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(ISSN: 2814-2098) RATSIMANDRESY NAOMY NAMBOARINTSOA[1]*

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"EPIDEMIOLOGICAL AND CLINICAL PROFILE OF NON-RESTORED EDENTULOUSNESS IN THE TOWN OF FIANARANTSOA MADAGASCAR."

EPIDEMIOLOGICAL AND CLINICAL PROFILE OF NON-RESTORED EDENTULOUSNESS IN THE TOWN OF FIANARANTSOA MADAGASCAR

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Abstract

Background: Despite policies to prevent oral diseases, there are still many partially or completely edentulous patients.

The aim of this study was to describe the epidemiological and clinical profile of unrestored edentulousness in the city of Fianarantsoa.

Methods:This work was carried out in the Stomatology Department of CHU Tambobe and CSB II Anjoma on 207 people who came to these two departments for treatment, presenting with at least one missing permanent tooth.

The number of missing teeth, the causes of edentulousness, the obstacles to wearing a prosthesis and the complications of edentulousness were assessed.

Results: It was found that the average number of missing teeth was 5.37 ± 2.4 per person. Ninety-seven point one percent (97.1%) of the causes of edentulousness were caries-related, and 36.7% of edentulous patients cited financial problems as an obstacle to wearing dentures. Uncompensated edentulousness had repercussions not only in functional, anatomical and aesthetic terms, but also on the general health of the individual.

Conclusion: It is necessary to raise awareness of the importance of wearing dentures and to inform the general public about them.

Key words: edentulousness, prosthetic restoration, clinic

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Introduction

Edentulousness is a major public health problem worldwide, due to its high prevalence. According to World Health Organization (WHO) estimates for 2022, the global average prevalence of edentulousness is almost 7% in people aged 20 or over. For people aged 60 or over, the estimated global prevalence of edentulousness is much higher, at 23% [1]. In Senegal in 2015, a study on the prevalence of edentulousness recorded a rate of 40.9% [2].

Tooth loss is usually the result of a lifelong history of disease, mainly advanced caries and severe periodontal disease, but it can also be due to trauma and other causes, all of which can lead to tooth extraction. It can also be a consequence of poor oral health services in resource-poor settings where restorative and prosthetic care is generally unavailable or unaffordable [3].

In fact, prosthetic restoration is a solution for remedying the consequences of edentulousness. The treatment that uses prosthetic restoration will depend on the clinical characteristics of the edentulousness [4]. Lost teeth should normally be restored with the various types of dental prosthesis such as fixed prosthesis, removable prosthesis and implant-supported prosthesis; however, edentulous people do not necessarily have this attitude, whereas the repercussions of tooth loss affect not only the oro-facial sphere but also the well-being of the individual [5].

For the city of Fianarantsoa, a study in 2016 found that 59.8% of edentulous people had not had their teeth restored [5].

Knowing the characteristics of these edentulous people will make it possible to take action to remedy problems relating to edentulousness. Hence the interest of this study, the aim of which is to describe the epidemiological and clinical profile of unrestored edentulousness in the city of Fianarantsoa.

Methods

This study was carried out in two public dental practices in the city of Fianarantsoa: the Stomatology Department of the CHU Tambobe and the dental practice of the CSB II Anjoma.

This was a descriptive cross-sectional study conducted between March and May 2022. All people who came for treatment, had at least one permanent tooth missing for more than a month, had not been compensated and agreed to take part in the survey were included.

All those who met the inclusion criteria during the study period were retained, and a total of 207 patients were enrolled.

The following variables were studied: universal variables, independent variables such as the number of missing teeth, the class of edentulousness, the causes of edentulousness, the

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obstacles to wearing prosthesis, and the dependent variable linked to the complications of edentulousness.

A survey technique in the form of an interview was adopted to obtain epidemiological data and a clinical examination was carried out to record clinical information.

Results

Table 1: Distribution of patients by socio-demographic characteristics

Socio-demographic characteristics	N	%	
Gender			
Male	115	55,6	Sex-ratio = 1,25
Female	92	44,4	
Age			
15 to 30 years old	73	35,3	Moyenne d'âge = 47,2 ± 3,6 ans
31 à 50	91	44	
51 and over	43	20,8	
Occupation			
Unemployed	38	18,4	
Student	50	24,2	
Employed	56	27,1	
Liberal	48	23,2	
Retired	15	7,2	
Total	207	100,0	

Table 1 summarises the distribution of patients according to socio-demographic characteristics.

In terms of gender, the study population was predominantly male, with a sex ratio of 1.25.

As for age, the mean age was 47.2±3.6 years, and the largest age group was between 31 and 50 years.Occupation varied from unemployed to retired.

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Table 2: Distribution of patients by the number of missing teeth

Number of missing teeth	N	%	
1 to 5	126	60,9	Average number of missing teeth = 5.37 ± 1.84 per person
6 to 10	60	29	
11 to 20	16	7,7	
21 to 25	5	2,4	
Total	207	100,0	

According to Table 2, the average number of missing teeth per person was 5.37± 1.84 per person. And the majority (60.9%) of the population had between one to five missing teeth in their mouths.

Table 3: Distribution of patients by causes of edentulousness

Causes of edentulousness	N	%
Tooth decay	201	97,1
Periodontal disease	0	0
Trauma	6	2,9
Total	207	100,0

According to the causes of edentulousness (reported in Table 3), dental caries is the leading cause at 97.1%.

