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*The health state of oral cavity of 18-year students  
of vocational school without dental care*

The promotion of health, pro health education and prophylactic are at present the most important tasks in the opinion of WHO as well as other organizations related to the state of health of oral cavity (8, 9, 11). In Poland the state of health consciousness of the populations including 18-year-old youth continues to be limited. Many young people do not understand the necessity to care about their health, especially about the state of health of their oral cavity and teeth (1). The state of health of the oral cavity depends largely on the caries and of the periodontum. The main accompanying etiological diseases parameters related to carries are increased dental plaque tendency of tooth tissue to demineralization, germs, carbohydrates and time and frequency of action of pathogenic factors (4,5,6). The dental plaque is also the cause of occurrence of periodontal diseases of the teeth in amounts inversely proportional to the level of hygiene of the oral cavity. The bacterial dental – original plaque staying for 10–21 days leads to clinic symptoms of inflammation of periodontium and gingivae.

The purpose of the present study is the estimation of the health state of oral cavity of 18-year students of a middle-level vocational school of gastro-nomic profile, lacking dental care.

#### MATERIAL AND METHODS

The studies concerned 63 students (18-year-old) of both sexes of vocational school of gastro-nomic profile. The state of hard teeth tissues was estimated on the basis of PUW number, of the periodontal disease by the CPI index and of the hygiene of the oral cavity from the simplified OHI index of Green and Vermillion. The thickness of the dental plaque was determined on the basis of its colouring using Red-Coty tablets produced by Butler. From the examined group 14 students specializing in the production of cakes were isolated as a group of higher risk.

#### RESULTS

The results of clinical studies are presented in tables and diagrams. The average value of DMF (A) for all students was 11.6 and the average value of D (B) was 5.5; analogous values for the group of higher risk of morbidity were correspondingly: DMF = 12.8, P = 8.0 (Tab.1, Fig.1).

Table 1. Average values of DMF and D for all students (A) and students of increased risk (B).

Studied group	DMF	D
A	11.6	5.5
B	12.8	8.0

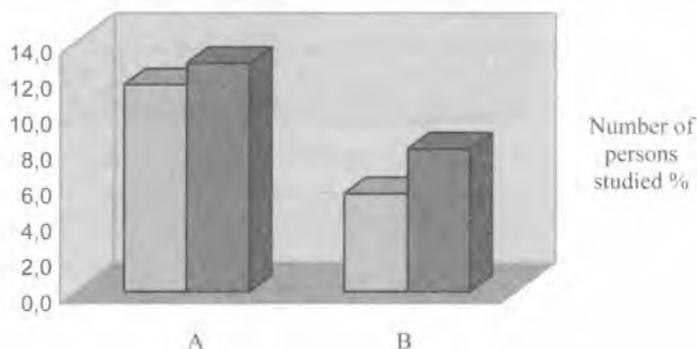


Fig. 1. Average values of DMF and D for all studied students (A) and for the group of increased risk (B)

Table 2 and Figure 2 represent the number and percentage of students with caries, depending on values of D. Only for five students active caries did not occur, which corresponds to 7.9 % of all students; for the highest number of 38 students, i.e., for 60.3 % of the examined students, caries were detected for more than four teeth.

Table 2. Number and percentage of students with caries depending on the D value

Number D	0	1 - 2	2 - 4	> 4
Number of persons examined	5	7	13	38
%	7.9	11.1	20.7	60.3

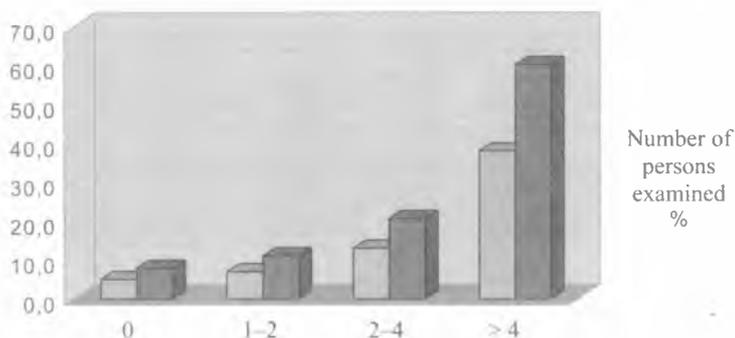


Fig. 2. Number of students with caries depending on the D value

Table 3 and Figure 3 represent the number and percentage of examined students depending on the DMF value. The data indicate that the frequency of caries in the studied group was 100 % and for most students the DMF value is in the range of 11–15 – over a half of the total number.

