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THE SERBIAN VERSION OF THE „ORAL HEALTH QUESTIONNAIRE FOR ADULTS“

SRPSKA VERZIJA „UPITNIKA ZA ORALNO ZDRAVLJE ODRASLIH“

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Abstract

Introduction/Aim: Oral health impact on the quality of life presents the increasing need in testing the individual's oral health and one of the entire population. The goal of the paper was to translate the index of “Oral Health Questionnaire for Adults” of the World Health Organization into the Serbian language and to check its reliability.

Methods: This study has been designed as an observational, epidemiological study. Index of the “Oral Health Questionnaire for Adults” has been translated into the Serbian language. The classical theory of tests was used in data analysis. The characteristics assessed included internal consistency and construct validity.

Results: A total of 1741 participants were included in this analysis. The mean age of the study group was 32.4 ± 9.7 years. In the last 12 months, problems which occurred frequently or very often regarding teeth and mouth were the following: difficult biting of food (6.2%), difficulty chewing (5.1%), difficult speech or difficult pronunciation of certain words (1.9%), dryness of the mouth (2.9%), the feeling of discomfort due to esthetic appearance of teeth (6.8%). The reliability of the “Oral Health Questionnaire for Adults” (items considering Oral health self-assessment) had high internal consistency (the Cronbach’s ( coefficient was 0.879). The Principal component analysis and Promax rotation revealed 1 factor with Eigenvalue exceeding 1, accounting for 54.3% of the total variance.

Conclusion: A Serbian version of the „Oral Health Questionnaire for Adults”, provides very useful and reliable information on the condition of oral health of the Serbian Armed Forces.

Keywords: Serbian Armed Forces, Oral Health Questionnaire for Adults, oral health

Apskrapt

Uvod/Cilj: Procena uticaja stanja oralnog zdravlja na kvalitet života, predstavlja sve veću potrebu u ispitivanju oralnog stanja pojedinaca, ali i cele populacije. Cilj rada bio je da se indeks „Upitnik za oralno zdravlje odraslih“ Svetske Zdravstvene Organizacije prevede na srpski jezik uz proveru njegove pouzdanosti.

Metode: U radu je primenjena opservaciona, epidemiološka studija. Indeks „Oral Health Questionnaire for Adults“ preveden je na srpski jezik. Pri analizi podataka korišćena je
klasična teorija testova. Procjenjene karakteristike uključuju unutrašnju konzistentnost i valjanost konstrukcije.

**Rezultati:** U ovu analizu je uključeno ukupno 1741 ispitanika. Prosečna starost ispitivane grupe iznosila je 32,4 ± 9,7 god. U poslednjih 12 meseci od problema koji su se javlјali često ili veoma često u vezi zuba i usta bili su: otežano odrgrizanje hrane (6,2%), otežano žvakanje (5,1%), otežan govor ili otežano izgovaranje pojedinih reči (1,9%), suvoća usta (2,9%), osećaj neprijatnosti usled estetskog izgleda zuba (6,8%). Pouzdanost „Upitnika za oralno zdravlje za odrasle“ (stavke koje uzimaju u obzir samoocenjivanje oralnog zdravlja) imala je visoku unutrašnju konzistentnost (Cronbahov koeficijent je 0,879). Analiza glavnih komponenti i rotacija Promaks otkrili su 1 faktor sa Eigenvalueom većim od 1, što čini 54,3% ukupne varijanse.

**Zaključak:** Srpska verzija upitnika „Upitnik za oralno zdravlje odraslih“ pruža veoma korisne i pouzdane informacije o stanju oralnog zdravlja oružanih snaga Srbije.

**Ključne reči:** Vojska Srbije, Upitnik za oralno zdravlje odraslih, oralno zdravlje

**Introduction**

Oral diseases impact around half of the world population and their impact is considered as a very important public health problem in the sense of disease burden and medical expenses. Although oral diseases can be prevented and treated, they still present a problem at the global level. It has been determined that the oral health of individuals in developing countries is getting worse. The problems of public health connected to oral diseases present a serious burden for countries around the world.

