OPTIMAL ORAL HEALTH WITHIN DIFFERENT AGE GROUPS AMONG THE POPULATION OF REPUBLIC OF MACEDONIA

ОПТИМАЛНО ОРАЛНО ЗДРАВЈЕ КАЈ РАЗЛИЧНИ ВОЗРАСНИ ГРУПИ КАЈ НАСЕЛЕНИЕТО НА ТЕРИТОРИЈА НА РЕПУБЛИКА МАКЕДОНИЈА

Pandilova M.[1], Petrovic D., Ivanovski K.[1], Georgieva S.[1], Pesevska S.[1], Korunoska-Stefkovska V.[2], Mindova S.[1], Dirjanska K.[1], Stefanovska E.[1], Mitik K.[1], Ristoska S.

[1]Department of Oral Pathology and Periodontology, University Sts Cyril and Methodius -Faculty of Dentistry –Skopje,
[2]Department of Prosthetics. University Sts Cyril and Methodius - Faculty of Dentistry – Skopje

Abstract

The concept of optimal oral health has been believed to meet the criteria of persisting at least twenty teeth which are functional and in undisturbed arch. Meeting such criteria may be compromised by different factors, among which age is of great importance. Therefore the aim of our study was to establish how these criteria of optimal oral health have been met in different age groups among the population of the Republic of Macedonia. The study was performed by students of dentistry during the summer semester. They were asked to talk to people in communities they live in and fill in a questionnaire.The validity of obtained data was checked by randomly picked telephone calls. The results were then separated in three groups according to age as follows: First group from 35-55 years of age, Second group from 55-65 years of age and Third group over 65 years of age. The criteria analyzed were self reported and answered how many teeth did they have left in their mouth. The results were then processed by computer program statistics 6 whereby distribution of frequencies was estimated for each group and compared among each other. The main conclusion of our results was that over 55% of the people aged from 35 to 55 years did not meet the criteria of optimal oral health. This is relatively young population and further measures and preventive programs should be undertaken in order to prevent such devastating findings. **Key words:** oral health, age related, tooth loss.

Апстракт

Оптимално орално здравје подразбира минимум на присутни заби во устата за одржување на механичкиот ефект на забите, естетиката и говорната функција. Најмалку 20 заби без болка, кои функционално се способни за џвкање и за говор и кои го задоволуваат естетскиот момент, претставуваат разумна или доволна цел на оралното здравје кај најголем дел од возрасната популација. Различните епидемиолошки испитувања укажуваат дека одредени фактори меѓу кои возраста, полот, клиничката состојба, социо-економскиот статус, културното ниво и пушењето може да влијаат на оралното здравје и на севкупниот квалитет на живот. Возраста и загубата на забите како два заемно зависни фактори имаат комплексно значење врз оралното здравје, па оттука и ја формиравме целтта на нашето испитување: - да согледаме колкав дел од населението од различни возрасни групи на територијата на Република Македонија го задоволуваат овој критериум на оптимално орално здравје. Испитувањето го спроведоа студенти на стоматологија во средините во кои живеат. За реализација на поставената цел беше изготвен соодветен прашалник, а воедно беа земени и контакт податоци од анкетираните за да се провери веродостојноста на добиените податоци. Прашалникот се состоеше од три групи на прашања. Првиот дел од прашалникот се однесува на социоекономскиот статус и навиките на испитаниците, вториот дел на бројот на преостанати заби и протетската згриженост додека третиот дел од истиот на причините за губиток на забите. Вкупно беа анкетирани 2367 испитаници, што во суштина претставува промил од вкупното население од различни региони на Република Македонија. Испитаниците беа поделени во три возрасни категории и тоа на лица 35-55-годишна возраст, лица 55-65години, додека последната возрасна популација ги сочинуваше лицата над 65 години. Резултатите беа статистички обработени со комјутерската програма статистика 6 при што беше барана дистрибуција на фреквенциите за секој испитуван параметар во самата група. Од извршеното испитување можеме да заклучиме дека: - кај многу мал дел од популацијата е присутен критериумот за оптимално орално здравје, и можеме да заклучиме дека со зголемувањето на возраста се намалува бројот на испитаниците кој го задоволуваат овој критериум. Најризична група е групата навозраст помеѓу 35-55 години каде дури 50 % не го задоволуваат критериумот за оптимално орално здравје.

