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# Oral Status, Aesthetic Materials and Frequency of Crowns and Bridges in Patients with Fixed Prosthetic Appliances Living in the Metković Region

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## ABSTRACT

*The aim of the study was to examine oral status in patients of the Metković region with fixed prosthodontic appliances. The aim was also to evaluate aesthetic materials used, and difference between the frequency of crowns and bridges dependent on patient's age and frequency of visits to dentist. The examination was performed on 212 dental patients with fixed prosthetic appliances, from the Public Health Center »Metković«. A questionnaire was created for the purpose of this study and was filled in by the patients. The dentist registered oral status. Descriptive statistics and  $\chi^2$  tests were used for the data analysis. Following conclusions were made: 1. The examined patients had relatively high caries (tooth decay), gangrene and residual roots prevalence, the oral hygiene was not appropriate, calculus and gingivitis were diagnosed in all patients (100%) and these facts point out to the insufficient preventive oral health care in the Metković region, as well as to the insufficient self-perception on the proper oral hygiene maintenance. 2. Patients who visit their dentist regularly (once a year or more) have significantly more crowns than bridges than the patients who visit their dentist irregularly or when in pain ( $p < 0.01$ ). 3. Almost all fixed prosthetic appliances not older than 10 years were made of porcelain (98%), while acrylic veneer crowns (or chromasite) were more frequent in appliances older than 10 or 15 years ( $p < 0.01$ ). There was no gender difference dependent on the material used ( $p > 0.05$ ). High frequency of porcelain was attributed to the high economic status of this region, as well as to a dentist's preference.*

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**Introduction**

Dental conditions and prevalence of prosthetic appliances in a certain population depend on many different factors such as: economy, education, preventive care, habits, oral hygiene, age of a patient, patient’s attitude towards the dentist, financial support for a certain type of dental care provided by a social insurance, dental service available, dentist’s preferences, etc.<sup>1–20</sup>. Status and frequency of fixed prosthetic appliances and material used vary between different age groups, different countries, elderly healthy or institutionalized population, urban or rural population, etc.<sup>5–17,21–34</sup>.

The aim of the study was to examine oral status in patients of the Metković region who had fixed prosthetic appliances as well as to evaluate aesthetic materials used, and difference between the frequency of crowns and bridges dependent on patient’s age and frequency of visits to dentist.

**Patients and Methods**

A total of 212 patients from the dental office from the Public Health Center in Metković took a part in the study during a time period from February to October 2001. Only the patients who had fixed prosthetic appliance took a part in the study. The questionnaire was created for the purpose of this study and was filled in by the patients. The dentist examined the same patients and registered the oral status. A total of 62 questionnaire were excluded, as they were not filled in appropriately. Finally, 150 patients were statistically analyzed, 81 males and 69 females. The age was from 18 to 80 years. Patients of all education levels and different socio-economic status were included. Descriptive statistics and <sup>2</sup> tests were used for the data analysis.

**Results and Discussion**

The examined patients had relatively high prevalence of caries (tooth decay) (Figure 1), gangrenes (Figure 2) and residual roots (Figure 3) The majority of the examined patients had 1 to 3 manifest carious lesions in the mouth and this was the most frequently reported findings; only 20% of the patients had no tooth decay. Gangrenes were diagnosed in 15% of the patients and residual roots were found in 22% of the patients, which point out to the need of new prosthetic treat-

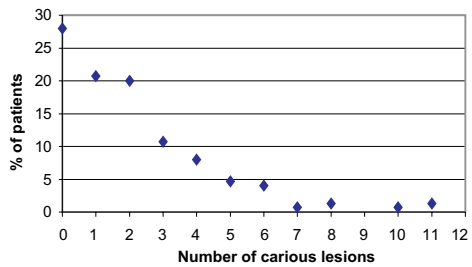


Fig. 1. Number of carious lesions per patient.

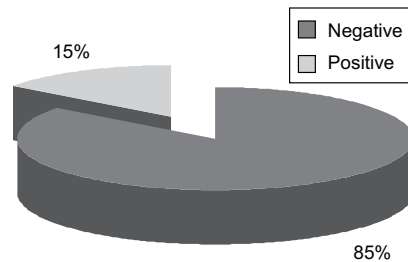


Fig. 2. Frequency of patients with gangrena.

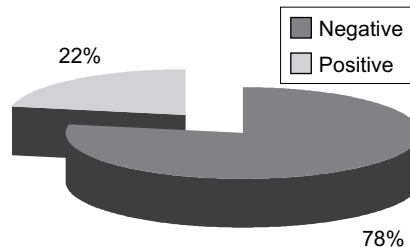


Fig. 3. Frequency of residual roots.

ment in many subjects. The oral hygiene was not appropriate, calculus and gingivitis were diagnosed in all of the patients (100%). These facts point out to the insufficient preventive oral health care in the Metković region, as well as to the insufficient self-perception on the maintenance of a proper oral hygiene. Good preventive care for the oral health has reduced the need for removable partial or full dentures in Sweden<sup>34,35</sup>, which seems to be a trend in high developed countries<sup>36</sup>. Opposite, in some countries a need for all kinds of prosthetic treatment is still increasing<sup>37</sup>. Changes in dental condition during a decade in a middle-aged and older Swedish population has revealed substantial increase in the prevalence of prosthetic appliances, especially of fixed restorations<sup>38</sup> and it was concluded that Swedish population of Malmö tends to polarize into 2 groups, one group which takes advantage of the dental services and one which does not. According to the results of this study, it seems that the patients in the region Metković do not take enough advantage of dental services, or the quality of the services given is poor.

