Medicine

THE INCIDENCE OF ORAL AND MAXILLO-FACIAL PATHOLOGY IN A GROUP OF PATIENTS IN THE RADIOLOGY DEPARTMENT ASSOCIATED TO "PROF.DR.DAN THEODORESCU" HOSPITAL

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ABSTRACT

OBJECTIVE: *THE EVALUATION OF THE ORAL MAXILLO-FACIAL HEALTH IS AN IMPORTANT TOPIC IN ALL COUNTRIES, SINCE THE INFORMATION IS USEFUL TO THE HEALTH DISTRICTS, HEALTH INSURANCE HOUSES, ACADEMIC SCHOLARS AND CLINICIANS. OUR STUDY REPRESENTS A SURVEY REGARDING THE TYPES OF PATHOLOGY IN THE POPULATION STARTING FROM THE ANALYSIS OF THE CASES IN THE DEPARTMENT OF RADIOLOGY ASSOCIATED TO "PROF. DR. DAN THEODORESCU" HOSPTAL IN BUCHAREST.*

MATERIALS AND METHODS: *SEVERAL PHYSICIANS ANALYZED THE X-RAYS AND/OR THE COMPUTER TOMOGRAPH SCANS FOR A GROUP OF PATIENTS WHO CAME TO THE DEPARTMENT IN A PERIOD OF 6 MONTHS (JUNE-DECEMBRE 2015).*

RESULTS AND CONCLUSIONS: *THE RESULTS ALLOWED US TO DIVIDE THE PROBLEMS INTO 6 CATEGORIES, BASED ON: A) VERY HIGH PREVALENCE (OVER 150 OUT OF 200 CASES): CARIES AND EDENTATIONS; B) HIGH PREVALENCE (APPROX 90/200 CASES): PARODONTOPATHY AND PERIAPICAL COMPLICATIONS; C) AVERAGE PREVALENCE (APPROX 30/200 OUT OF CASES): BONE FRACTURES, CYSTS, SINUSITIS, DENTO-MAXILLARY ANOMALIES; D) LOW PREVALENCE (APPROX 10/200): DENTAL FRACTURES; E) VERY LOW PREVALENCE (APPROX. 5/200): TUMORS, DISCHARGE, TMJ AFFLICTIONS; F) LOWEST PREVALENCE (APPROX 2/200): EAGLE SYNDROME, OSTEONECROSIS, FOREIGN BODIES AND SIALOLITH.*

KEY WORDS: ORAL HEALTH OF THE POPULATION, DIAGNOSIS, ORAL MAXILLO-FACIAL PATHOLOGY MANIFESTED RADIOLOGICALLY.

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INTRODUCTION

The present study springs from the intention to obtain a clear picture of the oral and maxillo-facial health in the population. Since in Romania the health system in this field is largely independent, comprising private dental surgeries, there are real difficulties at the level of the health districts and The Ministry of Health to set up a comprehensive accurate data base concerning the topic. The state of oral and maxillo-facial health of the population can be evaluated through surveys on population samples, as we will show in this study.

A search for this type of data available on the internet emphasizes that there are reports from various countries (USA, Great Britain, New Zeeland, Turkey, Benin, etc); even though the raports are not general, nor really systematic, they can be used as attempts to quantify this pathology. For instance, it is known that in the USA over 47% of the target group, which consists of 64.7 million adults, have a type of periodontal disease. The estimates were made on
a group of 3,742 adults over 30 years of age, in the general population, who have one or several teeth (1). Another study presents the percentage of untreated cavities in the USA (2) (see Tab. 1,2):

Age	Percentage of patients with untreated cavities in decidual dentition
From 2 to 5 years	27.90
From 6 to 11 years	51.17

Table 1. Percentage of patients with untreated cavities in decidual dentition, according to age.

Age	Percentage of patients with untreated cavities in the permanent dentition
From 12 to 15 years	50.67
From 16 to 19 years	67.49
From 20 to 34 years	27.88
From 35 to 49 years	25.56
From 50 to 64 years	22.14

Table 2. Percentage of patients with untreated cavities in the permanent dentition, according to age.

In Great Britain, the data in the literature show that the prevalence of caries decreased from 46% in 1998 to 28% in 2009, a reduction present in all age groups (3).

In New Zeeland, the prevalence of uni- or pluridental edentations in the patients over 18 is 61,8%. Also in New Zeeland, the prevalence of untreated coronal caries on one or multiple teeth, in patients over 18 years of age is 35.3%, 29.7% in women and 41.5% in men (4).

