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*Demographic structure of patients taking dental X-rays  
in the Lublin region*

According to the literature intraoral radiograms are the most often taken X-ray pictures in humans (4). The dose of radiation necessary for such radiogram is very low and equals to 0.02 mSv. Due to application of digital radiography systems it can be further reduced up to 5% of the dose required to take a good quality conventional dental X-ray (5). However, there exists a considerable anxiousness in Polish society towards Roentgen radiation making patients avoid dental X-rays even when they are indispensable in dental treatment. The aim of the study was the evaluation of demographic structure of patients taking intraoral radiograms.

MATERIAL AND METHODS

The material consisted of 1,014 adults undergoing dental treatment, who had intraoral radiograms taken in the Department of Dental and Maxillofacial Radiology of the Medical University of Lublin in 2000. After the informed consent the patients filled an anonymous questionnaire of standardised interview. The questionnaire consisted of 14 questions – 6 general and 8 detailed ones. In all cases the patient was asked to choose only one answer. For the purpose of the present study only the first 6 general questions concerning demographic data were taken into account. The collected records were analyzed statistically and data such as age, sex, education, place of residence, employment and income were considered.

RESULTS

Most of the patients were persons in younger age groups – 393 persons (38.76%) at the age from 18 to 29 years and 287 patients (28.3%) at the age from 30 to 39 years. There were only 50 patients at the age over 60 years that is 4.93% (Fig. 1). There were 707 women (69.72%) and 307 men (30.27%) among the studied patients. Most of the patients were big city dwellers (Lublin or former capital of voivodship) – 640 persons that is 63.12%. 215 (21.2%) patients marked small town as their place of residence and only 159 (15.68%) inhabited rural communities (Fig. 2). As far as the structure of

education is concerned there were 360 patients with university education (35.5%), 520 with high school education (51.28%), 92 persons who graduated from professional schools (9.07%) and 42 with primary school education (4.14%) (Fig. 3). The structure of employment is presented in Figure 4. As far as the income is concerned, the enquired patients were asked to choose an income tax group that they belonged to. There were 580 persons from the lowest tax group (57.2%), 391(38.56%) from the middle one and only 43 (4.24%) from the highest tax level.

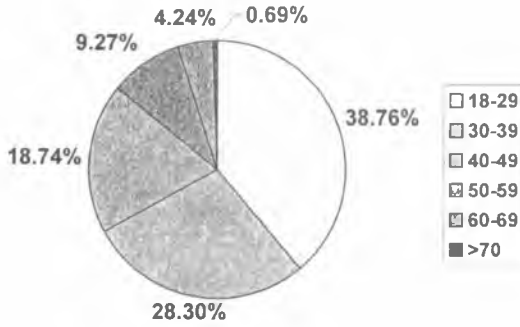


Fig. 1. Structure of patients according to age

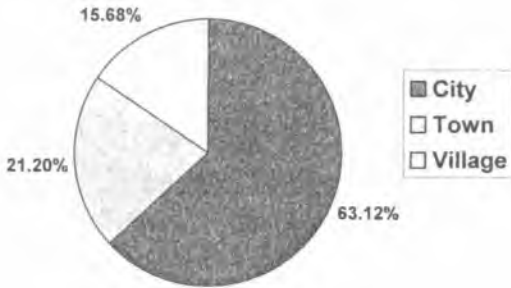


Fig. 2. Structure of patients according to place of residence

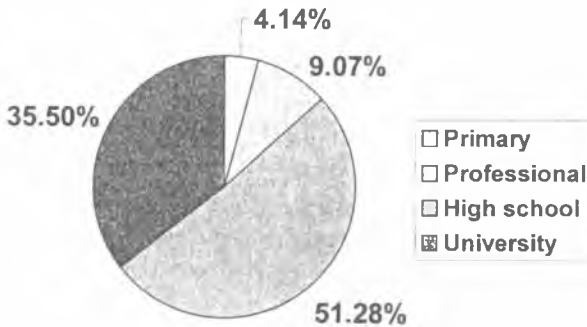


Fig. 3. Structure of patients according to education

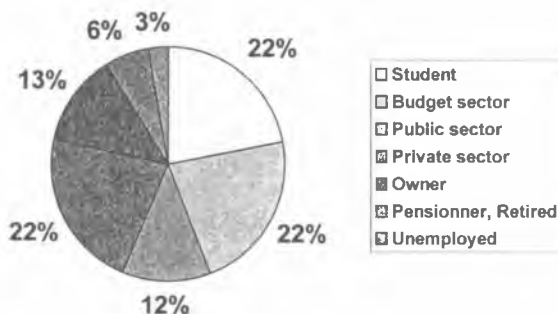


Fig. 4. Structure of patients according to employment

## DISCUSSION

Intraoral radiograms are often indispensable in the course of dental treatment, as they present not only structures of teeth but pathologies of alveolar bone and overlying soft-tissues as well. Nevertheless, due to fear connected with ionizing radiation, patients and even dentists tend to avoid intraoral dental X-rays. The fear is illogical, because the dose of harmful radiation is very low and can be more reduced by digital radiography systems (5). The social recognition of the need of taking intraoral radiograms as a method of early diagnostics of pathological changes in teeth and periodontal tissues is generally low in Polish society. Thus it was interesting to examine the structure of patients undergoing dental treatment in the Lublin region in 2000 and had dental X-rays taken in the course of treatment.

