

## SOCIAL-HYGIENIC ASPECTS OF THE DENTAL STATUS FORMATION OF SENILE AND ELDERLY PATIENTS FORMATION IN YAKUTIA

**A.S.Sadulaeva, I.D. Ushnitsky, S.A. Trifonov**

FSAEI HPE «North Eastern Federal University named after M.K. Ammosov», Yakutsk  
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A comprehensive analysis revealed a high level of needs in orthopedic dental care of elderly and senile patients of the region. The influence of social and hygienic factors on the need for medical assistance was ascertained.

**Keywords:** abutments, removable and non-removable dentures, terms of operation of prostheses, the upper and lower jaws.

**Introduction.** According to the WHO, a valuable increase of people of elderly and senile ages is waited in the near future. According to the UNO prognosis (2008), to the 2025 year a number of people more than 60 years old will prevail 1 billion, and to the 2030 year the number of women older than 50 will total 1,2 billion. In Russia in the background of comparatively short longevity of life, the number of people older than 60 is also increasing and according to prognosis to the 2055 year part will total about 40 per cent [1, 4]. Herewith, natural physiological processes are aging and presence of somatic disease which are combined with high diffusion level and intensity of dental pathologies and also with lowering of self control of own health's condition, of lowering or loss of prophylactic and hygienic motivation [5], what motivates the peculiarities of medical tactics when rendering help [10]. According to this, holding of epidemiological and social-hygienic researches of people of the given age group is very actual for a planning and perfecting of dental help [2, 3, 7, 8, 9]. We should also note that accounting of regional life conditions has a great value for a rising of quality of the given specialized help [6].

We must emphasize, that similar researches, directed on the study of frequency and structure of pathologic processes of organs and tissues of oral cavity, on the optimization of dental help for senile and elderly patients under conditions of the Sakha Republic (Yakutia) have never been held.

**The aim of research:** to define the factors that influence on the dental status of senile and elderly patients on the basis of complex social-hygienic and clinical researches.

**Materials and methods:** We held a complex dental inspection of senile and elderly patients of the age from 60 to 93 years, living in Viluyskiy, Northern, Central and Southern regions of Yakutia. In all 165 people were inspected. The inspections were held on the basis of the Republic hospital's geriatric center №3 of the Public health Ministry of the Sakha Republic (Yakutia). For inspection was

used a special card, elaborated in the Department of orthopedic stomatology SEI HPE «Krasnoyarskiy state medical university named after professor V.F. Yasenetsky» (2003). The social-hygienic inspection was being held with the usage of the special card-questionnaire that included attitude to own health, the questions of nourishment and the level of health education. The questionnaires with accounting of regional peculiarities were completed in the Department of therapeutic, surgical, orthopedic stomatology and children's stomatology of the Medical Institute of NEFU (2009). A definition of hygienic index of people using dentures was made by Bernadsky's method. Statistic processing of the material was fulfilled with the usage of the standard software package of applied statistic analysis (Statistika for Windows v. 6.0).

**Results of research.** The analysis of received data shows, that all investigated people have somatic diseases. In the structure of accompanying diseases the most often are pathologies of cardio vascular system and they were in the limits of numeric meanings  $21,51 \pm 1,91\%$ , then digestive tract –  $20,06 \pm 2,03\%$  and musculoskeletal system –  $17,15 \pm 0,48\%$ , also nervous system -  $13,08 \pm 2,93\%$ , respiratory -  $12,21 \pm 3,11\%$ . In this minor levels of performance were identified among the diseases of the genitourinary and endocrine systems, mental disorders, where data totaled  $15,99 \pm 2,47\%$ . Besides,  $29,36 \pm 2,24\%$  of investigated people revealed a combination of a few pathologic processes of organs and systems. We should note, that  $2,14\%$  revealed the I degree of disability, and  $2,77\%$  revealed the II degree, an index of the III degree was on the level  $17,08\%$ . An analysis of disability reasons revealed, that the main factors are somatic diseases –  $47,30 \pm 1,05\%$ , herewith  $7,88 \pm 3,41\%$  associated their condition with industrial injuries, and the index of other reasons totaled  $3,66 \pm 2,15\%$ .

We must note that the presence of somatic diseases at the given category of people defines a medical treatment under versatile hospital conditions. So, before the investigation period  $39,41 \pm 1,60\%$  were on the hospital treatment three or more times  $60,59 \pm 0,87\%$ . Herewith, the testimonies to hospitalization of  $36,96 \pm 1,74\%$  were exacerbation of chronic diseases,  $34,55 \pm 1,88\%$  were on the hospital treatment to get rehabilitated, and  $22,42 \pm 2,96\%$  noted, that associated with acute illnesses.