According to a study undertaken in Turkey, the incidence of the elongated stiloid process was estimated at 3.3%; 55% of the cases identified on the orthopantomographies were bilateral. The ratio men-women was 1/9 on the X-rays, and the mean age was 43.35.

A study made in a university hospital in Benin, over a 5-year period, reports a prevalence of maxillary sinusitis of 19.3%.

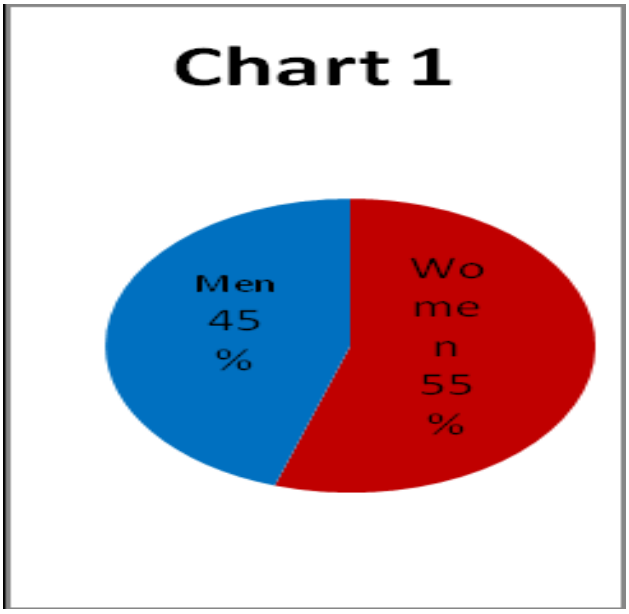
MATERIAL AND METHOD

The study analyzed a number of 200 patients who came to our department from June to Decembre 2015; the departaement of radiology associated to "Prof. Dr. Dan Theodorescu" Hospital houses also a department of the Faculty of Stomatology, which is part of the "Carol Davila" University of Medicine and Pharmacy in Bucharest. The patients came for various reasons, from trauma emergencies to post-operative check-ups. The patients were referred to the department of radiology both by the dentists working in the hospital, and in private practices. All the patients had at least one radiography taken (various angles) and/or CBCT. The radiographies were analyzed by several dentists who diagnosed and checked the lesions, and the findings were recorded in a table. The data were then statistically analyzed, the results were interpreted and the conclusions were drawn.

RESULTS AND DISCUTIONS

After the X-rays and the computer tomograph scans were analyzed, the information gathered was inserted in a table.

The statistical analysis of the data highlighted the following aspects: the patient distribution on gender was 55% women and 45% men, as it can be seen in **Chart 1**.



The patients are aged from 3 to 87 years, with a mean age of 42 years (see **Diagram 2**).

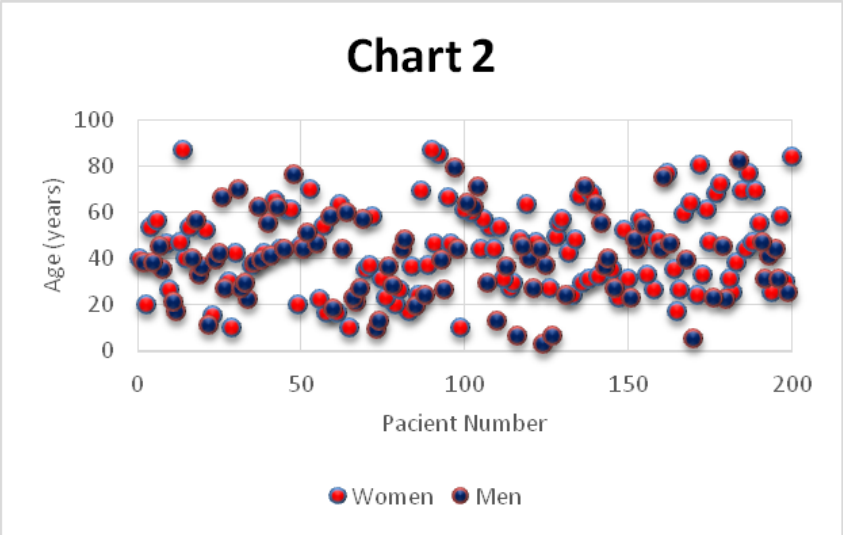
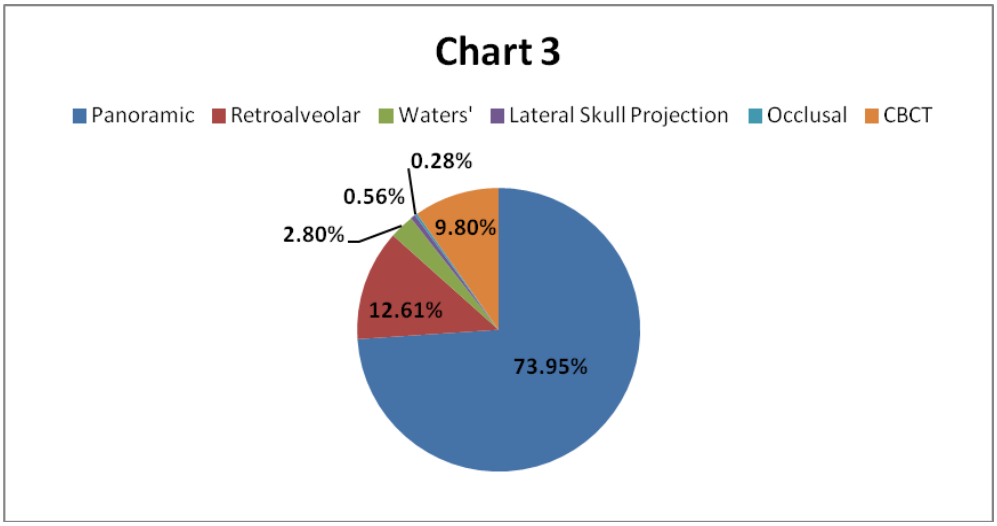


