the level of satisfaction of the examined patients with their dental health. The results are listed in (Table 2).

Later the removable partial dentures were made to all patients, but with the use of various technologies of taking the impression. In the 1st subgroup, standard procedures were performed. In the 2nd subgroup, the impression was taken with a modified individual tray. One month after prosthetics, when all patients had a complete adaptation to the removable dentures, they were re-surveyed using the OHIP-14 questionnaire in order to identify the dynamics in the quality of life of the dental patients after removable prosthesis. The results obtained after the prosthetics are shown in (Table 3).

Table 2: The level of the patients' quality of life before prosthetics by OHIP-14.

Standard of living	Subgroup 1, n (%)	Subgroup 2, n (%)
Good	18 (17,6)	9 (5,9)
Satisfactory	30 (29,4)	30 (35,3)
Unsatisfactory	60 (52,9)	70 (58,8)

Table 3: The level of the patients' quality of life after prosthetics by OHIP-14.

Standard of living	Subgroup 1, n (%)	Subgroup 2, n (%)
Good	49 (47,1)	80 (64,7)
Satisfactory	49 (41,1)	20 (29,4)
Unsatisfactory	10 (11,7)	9 (5,9)

Discussion

According to the results of the survey conducted before prosthetics, it can be noted that the majority of patients in Subgroup 1 (60 people, 52.9%) are not satisfied with their level of quality of life. A similar situation can be noticed in Subgroup 2, where 58.8% of those surveyed were not satisfied with their quality of life. These results indicate the need for rehabilitation of this category of patients.

After the prosthesis was performed using two different methods, the survey was repeated. In the 1st and 2nd Subgroups there is a positive trend, but the numbers differ. In Subgroup 1, where the impression was taken according to the standard procedure, the number of patients who rated their standard of living as good turned out to be 47.1%, and in Subgroup 2, where the impression was taken with a modified individual tray there were 64.7% of such patients, that 1.5 times more than in Subgroup 1. Thus, in Subgroup 1, the number of patients with good level of life increased by 34.5%, and in Subgroup 2 - by 58.8%, which indicates the effectiveness of the proposed method.

A decrease in the frequency of repeat visits regarding correction of the finished orthopedic structure in both groups was revealed. In the 1st subgroup 24 (20%) people re-applied for correction; in the 2nd subgroup, only 8 (2%) patients needed correction [1-8].

Conclusion

Based on the obtained results, it can be said that the proposed method of taking an impression with a modified individual tray is more effective than the standard one, and allows to improve the standard of living of the dental patient and speed up adaptation to a removable denture. The frequency of requests for correction of the finished orthopedic construction is significantly reduced. Thanks to the use of an individual tray, the frequency of repeated visits of elderly people to doctors is reduced, which becomes an important factor, since it can be difficult for these patients to move.

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