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FACTORS INFLUENCING THE CHOICE OF ORAL HEALTH CARE CENTER BY THE POPULATION OF MAHAJANGA I, MADAGASCAR

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Abstract

The aim of this research study was to determine the factors influencing the choice of the type of oral health care center attended by the population of the city of Mahajanga I in Madagascar. Methods based in a cross-sectional observational-analytical study, conducted in the city of Mahajanga I in 2019. Surveys were carried out among the class of population aged over 18 years, residing more than six months in the city of Mahajanga I, visiting an oral health center more than once. The questionnaires were based on a description of the factors motivating patients to choose an oral health center. Uni-variate and bivariate analyses were carried out. The bivariate analysis was conducted to identify the association between the variables studied and the type of oral health center attended. The Pearson Chi² test was used to test the significance of the results and a value of p< 0, 05 was considered significant. Results managing, socio-economic factors and factors for assessing the quality of services influence the choice of the type of oral health care center by the population of Mahajanga I. Gender, age, profession and the type of approach and motivation offered at Oral Health Care Centers were factors associated with the choice of type of oral health care center by the population of Mahajanga.

Key words: factors influencing, choice, dental service, cross-sectional analytical study.

1.Introduction

In the world, the Global Burden of Disease study showed that 50% of the world's population suffers from oral diseases **[1].**In Madagascar, in 2016, the prevalence of oral and periodontal

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diseases ranged from 80% to 98%. So, the attendance rate at public oral health care centers in Madagascar is only 10.5 **[2].**The aim of this research study was to determine the factors influencing the choice of the type of oral health care center attended by the population of the city of Mahajanga.

2.Methods

A cross-sectional observational-analytical study was conducted in the city of Mahajanga, Madagascar I, in 2019. Our target was to investigate the class of population aged over 18 years, residing more than six months in the city of Mahajanga I. Included in our study was the entire population of the city of Mahajanga, aged over 18, regardless of gender, residing for more than six months in the city of Mahajanga I, attending an oral health center more than once in Mahajanga. Excluded from our study was the entire population of the city of Mahajanga, aged over 18th, regardless of gender, residing for more than six months in the city of Mahajanga I, presenting either a deafness or mental handicap, or those who refused to take part in the survey. Using Andersen's formula, and based on the prevalence of use of oral care in Madagascar (10, 5), the sample size was 145. To ensure that our sample was heterogeneous with regard to the type of oral health center, we adopted a stratified random sampling method based on all twenty-four non-school oral health centers in the city of Mahajanga. Sample selection in each stratum was random. The interviewers were randomly selected.Respecting ethical considerations, previously tested questionnaires were used during the survey. The survey was conducted between January 1 and December 4, 2019. Using SPSS 20.0 software, Uni-variate and bivariate statistical analyses were carried out. The Uni-variate analysis was developed to describe the Socio-demographic profile of the study population. The bi-variate analysis was conducted to identify the association between the variables studied and the type of oral health center attended. The Pearson Chi² test was used to test the significance of the results. A value of $p< 0.05$ was considered significant. There is strong significance when the p-value <0.001, moderate significance when the p-value = 0.001, and barely significant when p<0.05 - 0.001.

3.Results

3.1 Uni-variate analyses

3.1.1 Sociodemographic profile

The study population was predominantly female (73.1%), with a sex ratio of 0.36. In terms of age, the 50+ age group constituted forty-five point five percent (45.5%) of the sample. Individuals with an occupation in the tertiary sector were predominantly represented (45.5%). Most of the individuals surveyed were married (73.1%). In terms of distance

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between home and the oral health care center attended, forty-three point four percent (43.4%) lived between 6km and 10km from the health care center (table I).

3.1.2 Socioeconomic profile

Surveyed individuals with a monthly income ≥ 200,000 equivalent to $43.83 or €40.77 made up fifty-six point six percent (56.6%) of the sample. And seventy-five point two percent (75.2%) of the individuals surveyed declared that they had no savings allocated to oral health care (table II).