Chart 3 illustrates the distribution of the incidences used for this group of patients. According to this, most exposures are panoramic–type (OPG)(74%), followed by a roughly equal number of CBCT (≈10%) and retroalveolar Rx (≈12%). These findings support the general strategy of radiologic investigations.



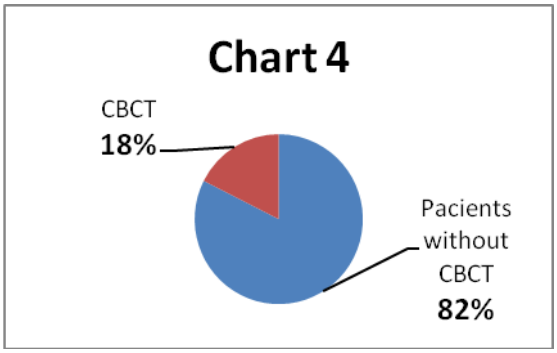
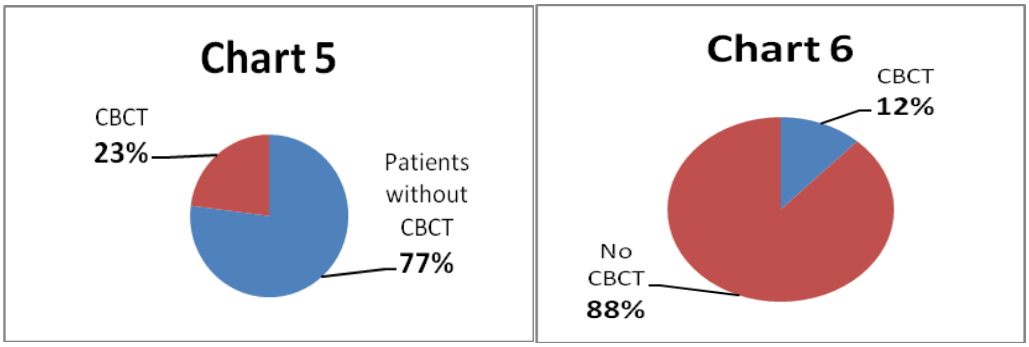


Chart 4 shows the percentile distribution of the recommandation for computed-tomography.



Charts 5 and 6 show the distribution of the computed-tomography scans for the two sexes; the first one shows the situation for women, and the second for men. The greater need for CT scans in women is to be noted.

Chart 7 shows the number of OPG for each patient. Most patients have only one OPG, 28% have more than one (almost a quarter), 9% none. For more than a quarter of the patients, a second X-ray of the OPG type could also be studied, the second one being generally performed post-operative.