World Health Organization (WHO) has a long tradition of epidemiological research in following and monitoring oral health. During studying of oral health status, one of the most significant parameters is the number of teeth. A clinical examination is a gold standard for this testing. However, clinical examination has limitations connected to high expenses of personnel, time and resources necessary for this type of research. One of the alternatives to professional clinical testing are questionnaires, which enable the obtaining of basic, but relevant epidemiological information with significantly fewer expenses. In dentistry, self-evaluation is a valid instrument for studying conditions such as oral hygiene, the health of periodontium and use of dental braces. The studies conducted in several
countries point to the fact that self-assessment of the number of teeth was a valid parameter of large validity.

The WHO has a long tradition of epidemiological research, which includes description of diagnostic criteria that can be easily understood and applied in programs of public health around the world. The World Bank of data for the oral health of the WHO collects data of research on the burden of oral diseases. The WHO recommends the use of simplified structured questionnaires for the collection of data on self-assessment of oral health and risk factors in adults (Oral Health Questionnaire for Adults). The questionnaire has been tested in a larger number of countries around the world. The language barrier can be the reason to prevent intensive use of an instrument in countries where English is not a native language. Hence, the purpose of our research was to translate the questionnaire “Oral Health questionnaire for adults” of the WHO into the Serbian language and prepare it for testing of oral health of the Serbian Armed Forces.

Participants and Method

The study has been conducted between 2017 and 2019 at the territory of the Republic of Serbia. The study has been designed as an observational, epidemiological study, and included 1741 professional members of the Serbian Armed Forces aged 18-64 years. Based on data from the literature, a prevalence of 80% was the starting point for sample size calculation in our study. It was necessary to include at least 1537 participants for a reliable assessment of the oral health of the Serbian Armed Forces, with the strength of the study of 0.8 (80%), mistake type alpha of 0.05%, and foreseen mistake of 2% (0.02).

Approval for the study has been obtained by the Ethical committee of the Medical Military Academy (No. 1/ 15 - 17). Participation in the research was voluntary, and all participants before they were interviewed, had signed the informed consent for the participation in the research.

A total of 1741 participants were included in this analysis (Table 1); participation rate was 100%, ie all of 1741 respondents who accepted participation in the study returned fully completed questionnaires. The criteria for entering the study were that the subject was over 18 years old and younger than 64 and that he/she was a professional member of the Serbian Armed Forces. The exclusion criterion for the study was the professional status of a civilian.
employee in the Serbian Armed Forces, presence of systemic diseases and acute symptoms of dental diseases.

The study used the WHO questionnaire “Oral Health questionnaire for adults” 4, published as a part of the “Oral health surveys basic methods, 5th edition” by the WHO in 2013 5. This questionnaire has been specifically designed for self-filling of information on the individual oral health. Except for demographic information, other questions refer to risk factors that impact oral health, individual's habits in maintaining oral hygiene and the use of dentistry services. Also, the information on the frequency of sugar intake, alcohol, and tobacco consumption has been tested as well. The original questionnaire includes 16 questions. The variables included in the adult questionnaire were as shown in table 2. We used all the questions that have been stated in the WHO questionnaire in the Serbian version of the questionnaire. However, our version contained only last 14 questions because the questions 1 and 2 (ordinal number of participants and age) already existed in the basic questionnaire for social demographic data.