It should be underlined that almost three-fourths of the patients were women while in the Lublin region they constitute about 50% of population (3). Probably such high number of female patients is caused by their higher understanding of the need of maintaining healthy dentition. Over 67% of patients were at the age from 18 to 39 years, which can mean that also younger persons are more aware that dental radiograms are a valuable aid for dentists during treatment. Although the demographic data for the year 2000 have not yet been published by the Main Statistical Office in Warsaw, it is estimated that in Polish population almost 40% inhabitants graduated only from primary school, over 25% - from professional school, about 27% from high schools and only 8% have university education (1). These estimations differ significantly from the structure of education of the analyzed group of patients. In the material there were only 4.14% of persons with basic education – that is 10 times less than in general population. On the other hand, 35.5% of the studied patients claimed university education and this percentage is over 4 times higher than in Polish population. The fact that Lublin is a large center of university education can also be substantial.

Also the economic factor should be taken into account – according to the newest regulations, only 2 intraoral radiograms annually per patient are refunded by the Health Service. The patient has to pay himself for all other intra- and extraoral X-rays taken in a given year. Thus in the studied group only 2.86% were the unemployed and 6.02% – retired persons and pensioners. Due to low incomes, patients from these groups may tend to avoid dental X-rays as additional expenses that they cannot afford. On the contrary, the group of persons who declared the highest income tax group (4.24%) is relatively higher than in general population, about 1% (1).

In 1996 the percentage of city dwellers in the Lublin region equalled to 59.7% and according to increasing trends at present it is even higher (2). However, rural population accounted for the remaining 40.3% (2). It shall be underlined that in the studied population of patients there were only 15.68%

who marked villages as their place of residence. Over 84% were city dwellers, which differs from the demographic structure in the region.

### CONCLUSIONS

1. The demographic structure of population of patients who had intraoral radiograms taken in the course of dental treatment differs considerably from the structure of the general population.

2. These differences were marked especially when taking into account the level of education, employment and place of residence of the studied patients.

3. Inhabitants of rural communities, people with lower levels of education as well as older patients avoid taking dental radiograms irrationally fearing ionizing radiation.

4. The economic factor is also important and influences the structure of patients in the domain of employment and income.

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### SUMMARY

Intraoral radiograms are the most often taken X-ray pictures in humans and the dose of radiation necessary for such radiogram is very low. However, there exists a considerable anxiousness in Polish society towards Roentgen radiation making patients avoid dental X-rays even when these are indispensable in dental treatment. The aim of the study was the evaluation of demographic structure of patients taking intraoral radiograms. The material consisted of 1,014 adults undergoing dental treatment, who had intraoral radiograms taken in the Department of Dental and Maxillofacial Radiology in 2000. After the informed consent the patients filled an anonymous questionnaire of standardised interview. The collected records were analyzed statistically and data such as age, sex, education, place of residence, employment and income were considered. The demographic structure of population of patients who had intraoral radiograms taken in the course of dental treatment differs considerably

from the structure of the general population. These differences were marked especially when taking into account the level of education, employment and place of residence of the studied patients. Inhabitants of rural communities, people with lower level of education as well as older patients avoid taking dental radiograms irrationally fearing ionizing radiation. The economic factor is also important and influences the structure of patients in the domain of employment and income.

#### Struktura demograficzna pacjentów wykonujących zdjęcia zębowe wewnątrzustne w regionie lubelskim

Zdjęcia wewnątrzustne należą do najczęściej wykonywanych zdjęć rentgenowskich u człowieka, a dawka promieniowania konieczna do ich otrzymania jest bardzo niska. Jednakże w społeczeństwie polskim utrzymuje się lęk przed promieniowaniem rentgenowskim, co sprawia, że pacjenci unikają zdjęć wewnątrzustnych, nawet gdy są one nieodzowne w trakcie leczenia stomatologicznego. Celem pracy była ocena struktury demograficznej pacjentów wykonujących zdjęcia zębowe wewnątrzustne. Materiał stanowiło 1014 pacjentów, u których w roku 2000 wykonano zdjęcie wewnątrzustne w Samodzielnej Pracowni Rentgenodiagnostyki Stomatologicznej. Po wyrażeniu zgody pacjenci wypełniali anonimową ankietę. Zebrane dane opracowano statystycznie, biorąc pod uwagę wiek, płeć, wykształcenie, miejsce zamieszkania, zatrudnienie i dochody. Struktura demograficzna pacjentów, którzy zgłosili się na badanie rentgenowskie wewnątrzustne w trakcie leczenia stomatologicznego, różniła się znacząco od struktury ogółu populacji. Różnice te były znaczne zwłaszcza w zakresie wykształcenia, miejsca zatrudnienia i miejsca zamieszkania. Mieszkańcy wsi, osoby o niższym poziomie wykształcenia, jak również pacjenci z wyższych grup wiekowych unikają wykonywania zdjęć wewnątrzustnych z powodu nieuzasadnionych obaw przed promieniowaniem jonizującym. Czynniki ekonomiczne również ma znaczenie i wpływa na strukturę pacjentów w zakresie miejsca zatrudnienia i dochodów.