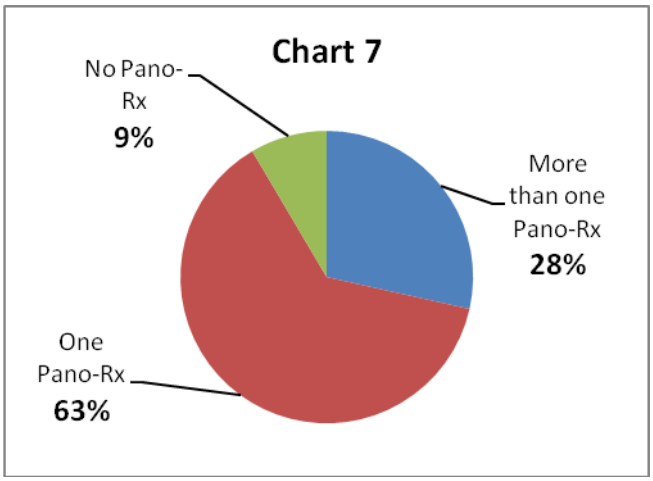


Chart 8 presents the distribution of the types of pathology. The graph allows us to divide the problems found into 6 categories, based on:

a) very high prevalence (over 150 out of 200 cases): caries and edentulous gaps;
b) high prevalence (approx 90/200 cases): periodontal diseases and periapical complications;
c) c)average prevalence (approx 30/200 out of cases): bone fractures, cysts, sinusitis, dentomaxillary anomalies;
d) low prevalence (approx 10/200): dental fractures;
e) very low prevalence (approx. 5/200): tumors, discharge, TMJ disorders;
f) lowest prevalence (approx 2/200): Eagle syndrome, osteonecrosis, foreign bodies and sialoliths.

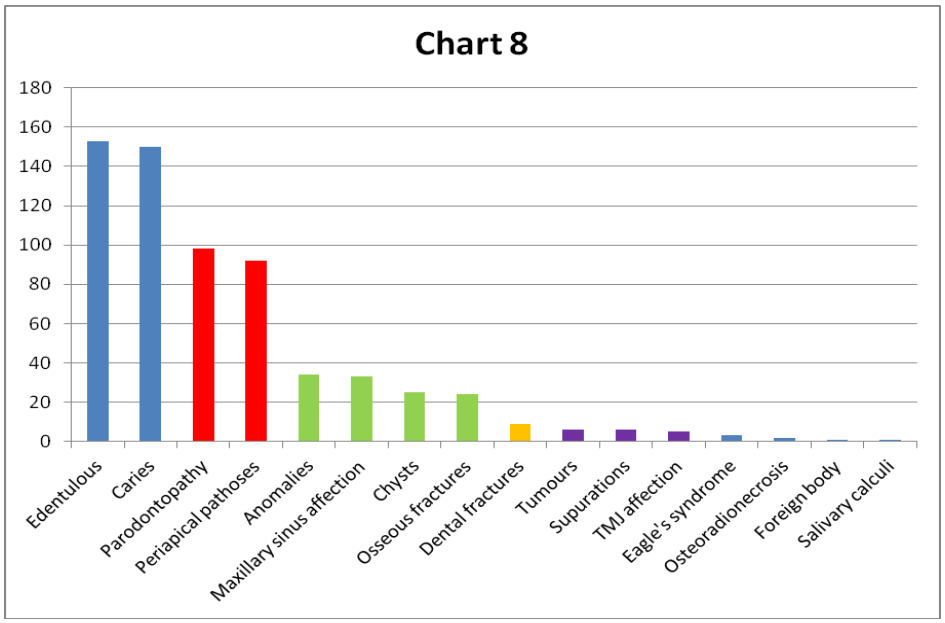


Chart 9, **Chart 10** respectively, graphically present the numeric distribution of the type of pathology in women and men, respectively. The pathology is slightly different, with more fractures in men and more edentulous gaps in women.