The WHO questionnaire “Oral Health questionnaire for adults” 4, has been translated from the original English language into the Serbian language by the two dentists with good knowledge of the English language using internationally accepted recommendations 13. Then this version was translated into the English language. Such translation (backward) has been additionally assessed by a dentist proficient in the English language. It has been determined that there was no difference between the original version of the questionnaire regarding our version. After that, the questionnaire was again translated into the Serbian language and tested in the pilot study. The pilot study was conducted on 20 participants to confirm that the meaning of every single question is well understood and that they do not cause discomfort and displeasure. The participants were asked the questions orally. Upon the successful conduct of the pilot study, the main study was conducted, which included 1741 participants. Canvassing has been conducted by the two trained interviewers who were mutually harmonized. The work standardization in the field was achieved with suitable training of interviewers on the collection of data, data control and data processing 14.

**Statistical Analysis**

In the descriptive statistics, categorical variables (presented as percentages) and continuous variables (presented as mean ± standard deviation) were calculated.
Additionally, we performed analysis to evaluate the reliability and validity of items considering Oral health self-assessment (i.e. question 10 - experience of reduced quality of life due to oral problems).

The classical theory of tests was used in data analysis. The reliability of the “Oral Health questionnaire for adults” was determined by internal consistency coefficient, i.e. Cronbach's coefficient alpha. Cronbach’s coefficients > 0.70 were considered acceptable, while values ≥0.80 were preferable.

The validity of the “Oral Health questionnaire for adults” was evaluated by Principal components analysis. The Promax rotation was used for this analysis, with Kaiser Normalization (delta=0). The factors’ importance was assessed according to the Kaiser criterion (all factors with eigenvalues greater than 1.0). Value for the Kaiser-Meyer-Olkin measure of sampling adequacy was 0.888, while the value for Bartlett's test of sphericity was highly significant (p<0.001). Statistical analyses were performed using the SPSS 20.0 (IBM SPSS Statistics, Chicago, IL, USA).

Results

The total number of 1741 participants took part in the survey (Table 1). The average age of the study group was 32.4 ± 9.7 (18-59). Out of the total number of participants, 184 participants i.e. 10.6% were women.

The Serbian version of the “Oral Health Questionnaire for Adults” contained 14 questions (Table 2). The condition of the teeth as good, very good and excellent was described by 57.9% of the participants, while 16% described their condition as bad and very bad. The condition of the gum as good, very good and excellent was described by 60.1% of the participants, while 14.8% described their condition as bad and very bad. The largest number of study group stated that they washed their teeth twice or more a day (60.5%), and one third once a day (32.9%). Almost all participants (99.25%) stated that they used a toothbrush. The participants used the following as an aid for maintaining oral hygiene: toothpicks (38.48%), dental floss (27.86%), inter dental toothbrush (7.98%) and dental mouth wash (31.36%). Almost all participants used the toothpaste for brushing their teeth (98.1%), and a toothpaste containing fluoride 82.4%. More than half of the study group (55.3%) visited the dentist less than 6 months ago. More than 2 years the dentist was not visited by 8.3% of participants. Only one participant had never visited the dentist.
As a reason to visit the dentist, 35.4% of participants stated pain and other oral problems, while 16.3% visited the dentist for consultation and advice. In the last 12 months, out of the mentioned problems, participants cited difficulty in food biting (6.2%), difficulty in chewing (5.1%), difficult speech or difficult pronunciation of certain words (1.9%), mouth dryness (2.9%), feeling of displeasure due to esthetical appearance of teeth (6.8%), feeling of discomfort due to problems in the oral cavity (4.8%), avoiding smiling due to esthetical appearance of teeth (6.3%), waking up at night due to pain (2%), taking days off from work (1.1%), difficult performance of daily activities (1%), feeling less tolerance toward a spouse or environment (2.8%) and reduction of daily activities (2.4%).

The participants daily or more times a day consumed the following food: fresh fruit (37%), cookies, creams, cakes (14.1%), pies, scones (9.7%), jams or honey (8.5%), chewing gum with sugar (13.2%), candies and chocolate (19.1%), lemonade, Coca-Cola, soda (15.8%), tea with sugar (9.6%), and coffee with sugar (27.4%). Regarding tobacco products, almost one-third of the participants consumed cigarettes (31%), cigars (9%), but only 1 or 2 participants (0.1%) used pipes, Cuban cigars, or chewing tobacco. Every fourth participant (25.5%) did not drink alcohol in the last thirty days. Regarding education, the largest part of the study group had high school education (64.8%), less than third (26.8%) was university educated, and only one 1% had a Ph.D.