Considering a correlation between health and nourishment, we conducted an analysis of the ration and periodicity of aliment consumption. So, under the inclement natural-climatic conditions of Yakutia  $55,76 \pm 0,93\%$  of older age group people often use meat and fish products in diet. Meanwhile, in the diet of  $22,42 \pm 2,96\%$  prevail bakery products, and in the  $21,82 \pm 3,07\%$  are fruits and vegetables. Herewith  $49,09 \pm 1,16\%$  eat soft aliment, and  $9,70 \pm 3,31\%$  eat the hard one and the combined type is marked only in  $41,21 \pm 1,52\%$ . Besides, the respondents noted that  $64,24 \pm 0,69\%$  have a meal more than three times in a day, and  $35,76 \pm 1,81\%$  have a meal less than three times. The received data fulfils, that the major part of respondents has a lowered nourishment quality, that in combination with other factors have a negative influence at the functional condition of organs and tissues of oral cavity.

It is known, that pernicious habits are one of the factors promoting formation and developing of pathologic processes in organism. According to this, we made an appraisal of them among the questionnaires. So,  $23,64 \pm 2,84\%$  have been the active smokers during many years, and  $76,36 \pm 0,41\%$  weren't smokers at the moment of research. In the analysis of alcohol drinking frequency, the follow answers were given by respondents: in the holidays answered positively  $29,70 \pm 0,64\%$ , once in a month -  $14,55 \pm 1,88\%$ , once in a week -  $3,64 \pm 2,17\%$ , everyday usage of alcohol drinks noted  $2,41 \pm 1,08\%$ . The positive moment of questionnaire is that  $49,70 \pm 1,14\%$  of senile and elderly patients in Sakha Republic (Yakutia) don't drink alcohol at all.

It is known, that dental diseases have multifactor origin, where an individual health education level takes an important part. This fact furthered for making a mark of knowledge's level on this direction. So, during an year only  $18,75 \pm 0,79\%$  of investigated senile and elderly patients visit polyclinic of general profile. Herewith, the  $13,94 \pm 0,27\%$  of respondents noted, that they visit medical specialists twice in year, three times in year visit –  $6,67 \pm 1,21\%$  of people. We should note, that the most of area and social infrastructure of the Sakha Republic (Yakutia) have its own peculiarities, in particular, in many rural populated areas of the arctic and sub arctic areas there are no multi profile polyclinics and, according to this,  $44,85 \pm 1,33\%$  of respondents noted, that they don't visit them during the year. But in spite of it, just  $15,79 \pm 1,47\%$  of investigated handle with their health more carefully. The received data testifies about the considerable part of older age group people, living under the republic's conditions, are not able to appeal to the doctors in time because of the remoteness of the populated areas and of the complex transport system.

An analysis of the given causes for the visit of dental clinics revealed some peculiarities, where  $76,97 \pm 0,39\%$  noted, that the purposes of visiting were the extraction of teeth and prosthetics. Meanwhile, just  $23,03 \pm 2,06\%$  appealed to the dentists in connection with



consultations, sanitations of oral cavity and dispensers observation. It is known, that discharging the treating doctor's prescriptions and recommendations have certain influence on the functional condition of organs and on the organism systems. According to this, conducted research fulfilled, that  $57,58 \pm 0,87\%$  always discharge the doctor's prescriptions strictly and accurately, and  $26,06 \pm 1,10\%$  associate disobedience of prescriptions with the lack of time. Besides, it is established, that  $10,91 \pm 3,11\%$  disobeyed the doctor's prescriptions because of the impossibility of medical preparations acquisition because of the financial difficulties. But in spite of it, the  $5,45 \pm 3,11\%$  of respondents noted the practicability of discharging the doctor's prescriptions.

The conducted analysis of orthopedic status fulfilled some peculiarities (table 1). So, in the structure of abutments in oral cavity prevailed partial removable dentures, where the index totaled  $32,52 \pm 2,04\%$ . Herewith, complete removable dentures functioned at the  $30,67 \pm 2,18\%$  of investigated. The defects of teeth alignment at the  $11,66 \pm 2,17\%$  of investigated people of older age group were rehabilitated by the artificial crowns. Besides, the  $19,63 \pm 0,89\%$  of senile and elderly patients had bridge prosthesis. Herewith the index of presence of more than one bridge prosthesis totaled  $5,52 \pm 2,62\%$ .