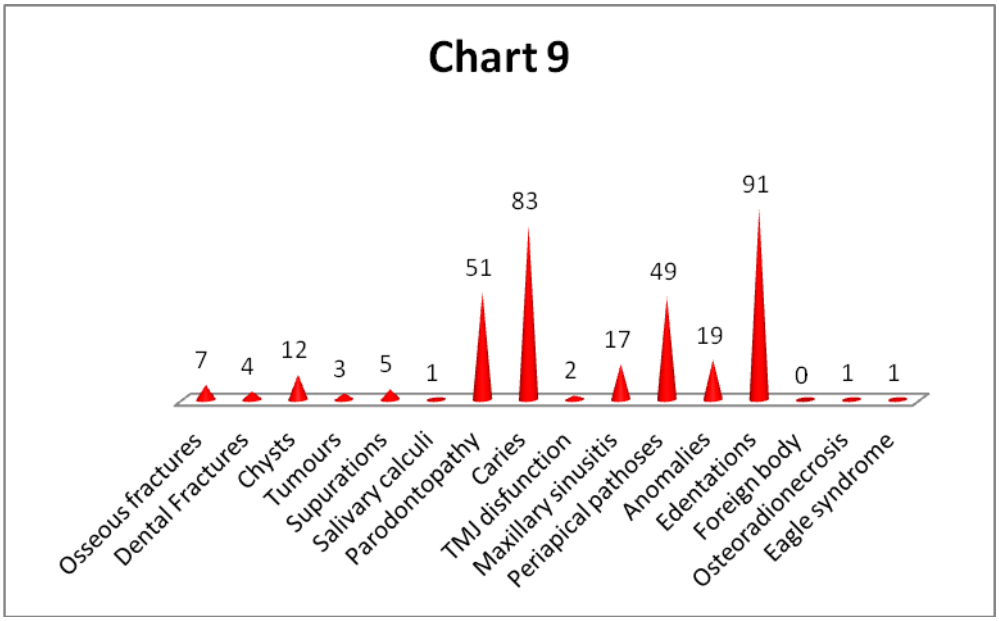


Chart 11 shows the percentage of caries. It can be noticed that a significant percentage of patients have caries, but also that 1 in 4 patients is unharmed by caries.

Chart 12, **Chart 13** respectively, presents the graphic statistical distribution of caries in women and in men, respectively. According to these diagrams, the percentage of patients unharmed by caries do not show significant difference between the genders.

Chart 14 shows the presence of periodontal disease. Almost half of the patients have a form of periodontal disease.

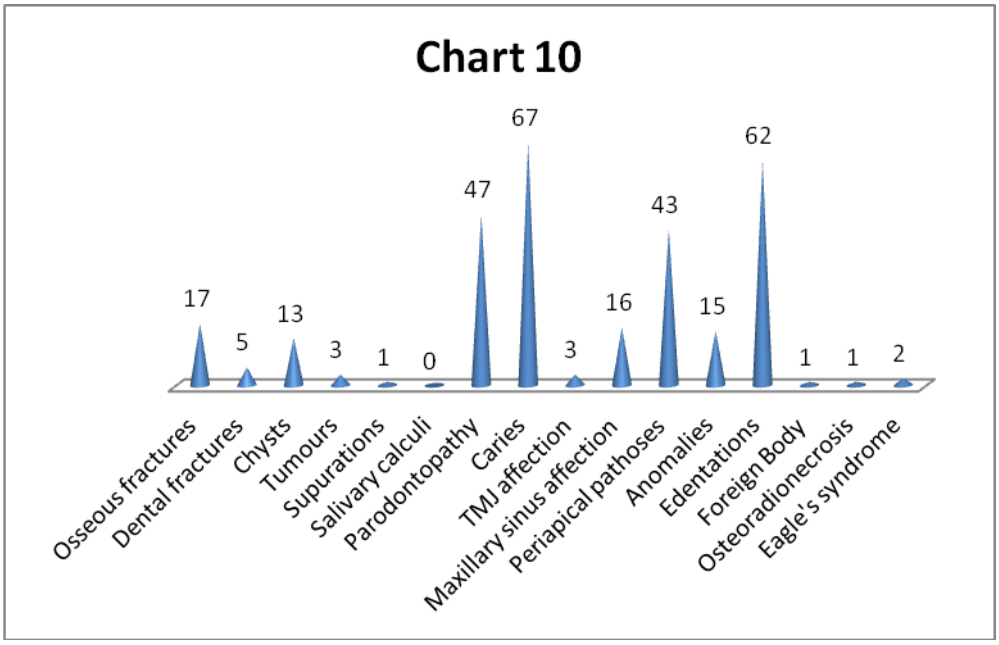


Chart 10
17
5
13
3
1
0
47
67
3
16
43
15
62
1
1
2
Osseous fractures
Dental fractures
Chysts
Tumours
Supurations
Salivary calculi
Parodontopathy
Caries
TMJ affection
Maxillary sinus affection
Periapical pathoses
Anomalies
Edentations
Foreign Body
Osteoradionecrosis
Eagle's syndrome