The reliability of the “Oral Health Questionnaire for Adults” (items considering Oral health self-assessment) had high internal consistency: the Cronbach’s α coefficient was 0.879 (Table 3). The intra-class correlation coefficient was significant (0.874, p<0.001).

Following the Principal component analysis and Promax rotation, 1 factor with Eigenvalue exceeding 1 was observed, accounting for 54.3% of the total variance (Table 4).

Discussion

Considering the lack of adequate data on oral health status of professional members of the Serbian Armed Forces, the main goal of our work was to translate the Oral Health Questionnaire for Adults questionnaire from English into Serbian and apply it to the military population. The WHO has a long tradition of epidemiological survey methodology, which includes a description of the diagnostic criteria that can be readily understood and applied in public health programmes worldwide.
The WHO manual Oral Health Surveys – Basic Methods has encouraged countries to conduct standardized oral health surveys that are comparable internationally. The WHO Global Oral Health Data Bank collates the data gathered through country surveys on the burden of oral disease.

Oral health is a key indicator of overall health, wellbeing, and quality of life. WHO defines oral health as “a state of being free from chronic mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss, and other diseases and disorders that limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing”. The Global Burden of Disease Study 2016 estimated that oral diseases affect at least 3.58 billion people worldwide, with caries of the permanent teeth being the most prevalent of all conditions assessed. Globally, it is estimated that 2.4 billion people suffer from caries of permanent teeth and 486 million children suffer from caries of primary teeth.

The “Oral Health Questionnaire for Adults” has been used in national surveys in many countries. We used the Serbian version of the questionnaire “Oral Health Questionnaire for Adults” in our study according to recommendations of WHO. The recommendation of WHO is to use a single questionnaire to form the global database, but each country has the right and possibility to adjust certain questions to their needs. After translation of questionnaire and successfully conduction of pilot study, we conducted the study of self-assessment of oral health with 1741 professional members of the Serbian Armed Forces.

All participants who took part in the study responded to each question from the questionnaire, i.e. response rate was 100% to all questions. This indicates that all questions were clear, concrete and understandable. The items that might be reducing the consistency of the “Oral Health Questionnaire for Adults” among Serbian military personnel (items considering oral health self-assessment) were: “Dry mouth” and “Have reduced participation in social activities”. Also, one item only (“Dry mouth”) had low communality (0.247) in our study. However, questions were asked by 2 dentists trained in the use of this questionnaire, which explained the meaning of the question to all participants in the best possible way, which minimized the potential impact of information bias.

The largest number of participants (85.6%) had more than 20 teeth, which is almost identical to results of the national study made in Chile.
In our study, the condition of teeth is described as very good, good and excellent by 57.9% participants. In a study conducted also among the military population, it was found that dental hygiene could be affected by the self-assessment of dental condition. Participants who brush their teeth less than twice a day evaluated their oral health as poor 3.08 times more often compared to those who brush their teeth more than twice a day.

In a national study in Canada, 84% of respondents rated their dental condition as good or excellent, while in our study only 57.9% of participants rated their oral health as good or excellent. This is probably because awareness of the importance of oral health is not yet sufficiently established in our country. Many factors influence how often people use dental services. The reason a person seeks dental care is influenced by the type of care they are likely to receive and the level of untreated problems they may have at any time. People who visit a dental professional for a routine check-up are most likely to benefit from early detection and treatment and receive preventive services. Those who seek care for a dental problem may receive less comprehensive treatment and are less likely to receive preventive services.