Table 4: Distribution of patients according to obstacles to wearing a prosthesis

Obstacles to wearing a prosthesis	N	%
Family history	1	0,5
Financial	76	36,7
Neglect	43	20,8
Lack of information	22	10,6
Lack of time	13	6,3
Discomfort when wearing a prosthesis	31	15
Aesthetic carelessness	21	10,1
Total	207	100,0

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According to table 4, various reasons were given for the obstacles to wearing prosthesis, but the majority (36.7%) of respondents noted financial problems.

Table 5: Distribution of patients according to type of mastication and number of missing teeth

Type of mastication	Number of missing teeth				
	1-5 teeth	6-10 teeth	11-20 teeth	20 teeth and more	p
	N(%)	N(%)	N(%)	N(%)	
Normal mastication	120(95.2)	36(60.0)	5(31.3)	1(20.0)	0.000***
Pathological mastication	6(4.8)	24(40.0)	11(68.7)	4(80.0)	
TOTAL	126(100.0)	60(100.0)	16(100.0)	5(100.0à	

There is a highly significant difference (p=0,000) between the type of mastication and the number of missing teeth (table 5). Moreover, it has been found that pathological mastication increases with the number of missing teeth; the higher the number of missing teeth, the greater the increase in pathological mastication.

Discussion

Causes ofedentulousness

In terms of the causes of edentulousness, dental caries is the leading cause at 97.1%. Several authors confirm that tooth loss is generally the result of a lifelong history of disease, mainly advanced caries [3, 6].

Number of missing teeth

Our study population had an average of 5.37 ± 1.84 lost teeth per person. This is much lower than the average number of missing teeth found by Ratsimandresy and al. in Fianarantsoa in 2016 which was 8.57 [5] and by Batista and al. in Brazil in 2015 which was 8.52 [7].

Obstacles to wearing prosthesis

With regard to obstacles to wearing dentures, it was found that the main obstacle to wearing dentures was financial problems, cited by 36.7% of respondents. A similar result was

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reported by the study carried out in 2016 in Fianarantsoa by Ratsimandresy's team, who found that the financial reason was the main obstacle preventing edentulous people from wearing prostheses - 36.4% [5].

Number of missing teeth and type of mastication

There is a highly significant difference between the type of chewing and the number of missing teeth. Pathological mastication increases with the number of missing teeth, and the higher the number of missing teeth, the more pathological the mastication. According to some authors, the loss of natural teeth alters the masticatory function. This impairment is correlated with the number of missing teeth [8, 9]. Postaire also adds that the number of missing teeth does influence masticatory efficiency, particularly below 10 pairs of teeth in occlusion [10].

Conclusion

In conclusion, this study described the epidemio-clinical profile of unrestored edentulousness in the city of Fianarantsoa.

It was found that 97.1% of edentulous teeth were caused by dental caries, followed by financial problems (36.7%), which were the main obstacle to edentulous people not wearing dentures. Finally, the repercussions of edentulousness extend to the patient's aesthetic and functional appearance. In functional terms, mastication is the first function to be affected.

Acknowledgments

None

Conflict of Interest

Authors declare no conflict of interest.

References

1. World Health Organisation (2022). Global oral health status report: towards universal health coverage for oral health by 2030:44

2. Gueye ME, Dieng L, Seck AK, Toure A, Thioune N (2015). Evaluation of the prevalence of edentulism in an urban population in Senegal. Rev Iv Odonto-Stomatol;17 (2):15-20

3. Peres MA, Macpherson LMD, Weyant RJ, Daly B, Venturelli R, Marthur MR and al (2019). Oral diseases: a global public health challenge. Lancet ;394(10194) :249-60. Doi:10.1016/SO140-6736(19)31146-8

4. Ratsimandresy NN, Delina N, Ralaiarimanana LFE (2023). Epidemio-Clinical Profile of Edentulousness of Patients Who Came for Prosthetic Restoration to the Dental Care and

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Treatment Centre in Mahajanga from 2015 to 2019. Online Journal of Dentistry & Oral Health.6:1-5

5. Ratsimandresy NN, Rakotondratsara MA, Ralaiarimanana LFE (2020). Knowledge, attitude and practice of the population of the city of Fianarantsoa towards the replacement of missing teeth. Revue d'odontostomatologie malgache en ligne ISSN 2220-069X2020;18:01-10

6. Al-Rafee MA (2020). The epidemiology of edentulism and the associated factors: A literature Review. Journal of family medicine and primary care;9(4):1841-3

7. Batista MJ, Lawrence HP (2015). Tooth loss classification: factors associated with a new classification in an adult population group. Cien Saude Colet ; 20(9) : 2825-35

8. Natapov L, Kushnir D, Goldsmith R, Dichtiar R, Zusman SP (2018). Dental status, visits, and functional ability and dietary intake of elderly in Israel. Israel journal of health policy research ;7(1):58.

9. Okamoto N, Amano N, Nakamura T, Yanagi M (2019). Relationship between tooth loss, low masticatory ability, and nutritional indices in the elderly: a cross-sectional study. BMC oral health ;19(1):110.

10. Postaire M, Boittin A (2016). Edentulism and mastication. Les cahiers de prothèse ;176:23-7