Table 1

**Characteristics of existing prosthesis in oral cavity of investigated senile and elderly patients**

<i><b>Prosthesis construction</b></i>	<i><b>General indicator</b></i>	<i><b>On the upper and lower jaws</b></i>	<i><b>On the upper jaw</b></i>	<i><b>On the lower jaw</b></i>
Partial removable dentures	$32,52 \pm 2,04\%$	$9,20 \pm 1,15\%$	$11,66 \pm 1,03\%$	$11,66 \pm 1,03\%$
Complete removable dentures	$30,67 \pm 2,18\%$	$15,95 \pm 2,64\%$	$10,43 \pm 2,08\%$	$4,29 \pm 2,70\%$
Crowns	$11,66 \pm 2,17\%$	$1,84 \pm 1,02\%$	$2,45 \pm 0,96\%$	$7,37 \pm 0,45\%$
Bridge prosthesis	$19,63 \pm 0,89\%$	$6,13 \pm 1,83\%$	$10,43 \pm 1,54\%$	$3,07 \pm 2,05$
More than one bridge prosthesis	$5,52 \pm 2,62$	$1,84 \pm 0,97\%$	$2,45 \pm 0,86\%$	$1,23 \pm 1,04\%$

In the conducting of research the indexes of different prostheses operation terms of senile and elderly patients were considered. So, the term of making of non-removable dentures only at the  $15,28 \pm 0,73\%$  of investigated was up to 7 years, while the index of more than 7 years was on the level of  $20,83 \pm 0,60\%$ . Herewith the indicators of removable dentures had an analogical tendency and the data of exploitation term totaled just  $16,67 \pm 0,69\%$ , and that of the more than three years was  $47,22 \pm 1,20\%$ . Received data testify about an unfavorable situation, characterizing the need of older age group in replacement of existing constructions in oral cavity.

In general, the clinical results of research defined a high level of need in prosthetics and this index totaled  $70,31 \pm 1,24\%$ . Herewith, the need of senile and elderly patients in one kind of prosthetics totaled  $74,13 \pm 0,51\%$ , and in combined –  $20,28 \pm 1,70\%$ . The  $5,59 \pm 3,40\%$  needed a complete prosthetics of the upper and lower jaws. In spite of this,  $29,69 \pm 1,82\%$  didn't need prosthetics, as existing constructions in oral cavity were in satisfactory condition.

The aforesaid dictated us the subjective assessment of existing removable and non-removable dentures in oral cavity of senile and elderly patients. So, the  $72,88 \pm 0,94\%$  of respondents were satisfied by the functional condition of existing non-removable dentures in oral cavity, and the  $27,12 \pm 3,31\%$  noted, that the quality doesn't satisfy them. With reference to the functioning of removable dentures in oral cavity the ambiguous answers were got among the people of the given age category.  $68,13 \pm 1,32\%$  of respondents denominated their satisfaction by quality of the existing removable dentures in oral cavity, while the  $31,87 \pm 1,68\%$  evaluate



their condition as unsatisfactory. It is known, that the hygienic condition of prosthesis may have a negative influence on their function. According to this, during the research an assessment of hygienic condition of abutments was held. The  $74,58 \pm 0,87\%$  kept the existing non-removable dentures in satisfactory hygienic condition, and the  $25,42 \pm 3,50\%$  kept in unsatisfactory one. A good hygienic condition of removable dentures was at the  $65,91 \pm 0,95\%$  of respondents, while an unsatisfactory condition was at the  $34,09 \pm 1,39\%$ .

We also held an analysis of paid dental services usage and a subjective assessment of their ministration. The received data showed, that  $43,64 \pm 1,39\%$  apply for the help, and  $8,48 \pm 3,73\%$  do it for the consultation, diagnosis and rehabilitation. Herewith,  $47,88 \pm 1,21\%$  of investigated didn't use the paid dental services.  $51,52 \pm 1,07\%$  were absolutely satisfied by the quality of rendered dental services,  $37,58 \pm 1,70\%$  were partially satisfied, and  $10,91 \pm 5,94\%$  of respondents were not satisfied by the equality of its rendering.

**Conclusion.** The received data of complex research characterize a high level of senile and elderly patients need in orthopedic dental help. Also a low level hygienic culture of older age group people is established. The received data dictate the need in perfecting of dental help organization and activation of prophylactic measures with the accounting of the population specific regional life conditions. Accounting the aforesaid, we think we need to elaborate and adopt a complex comprehensive evidence-based program of organizational and methodical approach to the planning of dental help for senile and elderly patients into the practical public health of the region.

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