Certain health habits are the main causes of oral disease. Poor or uncontrolled dietary habits, tobacco, unhealthy lifestyle, avoidance of oral health checks are all detrimental to the oral well-being of individuals.

Toothbrushing is considered a fundamental self-care behavior for the maintenance of oral health, and brushing twice a day has become a social norm, but the evidence base for this frequency may be weak. In many countries, including America and Australia, brushing twice a day has become the social norm. The largest part of our study group brushed teeth 2 or more times a day. A previous study of the Chinese population showed that, in general, a high percentage of the 2105 respondents reported inadequate oral hygiene practices (ie, 66.7% or 1402 of respondents brushed their teeth once a day or less). More than half of our research group (55.3%) visited the dentist less than 6 months ago, which is similar to a study done in Canada. The frequency of dental visits was also positively associated with dental brushing, toothpaste use, high educational level, being married, having more than 20 teeth, and having dental pain. Besides toothbrush, as basic means for the maintenance of oral hygiene, 27.86% of participants used the dental floss, while 31.36% used mouth wash. In the study done in Malaysia, 20.2% of participants used mouth wash, and 18.9% of them dental floss.
The difficulties in chewing food in the last 12 months had 5.1% of participants which is significantly less regarding the study that included a large number of European countries, where 14% of the study group had difficulty chewing due to teeth and mouth problems.

Most food and drinks have little noticeable effects on dental health. Among the drinks that are most likely to damage teeth and restorative materials are sports and energy drinks which contain sugar to feed oral bacterial, and drinks which have a low pH which can erode teeth and increase their sensitivity.

Regarding nutrition habits, 19% of participants in the European study drink Coca-Cola and other sodas daily, while in our study 15.8%. As a reason to visit the dentist, 35.4% of participants in our study state the pain and problems with teeth, palate or mouth, while only 17% of participants in the European study state that the reason for the last visit to the dentist was pain and problems with teeth. This difference can be sought in insufficient education, fear from a dentist or even worse material condition.

The limitation of this study is that the sample was made only on a sample of the military population, and it is necessary to do a clinical examination in a subsequent study and compare it with the results of our study.

This paper aims to encourage national oral health planners to standardize measurements of oral diseases and conditions that are important for the planning and evaluation of oral health programs, and to ensure comparability of data collected in the general population.

**Conclusion**

The findings suggest that the “Oral Health Questionnaire for Adults” can be used for measuring oral health among population of the Serbian Armed Forces. The questionnaire is short, easy to understand, acceptable to patients and feasible to apply in the clinic.
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Table 1.

Baseline characteristics of the study participants (N=1741)

| Characteristics               | Number | %    |
|-------------------------------|--------|------|
| **Sex**                       |        |      |
|     Male                      | 1557   | 89.4 |
|     Female                    | 184    | 10.6 |
| **Age groups (years)**        |        |      |
|     ≤ 20                      | 212    | 12.2 |
|     21-30                     | 584    | 33.5 |
|     31-40                     | 545    | 31.3 |
|     41-50                     | 339    | 19.5 |
|     ≥ 51                      | 61     | 3.5  |
| **Mean±Standard Deviation (Range)** | 32.4±9.7 | (18-59) |
| **Marital status**            |        |      |
|     Without partner           | 841    | 48.3 |
|     With partner              | 900    | 51.7 |
Table 2. Serbian version of the „Oral Health Questionnaire for Adults“