Table I: Distribution of individuals by Sociodemographic profile

Socio-demographic profile	n N=145)	%	
Gender			
Male	39	26,9	Sex-ratio = 0,36
Female	106	73,1	
Total	**145**	**100,0**	
Age range			
18 to 29 age	35	24,8	
30 to 49 age	52	29,7	
50 to age	58	45,5	
Total	**145**	**100**	
Profession			
Primary sector	36	24,8	
Secondary sector	43	29,7	
Tertiary sector	66	45,5	
Total	**145**	**100**	
Marital status			
Married	106	73,1	
Unmarried	39	26,9	
Total	**145**	**100**	
Distance between home and dental services			
0 to 5km	55	38,0	
6 to 10km	63	43,4	
Over 10km	27	18,6	
Total	**145**	**100**	

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Table II: Distribution of individuals by socioeconomic profiles

Socio-economic profiles	n (N=145)	%
Monthly income		
<200 000 Ariary	63	43,4
≥ 200 000 Ariary	82	56,6
Total	**145**	**100,0**
Possession savings allocated for dental care		
yes	**36**	24,8
No	109	75,2
Total	**145**	**100**

3.1.3 Type of dental care center visited

The majority of individuals surveyed frequented the type of liberal oral health center (62.8%). Twenty point seven percent (20.7%) of the individuals used to attend denominational to attend faith-based oral health centers. Only a proportion sixteen point six percent (16.6%) of the individuals surveyed frequented public oral health centers (table III).

Table III: Distribution of individuals by type of oral care center chosen

Type of oral health center chosen	n (N=145)	%
Public	24	16,6
Denominational	30	20,7
Liberal	91	62,7
Total	**145**	**100**

3.2 Bivariate analysis

3.2.1 Type of oral health care attended and gender

Between the type of oral health center attended and gender, a significant difference was found. Male patients (79.5%) were more likely to attend a private liberal dental structure (**p=0.01<0.05) in relation to women patients attended less (17%) public oral health care centers (**p=0.01<0.05) (table IV).

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Table IV: Distribution of individuals by type of oral health care centerattended and gender

Type of oral health center chosen	Gender				Khi² Test
	Male		Female		
	n (N=39)	%	n (N=106)	%	
Public	6	15,4	18	17,0	*p = 0,01<0,05
Denominational	2	5,1	28	26,4	
Liberal dental	31	**79,5***	60	56,6	
	39	**100**	**106**	**100**	

3.2.2 Type of oral health care attended and age

The result showed a highly significant difference in relation to age group and type of dental type of dental facility attended. Subjects aged between 30 and 49 years (78.9%) usually attended public dental facilities (**p=0.006<0.05) (table V).

Table V: Distribution of individuals by type of oral health care center attended and age group

Type of dental center chosen	Age range						Khi² test
	18 to 29 age		30 to 49 age		50 age +		
	n (N=35)	%	n (N=52)	%	n (N=58)	%	
Public	9	25,7	1	1,9	14	24,1	**p = 0,006<0,05
Denominational	6	17,1	10	19,2	14	24,1	
Liberal	20	57,2	41	**78,9****	30	51,8	
	35	**100**	**52**	**100**	**58**	**100**	

3.2.3 Type of oral health care attended and profession

According to the type of oral health care center attended and profession, this study has found a significant difference. The majority of the population with an occupation in the tertiary sector (74.2%) opted for private oral health care centers (*p=0.02<0.05) (table VI).

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Table VI: Distribution of individuals by type of oral health care center and profession

Type of dental center chosen	Profession sector						Khi² test
	Primary sector		Secondary sector		Tertiary sector		
	n (N=36)	%	n (N=43)	%	n (N=66)	%	
Public	8	22,2	7	16,3	9	13,7	*p = 0,02<0,05
Denominational	13	36,1	9	20,9	8	12,1	
Liberal	15	41,7	27	62,8	49	**74,2***	
	36	**100**	**43**	**100**	**66**	**100**	

3.2.4 Type of oral health care attended and satisfaction with approach offered by the dentist

According to the type of oral health care center attended and satisfaction with the approach offered by the dentist during oral health care, a highly significant difference was found. The majority of patients surveyed (65.5%) attending the type of liberal oral health center mentioned their satisfaction with the therapeutic approach opted for by the practitioner (***p=0.000<0.05) (table VII).