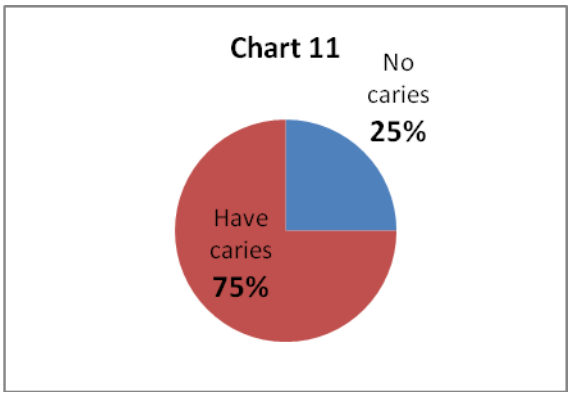


Chart 11
No caries
25%
Have caries
75%

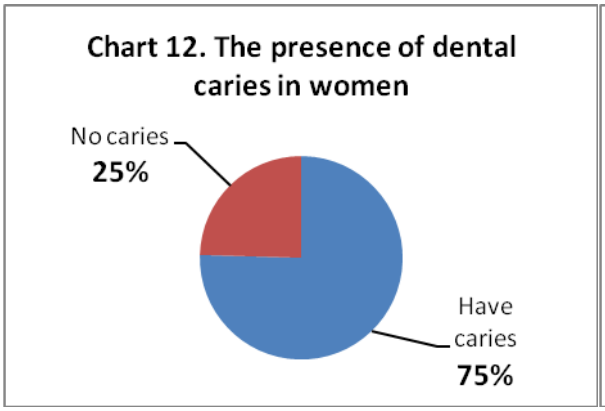


Chart 12. The presence of dental caries in women
No caries
25%
Have caries
75%

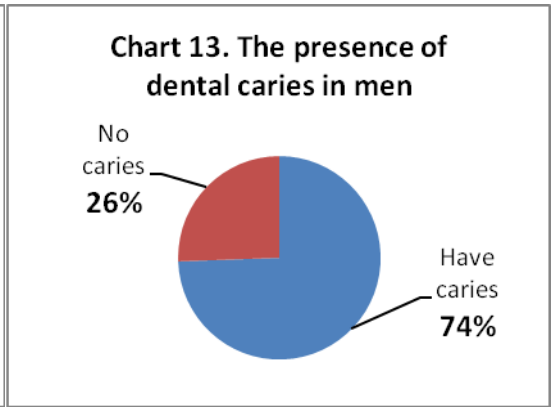
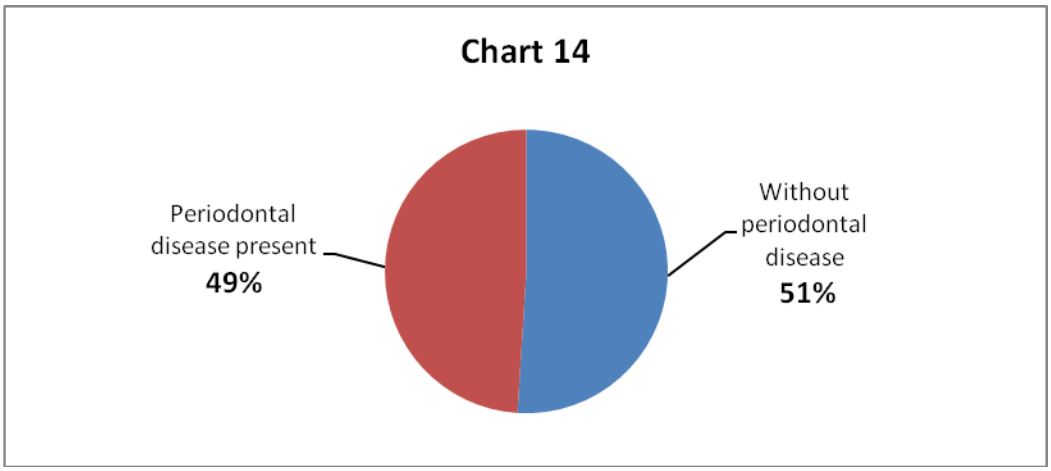
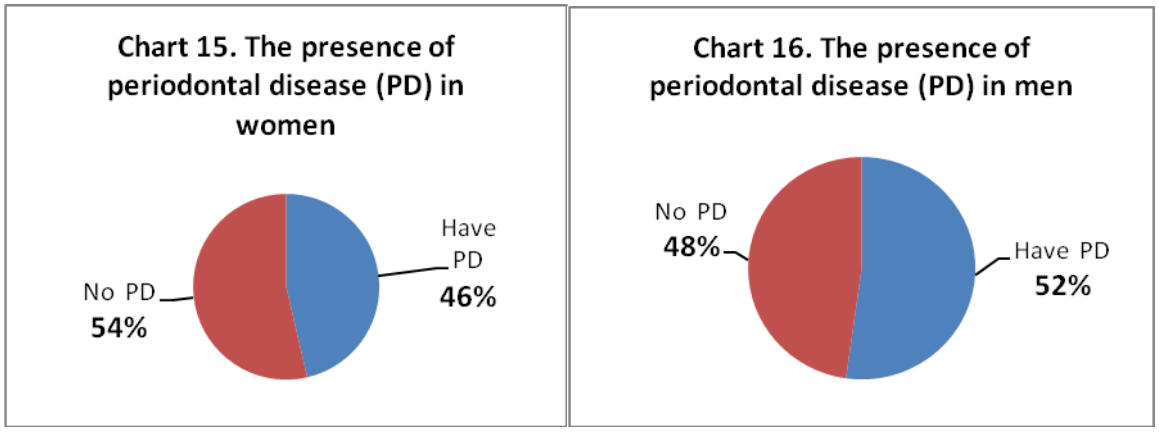