Introduction

"Perfect Oral Health" is defined strictly by biologic criteria that include presence of all 32 teeth which are not involved with disease and are in ideal occlusion in a completely free of pathological changes mouth.

Setting such a high criteria for defining oral health even in the countries with highly developed public con-

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Macedonian Dental Review. ISSN 2545-4757, 2018; 41 (1–2): 54–57.

sciousness about the meaning of the preservation of the oral health as well as highly developed and longtime conducted preventive programs is considered for unreal goal therefore, the concept of "Optimal Oral Health" seems a more acceptable concept.

"Optimal Oral Health" understands a minimal number of present teeth in the mouth that can provide mechanical, aesthetic and speech function.

At least 20 present teeth without pain or disease which are functionally capable for chewing and speech function and which can accomplish aesthetics are objective goal for defining the oral health in the elderly population. Of course, 20 teeth are reasonable minimum for successful mechanical function, but this number of teeth cannot guarantee patients satisfaction because chewing and speech capability are individually varying.[1]

Furthermore, tooth loss reflects not only dental disease but also patients' and dentists' attitudes, the dentist-patient relationship, the availability and accessibility of dental services, and the prevailing philosophies of dental care.[2]

Different epidemiologic researches report that certain factors among which are the age, gender, clinical condition, socio-economic status, culture and also smoking can influence on the oral health and can interfere with the quality of life.[2,3,4]

The age and tooth loss as two in-between dependent factors have complex meaning in oral health and from here we set the main goal of our research:

To find out how much of the population on the territory of the R of Macedonia from different age groups fulfill these criteria for the optimal oral health.

Materials and methods

The research was conducted with the help of students of dentistry at the state university "St. Cyril and Methodius", in the areas where they leave. For the realization of the research an adequate questionnaire was prepared. At the same time we took telephone number for contact with the participants so that we could verify the information we have received.

The questionnaire was formed of three groups of questions: first group was related to the socio-economic status and the habits of the population, second group reflected the number of the remaining teeth and prosthetic solutions, while the third group of questions was related to the reasons for the loss of the teeth.

The research was conducted in the period of the summer semester 2010-2011.

Total of 2367 participants were questioned which in fact represents one per mile of the whole population from different regions of the R. of Macedonia. We chose questionnaire instead of clinical examination because of the large extend of participants.

Participants were grouped in three categories according to their age:

1. 35-55 years
2. 55-65 years
3. Over 65 years.

The results were statistically processed with "Statistic 6" program and we looked for the distribution of frequencies for every parameter we took in the group.

Results

For better presentation results were analyzed for each group separately.

First group (35-55 years of age) consists of 1543 participants. Our results show us that very small percent of the population from 35 to 55 years of age have all the teeth, only 13, 8%, while 5, 57% have no tooth left in the mouth (tab. 1). From the rest 78,50% in this group, with partial dentition, only 51,5% satisfied criteria for the Optimal Oral Health, 6,6% were with less than 10 teeth, while 20,9% were with less than 20 teeth (tab. 2).

Table 1. Results for tooth loss within different age groups

	33-55 years	56-65 years	Over 65 years
All present	13,00%	7,10%	4,52%
none	5,57%	10,10%	41,89%
Partial edentulisam	78,50%	72,40%	51,69%

Table 2. Distribution of frequences for partial edentulisam within different age groups

	33-55 years	56-65 years	Over 65 years
10 teeth	6,00%	7,10%	4,52%
10-20 teeth	5,57%	10,10%	41,89%
more than 20	78,50%	72,40%	51,69%

Second group, aged 55-65, consists of 366 participants. The results in this group show us the fact that in this group there is a very small percent of individuals who have preserved all the teeth, only 7,1%, while with the increase of the age total loss of teeth is increasing too (registered in 16,1%), with 5,5% difference from the first group (tab. 1).