Table 3. Number and percentage of examined students as function of DMF value

DMF	0	1 - 4	5 - 10	11 - 15	> 15
Number of persons examined	0	1	20	32	10
%	0	1.5	31.7	50.8	15.9

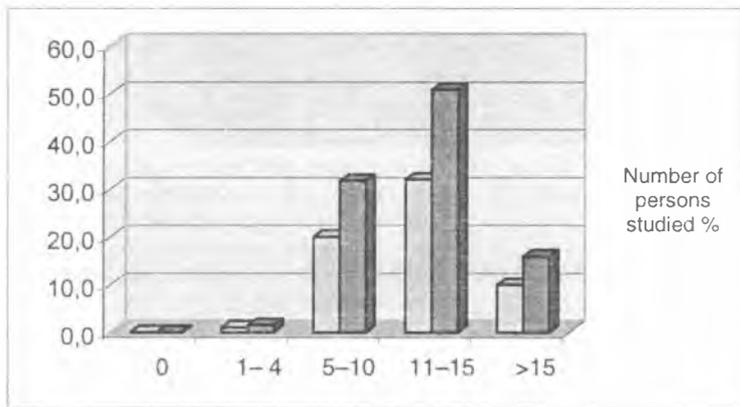


Fig. 3. Distribution of DMF values for the studied group of students

Table 4 and Figure 4 represent the number and percentage of examined students depending on the value of index of hygiene of the oral cavity (OHI). It can be seen from the data that for 85.7 % of the students the hygiene of the mouth cavity was good, for 3.8 % – very good, for 11.1 % – satisfactory; there were no cases of bad hygiene.

Table 4. Number and percentage of students as function of the Green and Vermillion index

OHI	0	0 - 1	1 - 2	2 - 3
Number of persons examined	2	54	7	0
%	3.8	85.7	11.1	0

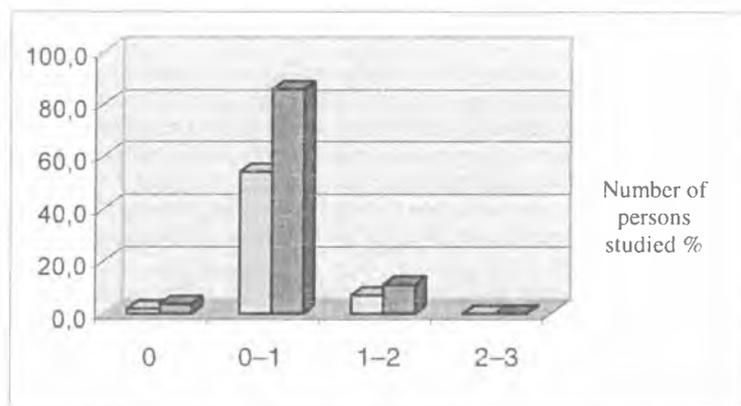


Fig. 4. Value of Green and Vermillion index for the studied group

Table 5 and Figure 5 represent the number and percentages of examined students as function of the index CPI. For a high number, 62.8, % of students the teeth scale was detected (CPI = 2) and for 38.0 % bleeding of the gingivae was found (CPI = 1). The results of the clinical examinations of the state of periodontal disease do not correlate with the good hygiene of the mouth cavity. This discrepancy could be explained by a supposition that the students had been forewarned about the impending dental examinations and cleaned well their teeth removing the coloured dental plaque.

Table 5. Number and percentage of students as function of the CPI

CPI	0	1	2	3
Number of persons examined	0	24	39	0
%	0	38	62	0

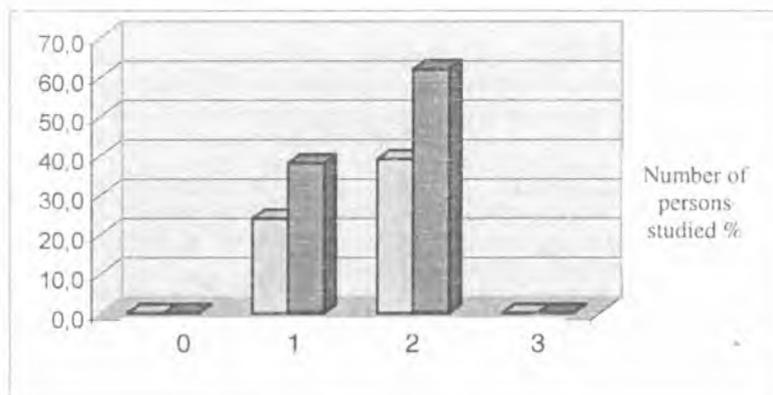


Fig. 5. Distribution of CPI for the studied group of students

## DISCUSSION

In the scientific literature among the numerous publications relating to stomatognathic system of children and youth relatively few studies relate to the age of 18 years. Undoubtedly, this is a group of persons completing the adolescent age which requires multilateral medical examinations, including dental studies. In the present study the clinical investigations related to students of a vocational school without systematic dental care. The youth in marked proportion came from villages, where the access to dental surgery is limited. Among the students, a group of persons specializing in the production of cakes was selected, which is especially in danger of the occurrence of caries.