Table VII: Distribution of individuals according to type of oral health care center chosen and satisfaction with practitioner's therapeutic approach

Type of dental center chosen	satisfaction with practitioner's therapeutic approach				Khi² test
	yes		No		
	n (N=139)	%	n (N=6)	%	
Public	23	16,5	1	16,7	***p = 0,000<0,05
Denominational	25	18,0	5	83,3	
Liberal	91	**65,5*** **	0	0,0	
	138	**100**	**6**	**100**	

4. Discussion

4.1 Discussion of the methodology

The urban commune of Mahajanga I was served by six types of school-based oral health care centers and twenty-eight non-school-based oral health care centers **[3].**The six types of

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school-based oral health care centers were excluded from our survey site due to the age of the individuals attending these facilities being under 18. In relation to the type of oral health care center, the sampling method adopted enabled us to obtain a heterogeneous sample. The sample size in each stratum respected the proportion of each stratum (table VIII).

4.2 Type of oral health center and gender: gender-related factors

Male individuals (79.5%) were more likely to visit private oral health centers (Table 4). This result differs from the study by Diouf M et al. in 2010. They reported a rate of 62.6% for women attending liberal oral health centers. As an interpretation, they pointed out that women greatly appreciate the high standard of service, where as there is no luxury in public health centers, so they frequent them less frequently **[4].**

4.3 Type of oral health center and age: age-related factors

Males (79.5%) were more likely to frequent private oral health centers. Compared to age, there was a significant difference between age and the choice of the type of oral health center attended (***p=0.006<0.05) (table 5). Age is a determining factor in the choice of oral health center. This result corroborates with Fernandez R and collaborator's study on 2020. They evocated a high school level showed high significance (p=.002) towards choosing private clinics for dental treatment. Most patients other the age of 60 have chosen private clinics for dental treatment [5].

4.4 Type of oral health center and profession: factors related to profession

Individuals with occupations in the tertiary sector were the most frequent (74.2%) private oral health care centers (table 6). Individuals with occupations in the tertiary sector were generally considered to be "higher-paid" professions, and able to afford the more expensive care offerings. This finding corroborates with Ndame Dieng S and collaborators'study on 2016. They reported that the majority of civil servants used private dental facilities (54%) **[6].**

4.5 Type of oral health center and satisfaction with the practitioner's approach: factors related to the quality of the practitioner's approach

The majority of patients surveyed (65.5%) who attended the type of liberal oral health center reported satisfaction with the therapeutic approach chosen by the practitioner (***p=0.006<0.05). According to Fernandez R and collaborators on 2019, a dentist's reputation and personality played a positive role in influencing a patient's decision in choosing them for treatment (34,8%) (p < 0.005) [**7].** According to the study of Alhabib S and coll, dental professionals play a crucial role in shaping their patients' experience. In the dental field of their study, patients were mainly satisfied with the dentist's attention (77.2%) **[8].**

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Conclusion

In this study, the hypothesis was verified. Socio-economic factors and factors for assessing the quality of services influence the choice of the type of oral health care center by the population of Mahajanga I. Despite the study's limitations, four significant results were found.Gender, age, profession and the type of approach and motivation offered at oral health care centers were factors associated with the choice of type of oral health care center by the population of Mahajanga. Private oral health care centers were attended mainly by men. Public oral health care centers are mainly frequented by the over-50s. The type of approach and therapeutic motivation offered by the dentist within the oral health care center is a factor strongly associated with conditioning the choice of which type of oral health care center to attend. As a perspective, would the design of oral health care rooms influence patients' motivation to seek treatment?

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Conflict of interest

No conflict of interest

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