On the base of these results we can conclude that from the rest of 72,4% in this group, less than 50% of individuals have enough teeth to fulfill the criteria for the Optimal Oral Health (tab. 2).

Third group aged 65 years and more consists of 508 participants.

According to the results in the elderly group we found that less than 5% of the individuals had all the teeth. Results showed that in this population partial tooth loss of 51,96% and total tooth loss of 41,83% were dominating (tab. 1).

As we can see on the graphic presentation only 21,06% of individuals in this group have enough teeth to satisfy the criteria for the Optimal Oral Health (tab. 2).

Discussion

Our research concerns a problem of public health among our population emphasizing the problem of oral health related to age groups. The research was conducted in different parts of our country and included a large part of our population regardless their ethnic, religious differences.

The general idea of our study was not to prove that age was related to impaired oral health. It is well proven fact through many studies and personal experience[4,5,6,7]. The main interest was to establish which age group was at highest risk of impaired oral health so that preventive measures or treatment plans could be prepared and implemented. The study was designed as self reported and participants among other questions and data were asked to count their remaining teeth. As the study included a huge number of participants no clinical evaluation or examination was preformed, so the collected results may be even worse because participants didn't give information about the condition of their remaining teeth nor did they gave data if the teeth were in intact arch.

However the data on total tooth loss are genuine; the fact of absence of 16,1% of total tooth in the group between 55-65 years of age is far from satisfactory. Furthermore, only 7,1% of participants had all of their teeth which is a fact that brings more concern having in mind that this is a group of not that old people which have a long lifetime ahead. The general concept of optimal oral health or having at least twenty remaining teeth was established in 36,3%, or even less, regarding the facts mentioned before.

The oldest population over 65 years 5,19% had all of their teeth which wasn't so bad compared to the previous group, yet far from satisfactory but erasing concerns is the fact that only 11,1% had twenty teeth in their mouth. Such data reflect problems with impaired feeding mal-

nutrition, increased need for prosthetics treatment and financial burden on the health founds.

Given the cumulative effects of oral diseases and, in consequence, tooth loss, both the prevalence and the incidence were age dependent. Prevalence increased exponentially with age, with incidence peaking around 60 yr. Similar profiles were seen in 1990 and 2010 despite declines in prevalence and incidence estimates over time. The low use of dental services even in developed countries, the lack of financial support from government and/or third-party payment systems, and the absence of relevant oral health policies are some of the key issues that may explain elderly's poorer oral health status[7,8,9,10]. It is possible that patients' as well as dentists' treatment preferences and expectations of dental services change around this period of life in line with social theories of aging, by which withdrawal from social roles (disengagement) and lack of social policies to protect senior adults (structured dependency) may affect their health[11,12,13].

The evidence presented shows how important the understanding of the epidemiology of severe tooth loss and its consequences are for treatment planning and decision making in clinical dentistry as well as for the needs of assessment and planning services in public health. The data also have implications for the content of the dental curriculum in schools around the world, as advocated by others[14,15,16]. The data provide governments and national and international nongovernmental agencies the evidence-based data to determine priorities for research, educational curriculum development, policies, and fundings[5,6,7].

The main causes of tooth loss are untreated caries and periodontal diseases. Once oral disease occurs, treatment is the major approach to stop its progress, and lack of treatment is likely to lead to tooth loss.

Conclusion

The main conclusion of our results was that over 55% of the people aged from 35 to 55 years, did not meet the criteria of optimal oral health. This is relatively young population and further measures and preventive programs should be undertaken in order to prevent such devastating findings.

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Македонски стоматолошки преглед. ISSN 2545-4757, 2018; 41 (1–2): 54–57.

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