The analysis of results shows 100 % occurrence of caries in the examined group. In epidemiological tests of 18-year youth in the Warsaw macro-region Boguszevska-Gutenbaum reported 95 % frequency (1). Analogous investigation of Łuczaj-Cepowicz in Białystok region showed 99.33 % frequency of caries (7).

The average DMF number, which reflects the intensity of caries in the studied group was 11.6 and in the groups of increased risk – 12.8. These values are lower than those reported by Szczęch for 18-year youth of Rzeszów region (12.28); and for the Warsaw region 11.99 (1,10). For comparison, in Norway the DMF for 18-year youth was 10.3 in 1985 and decreased to 7.2 in 1991 as result of intensive dental care (2). Assuming that the dental care is characterized by the present study the higher percentage corresponded to high value of D = 4, but is similar to the value (D = 4.85) for the Rzeszów region (10).

The results of studies on periodontal disease indicate a high percentage, 62.0 %, the presence of dental calculus which required scaling, and instruction of hygiene of the oral cavity. In the case of 18-year youth of the Rzeszów region, dental calculus were found for 61 % of the examined population (10). The results indicate the necessity of pro-health action, which should improve the state of stomatognathic system.

## CONCLUSIONS

1. The 100 % frequency of caries and the high value of DMF (11.6) and D (> 4) with the examined students indicates non-satisfactory state of health of the oral cavity.

2. The high value of DMF and D in the group of students and especially in the group of increased risk indicates the necessity of active dental care of the youth in vocational schools.

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### SUMMARY

63 18-year-old students of both sexes of vocational school of gastronomic profile were examined. The state of hard tissues of teeth was assessed on the basis of the DMF number, that of periodontium according to the CPI index and the hygiene of the oral cavity - using the simplified OHI index of Greene and Vermillion. The thickness of the dental plaque was estimated on the basis of its colour, using Red-Coty tablets produced by Butler. A group of 14 students specializing in production of cakes was isolated as an increased risk group. In the studied group of students a 100 percent frequency of dental carries was found. The average DMF value for all students was 11.6 and average D = 5.5; for the group of increased risk the DMF value was 12.8 and D = 8.0. For 80.7 percent of the examined students the hygiene of the oral cavity was good (OHI index - code 1); the state of the periodontium was as follows: 62 percent of students had dental scale (CPI index - code 2) and the occurrence of gingivae bleeding was found for 38 percent of the students (CPI index - code 1).

#### Stan zdrowia jamy ustnej uczniów w wieku 18 lat ze średniej szkoły zawodowej pozbawionej opieki stomatologicznej

Badaniem objęto 63 uczniów 18-letnich obojga płci ze średniej szkoły zawodowej o profilu gastronomicznym. Oceniano stan twardych tkanek zębów na podstawie liczby PUW, przyzębia według wskaźnika CPI oraz higieny jamy ustnej, wykorzystując uproszczony wskaźnik OHI Greene'a i Vermilliona. Zasięg płytki nazębnej oceniano na podstawie jej wybarwienia, stosując tabletki Red-Coty firmy Butler. Spośród badanej grupy wydzielono 14 uczniów zdobywających zawód ciastkarza jako grupę podwyższonego ryzyka. Stwierdzono w badanej grupie uczniów 100 % frekwencję próchnicy zębów. Średnia wartość PUW dla wszystkich uczniów wynosiła 11,6, a średnia wartość P = 5,5, te same średnie wartości dla uczniów podwyższonego ryzyka zapadalności na próchnicę zębów kształtowały się odpowiednio: PUW = 12,8, a P = 8,0. U 80,7 % badanych stwierdzono dobrą higienę jamy ustnej (wskaźnik OHI – kod 1), a ocena stanu przyzębia przedstawiała się następująco: 62 % uczniów miało kamień nazębny (wskaźnik CPI - kod 2), u 38 % występowało krwawienie z dziąseł (wskaźnik CPI – kod 1).