Patients of region Metković who visit their dentist regularly (once a year or more often) have significantly more crowns than bridges ( $p < 0.01$ ) than the patients who visit their dentist irregularly or when in pain (Figure 4), which is in accordance with the results of other studies<sup>15,23,24,28,30,32,39</sup>.

Almost all fixed prosthetic appliances in Metković region, which were not older than 10 years were made of porcelain (98%), while acrylic veneer crowns (or chromasite) were more frequent ( $p < 0.01$ ) in appliances older than 10 or 15 years (Figure 5). Surprisingly, a relatively high percent of porcelain was registered and this was a higher percent than in some other regions of our country<sup>2,3,5-7</sup>. High frequency of porcelain was attributed to

the high economic status of this region, as well as to a dentist's preference.

There was no gender difference dependent on the material used, which is presented in the Figure 6 ( $p > 0.05$ ).

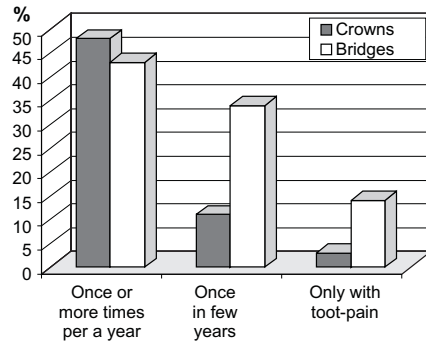


Fig. 4. Frequency of crowns and bridges in relation to patient's visits to a dentist.

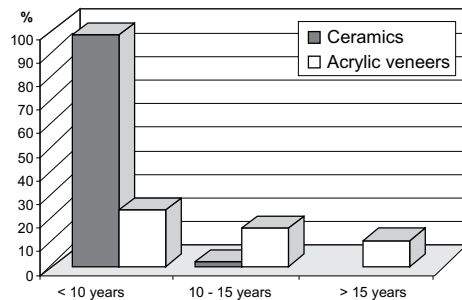


Fig. 5. Material used for fixed prosthodontic appliance related to the age of appliance.

$$\chi^2=59.89, df=2, p < 0.001$$

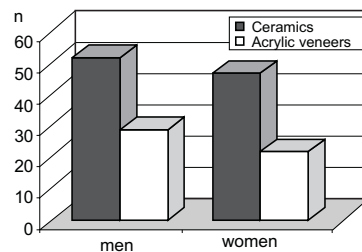


Fig. 6. Material of fixed prosthodontic appliance in relation to gender.

$$\chi^2= 2.55, df = 1, p = 0.371$$

## Conclusions

Upon the results of the study, the following conclusions were made:

1. The examined patients had relatively high caries (tooth decay), gangrene and residual roots prevalence, the oral hygiene was not appropriate, calculus and gingivitis were diagnosed in all of the patients (100%).
2. Patients who visit their dentist regularly (once a year or more often) have

significantly more crowns than bridges than the patients who visit their dentist irregularly or when in pain ( $p < 0.01$ ).

3. Almost all fixed prosthetic appliances which were not older than 10 years were made of porcelain (98%), while acrylic veneer crowns were more frequent in prosthetic appliances which were older than 10 or 15 years ( $p < 0.01$ ). There was no gender difference dependent on the material used ( $p > 0.05$ ).

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## **ORALNI STATUS, ESTETSKI MATERIJAL I UČESTALOST KRUNICA I MOSTOVA U PACIJENATA SA FIKSNO-PROTETSKIM RADOVIMA KOJI ŽIVE U REGIJI METKOVIĆ**

### **S A Ž E T A K**

Svrha rada bila je ispitati oralni status pacijenata koji imaju fiksni protetski nadomjestak i žive u regiji Metković. Svrha rada također je bila evaluirati koji je estetski materijal bio uporabljen te ustanoviti učestalost krunica i mostova ovisno o dobi i spolu pacijenata te učestalosti posjeta stomatologu. Istraživanje je provedeno kod 212 pacijenata sa fiksno-protetskim radom u ustima u Domu zdravlja »Metković« tijekom razdoblja veljača – listopad, 2001. godine. U svrhu istraživanja kreiran je upitnik, koji je ispunio svaki pacijent. Stomatolog je registrirao oralni status. Za statističku obradu podataka uporabljene su metode deskriptivne statistike i  $\chi^2$  test. Temeljem analize podataka doneseni su slijedeći zaključci: 1. Pregledani pacijenti imali su relativno čestu pojavu karijesa, gangrene i rezidualnih korjenova, oralna higijena nije bila adekvatna, kamenac i gingivitis dijagnosticirani su kod svih pacijenata (100%). Ove činjenice ukazuju na nedostatnu oralnu preventivu u regiji Metković, ali i na nedovoljnu samo-percepciju zadovoljavajuće oralne higijene u pacijenata. 2. Pacijenti koji redovno posjećuju stomatologa (jednom godišnje ili češće) imaju značajno više krunica u odnosu na mostove od pacijenata koji posjećuju stomatologa jednom u više godina ili samo kada imaju bolove ( $p < 0.01$ ). 3. Gotovo svi fiksno-protetski radovi koji nisu stariji od 10 godina izrađeni su od keramike (98%), dok su akrilatni fasetirani radovi (ili kromasitni) učestaliji u radova starijih od 10 ili 15 godina ( $p < 0.01$ ). Nije bilo razlike između spolova, u odnosu na materijal fiksno-protetskog rada ( $p > 0.05$ ). Visok postotak radova od keramike pripisan je dobrom ekonomskom statusu pacijenata ispitivane regije i preferenciji stomatologa.