| Question                                                                 | Options                                                                 | Serbian          | Arabic         | English          | Romanian         |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------|----------------|------------------|------------------|
| 1. How many natural teeth do you have?/ Како бисте описали стање Ваших зуба и десни? |
|                                                                          | No natural teeth / Немате своје зубе                                      | 0                | 0              | 0                | 0                |
|                                                                          | 1–9 teeth/ 1–9 зуба                                                        | 1                | 1              | 1                | 1                |
|                                                                          | 10–19 teeth / 10–19 зуба                                                  | 2                | 2              | 2                | 2                |
|                                                                          | 20 teeth or more/ 20 својих зуба или више                                 | 3                | 3              | 3                | 3                |
| 2. During the past 12 months, did your teeth or mouth cause any pain or discomfort?/ Током последњих 12 месеци, да ли су Ваши зуби и уста изазивали било какве болове или нелагодности? |
|                                                                          | Yes/ Да                                                                  | 1                | 1              | 1                | 1                |
|                                                                          | No/ Не                                                                    | 2                | 2              | 2                | 2                |
|                                                                          | Don’t know/ Не знам                                                       | 9                | 9              | 9                | 9                |
|                                                                          | No answer/ Нема одговора                                                   | 0                | 0              | 0                | 0                |
| 3. Do you have any removable dentures?/ Да ли имате било какве мобилне протезе? |
|                                                                          | Yes/ Да                                                                  | 1                | 1              | 1                | 1                |
|                                                                          | No/ Ne                                                                   | 2                | 2              | 2                | 2                |
|                                                                          | A partial denture?/ Парцијалне протезе                                   |                  |                |                  |                  |
|                                                                          | A full upper denture?/ Тоталне горње протезе                             |                  |                |                  |                  |
|                                                                          | A full lower denture?/ Тоталне доње протезе                              |                  |                |                  |                  |
| 4. How would you describe the state of your teeth and gums? Како бисте описали стање Ваших зуба и десни? |
|                                                                          | Excellent/ Одлично                                                        | 1                | 1              | 1                | 1                |
|                                                                          | Very good/ Веома добро                                                   | 2                | 2              | 2                | 2                |
|                                                                          | Good/ Добро                                                              | 3                | 3              | 3                | 3                |
|                                                                          | Average/ Просечно                                                       | 4                | 4              | 4                | 4                |
|                                                                          | Poor/ Лоше                                                              | 5                | 5              | 5                | 5                |
|                                                                          | Very poor/ Веома лоше                                                    | 6                | 6              | 6                | 6                |
|                                                                          | Don’t know/ Не знам                                                      | 9                | 9              | 9                | 9                |
| 5. How often do you clean your teeth?/ Колико често перете своје зубе?     |
|                                                                          | Never/ Никад                                                             | 1                | 1              | 1                | 1                |
|                                                                          | Once a month/ Једном месечно                                               | 2                | 2              | 2                | 2                |
|                                                                          | 2–3 times a month/ 2–3 пута месечно                                       | 3                | 3              | 3                | 3                |
|                                                                          | Once a week/ Једном недељно                                               | 4                | 4              | 4                | 4                |
|                                                                          | 2–6 times a week/ 2–6 пута недељно                                       | 5                | 5              | 5                | 5                |
Once a day/ Једном дневно  →  6
Twice or more a day/ Два или више пута дневно  →  7

6. Do you use any of the following to clean your teeth?/ Да ли користите нешто од понуђеног да би очистили зубе?

Yes/ Да  No/ Не
1 2

Toothbrush/ Четкица за зубе  →  →
Wooden toothpicks / Дрвена чачкалица  →  →
Plastic toothpicks/ Пластична чачкалица  →  →
Thread (dental floss) / Конац за зубе  →  →
Charcoal / Јнтерденталне четкице  →  →
Chewstick/miswak / Раствор за испирање уста  →  →
Other/ Друго  →  →
Please specify/ Молимо наведите шта  →  →

7.a) Do you use toothpaste to clean your teeth?/ Да ли користите пасту за зубе када перете исте?

Yes/ Да  No/ Не
1 2

7.b) Do you use a toothpaste that contains fluoride?/ Да ли користите пасту која садржи флуор?