Chart 13. The presence of dental caries in men
No caries
26%
Have caries
74%



According to the two **Charts** (**15 and 16**), which show the presence of periodontal disease in the two genders, there is a slight difference (6 percent) in favor of men, compared to women.



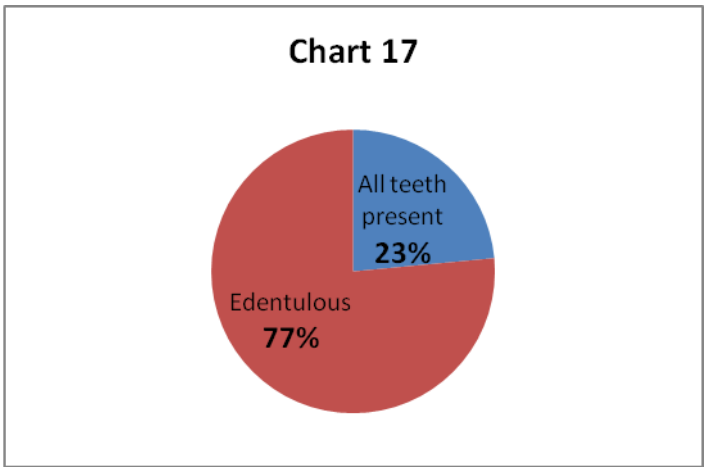
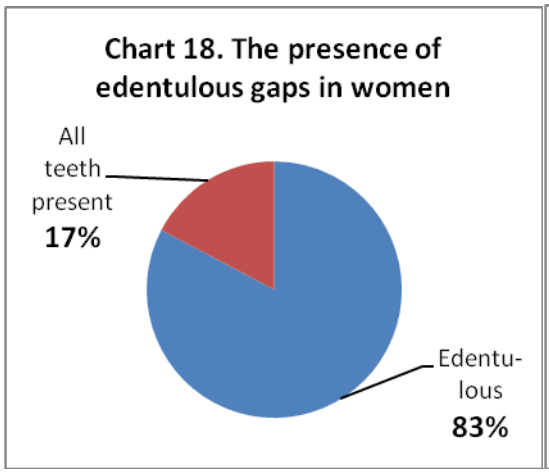
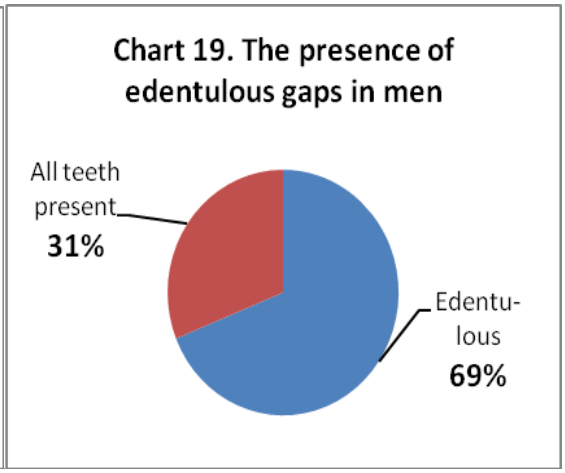


Chart 17. Percentage of edentulous patients(red colour). According to this chart, approximately three quarters of the patients have at least one edentulous gap.(Blue=no edentulous gap).