8. How long is it since you last saw a dentist? / Коликоје прошло од ваше последње посете стоматологу?

Less than 6 months/ Мани од 6 месеци  →  1
6–12 months/ 6–12 месеци  →  2
More than 1 year but less than 2 years/ Више од 1 године, а мање од 2 године  →  3
More than 2 years but less than 5 years/ 2 године или више, али мање од 5 година  →  4
2 years or more but less than 5 years/ 2 године или више, али мање од 5 година  →  5
Never received dental care/ Никада нисам био у посети стоматологу  →  6

9. What was the reason of your last visit to the dentist?/ Који је био разлог ваше последње посете стоматологу?

Consultation/advise/ Консултације/савет  →  1
10. Because of the state of your teeth or mouth, how often have you experienced any of the following problems during the past 12 months?

/ У последњих 12 месеци да ли сте приметили неки од наведених problema?

| Very often / Често | Fairly often / Поштено често | Sometimes / Понекад | No / Не | Don’t know / Не знам |
|-------------------|-------------------------------|---------------------|-------|-------------------|
| 1                 | 2                             | 3                   | 4     | 5                 |

a) Difficulty in
biting foods/
Отежано
одгризање хране
b) Difficulty
chewing foods/
Отежано
жвакање
c) Difficulty
with speech/trouble
pronouncing
words / Отежан
говор /отежано
изговарање
појединах речи
d) Dry mouth /
Сува уста
e) Felt
embarrassed due to appearance of teeth / Осевах непријатности услед естетског изгледа зуба
f) Felt tense because of problems with teeth or mouth / Осевах нелагодности услед проблема у усној дупљи
g) Have avoided smiling because of teeth / Избегавање осмехивања услед естетског изгледа зуба
h) Had sleep that is often interrupted / Да ли сте се будили током ноћи услед бола
i) Have taken days off work / Да ли сте
узимали слободне дане са посла

j) Difficulty doing usual activities/
Отежано извођење свакодневних активности

k) Felt less tolerant of spouse or people who are close to you/ Oseћате се мање толерантно према супружнику и блиској околини

l) Have reduced participation in social activities/ Смањили дневне активности

11. How often do you eat or drink any of the following foods, even in small quantities? (Read each item)/ Колико често конзумирате наведену храну и пиће (макар и у мањим количинама)?

| Several times a day / Неколико пута сутрадан | Every time a day / сваки дан | Several times a week / Неколико пута недељу | Once a week / Недељу седам пута | Several times a month / Неколико пута месец | Seldom / Ретко / никад |
|---------------------------------------------|-----------------------------|-----------------------------------------------|--------------------------------|-----------------------------------------------|-----------------------------|
| times / време / повторности | a day / дан | times / трајање / повторности | a week / недељу | a month / месец | never / никад |
12. How often do you use any of the following types of tobacco? (Read each item) / Колико често конзумирате тобако производе?

|                      | дневно | недељно | месечно |
|----------------------|--------|---------|---------|
| Fresh fruit/ Свеже воће | 6      | 4       | 2       |
| Biscuits, cakes, cream cakes/ Кекс, торте и кремови | ✔      | ✔       | ✔       |
| Sweet pies, buns/ Пите, лепиње | ✔      | ✔       | ✔       |
| Jam or honey/ Јем. мед | ✔      | ✔       | ✔       |
| Chewing gum containing sugar/ Жвакаће гуме са шећером | ✔      | ✔       | ✔       |
| Sweets/candy/ Слаткиши/чоколада | ✔      | ✔       | ✔       |
| Lemonade, Coca Cola or other soft drinks/ Лимунада, Кока-Кола, газирана пића | ✔      | ✔       | ✔       |
| Tea with sugar / Чай са шећером | ✔      | ✔       | ✔       |
| Coffee with sugar/ Кафа са шећером | ✔      | ✔       | ✔       |
| Characteristic drink for our country / Карактеристично пиће за нашу државу | ✔      | ✔       | ✔       |

|                | Every day/ Сваки дан | Several times a week/ Неколико пута недељно | Once a week/ Једном путу недељно | Several times a month/ Неколико пута месечно | Seldom/ Ретко | Never/ Никад |
|----------------|----------------------|-----------------------------------------------|---------------------------------|-----------------------------------------------|----------------|----------------|
| Cigarettes     | 6                    | ✔                                              | ✔                               | ✔                                             | ✔              | ✔              |
Цигарете
Cigars
Томпуси
A pipe
Луле
Chewing
tobacco
Дуван за жвакање
Use snuff
Цигаре
Other
Друго