Chart 18 and **Chart 19** graphically show the statistical distribution of edentulous gaps in women and in men, respectively. A statistically significant difference can be observed between the number of edentulous (blue colour) women (83%) and edentulous men (69%).





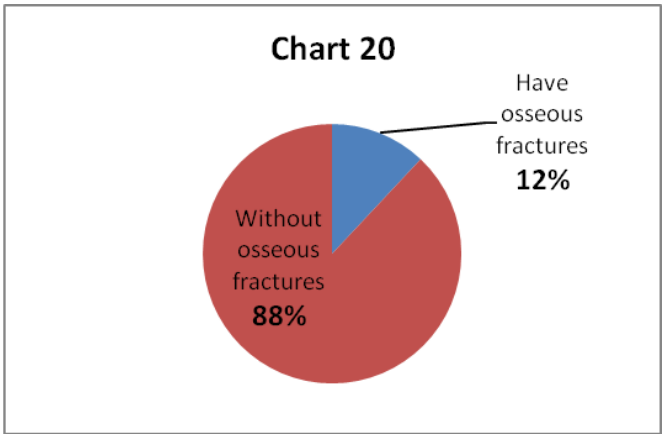
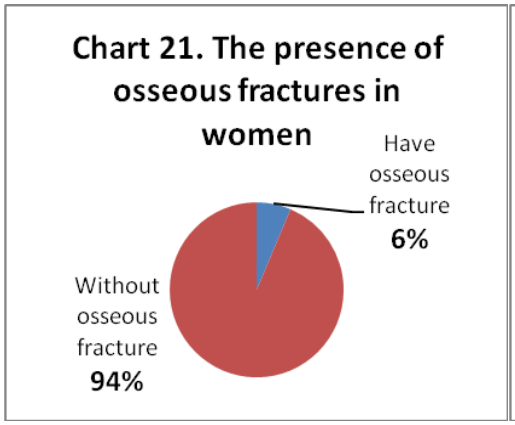
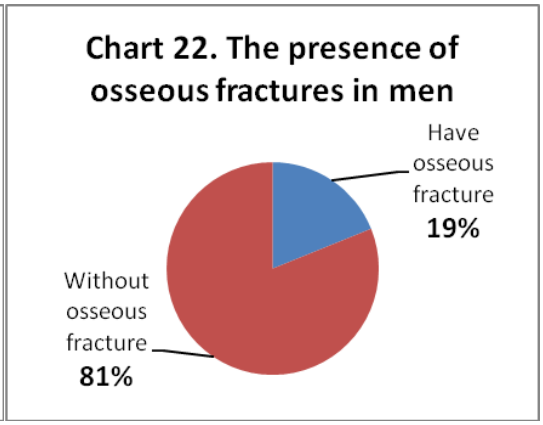


Chart 20 shows the presence of bone fractures in the group of patients in this study.

Chart 21, Chart 22, respectively, show graphically the numerical distribution of bone fractures in women and men. According to these diagrams, men present almost three times more bone fractures than women.





CONCLUSIONS

1. An approximately equal number of women and men came to the department of radiology, with a relatively balanced distribution: 110 women and 93 men. The

mean age is 42 years..

2. The most frequently required examinations were OPGs (74%), followed by an approximately equal number of CBCT and retroalveolar Rx (10%). These findings support the genral strategy of radiologic investigations.
3. Approximately 1/5 patients needed the computer tomograph scan.
4. In about half of the patients, a second X-ray, the OPG type, was performed, generally postoperative.
5. The problems identified can be divided into 6 categories, according to their frequency:
   - very high prevalence (over 150 out of 200 cases): caries and edentations;
   - high prevalence (approx 90/200 cases): parodontopathy and periapical complications;
   - average prevalence (approx 30/200 out of cases): bone fractures, cysts, sinusitis, dento-maxillary anomalies;
   - low prevalence (approx 10/200): dental fractures;
   - very low prevalence (approx. 5/200): tumors, discharge, TMJ afflictions;
   - lowest prevalence (approx 2/200): Eagle syndrome, osteonecrosis, foreign bodies and sialoliths.
6. The male patients with complete dentition (31%) are almost twice as many as women (17%).
7. One in four patients is unharmed by caries, irrespective of gender.
8. Jumatate din pacienti prezinta o forma de parodontopatie marginala, cu diferenta nesemnificativa pe sexe.
9. Approximately three quarters (77%) of the patients have at least one edentulous breech.
10. Approximately one in ten patients (12%) have at least one bone fracture.
11. Men have almost three times more bone fractures than women.

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