13. During the past 30 days, on the days you drank alcohol, how many drinks did you usually drink per day?/
У последњих 30 дана, данима када сте конзумирали алкохол колико сте пића попили у току дана?

Less than 1 drink/ Мање од 1 пића → 0
1 drink/ 1 пиће → 1
2 drinks/ 2 пића → 2
3 drinks/ 3 пића → 3
4 drinks/ 4 пића → 4
5 or more drinks/ 5 или више пића → 5
Did not drink alcohol during the past 30 days/ Нисам пио/ла алкохол у последњих 30 дана → 9

14. What level of education have you completed?/ Ниво образовања?

No formal schooling/ Немам образовање → 1
Less than primary school/ Основна школа → 2
Primary school completed/ Средња школа → 3
Secondary school completed/ Факултет → 4
High school complete/ Мастер студије → 5
College/university completed/ Специјалистичке студије → 6
Table 3.
Descriptive statistics for the "Oral Health Questionnaire for Adults" among Serbian military personnel (items considering Oral health self-assessment), with corrected item-scale correlations and Cronbach's alpha values, if item deleted

| Items                                      | Mean ± Standard Deviation | Item-Tot Correlation | Cronbach's Alpha if Item Deleted | Cronbach's Alpha | Intra-class correlation coefficient |
|--------------------------------------------|---------------------------|----------------------|----------------------------------|------------------|------------------------------------|
| Difficulty in biting foods                 | 1.3 ± 0.7                 | 0.622                | 0.861                            | 0.879            | 0.874                              |
| Difficulty chewing foods                   | 1.2 ± 0.7                 | 0.671                | 0.856                            | (p<0.001)        |                                     |
| Difficulty with speech/trouble pronouncing words | 1.1 ± 0.4                     | 0.569                | 0.864                            |                  |                                     |
| Dry mouth                                  | 1.2 ± 0.6                 | 0.415                | 0.873                            |                  |                                     |
| Felt embarrassed due to appearance of teeth | 1.3 ± 0.7                 | 0.670                | 0.857                            |                  |                                     |
| Felt tense because of problems with teeth or mouth | 1.3 ± 0.6                     | 0.664                | 0.857                            |                  |                                     |
| Have avoided smiling because of teeth     | 1.3 ± 0.7                 | 0.662                | 0.857                            |                  |                                     |
| Had sleep that is often interrupted        | 1.1 ± 0.5                 | 0.590                | 0.863                            |                  |                                     |
| Items                                                                 | Component matrix | Communalities |
|----------------------------------------------------------------------|------------------|---------------|
| Have taken days off work                                             | 1.1 ± 0.4        | 0.448         |
| Difficulty doing usual activities                                   | 1.1 ± 0.4        | 0.602         |
| Felt less tolerant of spouse or people who are close to you          | 1.1 ± 0.4        | 0.565         |
| Have reduced participation in social activities                      | 1.1 ± 0.5        | 0.390         |

Table 4.
Factor analysis with Promax Rotation Method for the „Oral Health Questionnaire for Adults“ among Serbian military personnel (items considering Oral health self-assessment)
|                                                                                             |       |       |
|---------------------------------------------------------------------------------------------|-------|-------|
| Felt less tolerant of spouse or people who are close to you                                | 0.497 | 0.515 |
| Have reduced participation in social activities                                            | 0.493 | 0.593 |
| % variance                                                                                  | 54.3  |       |

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