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| ORIGINAL

Access and use of the oral health service in a reference center in oral cleft in the state of Bahia

Acesso e utilização de serviço de saúde bucal em centro de referência em fissura oral no estado da Bahia

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ABSTRACT

This study aimed to determine the access and utilization of dental services in a reference center for orofacial defects in the state of Bahia, Brazil. In an interview, a questionnaire was done about socio-demographic information, cleft type, specialized treatments, scheduling time and return of the consultation of 101 patients with nonsyndromic cleft lip with or without cleft palate and 101 healthy controls. In both groups the age was between 5 to 12 years old. It was observed that individuals with cleft had faster access to the dental service in relation to the control group and shorter scheduling time between the first consultation and their return. Different needs in the use of dental services were observed in the study groups with differences in relation to the specialties (p=0.000). The nonsyndromic cleft lip with or without cleft palate individuals showed socialization difficulties in the age group between 9 and 12 years and did not present difficulties in accessing primary dental care in specialized service. In conclusion, in this study NSCL±P individuals did not present difficulties in accessing the specialized dental center. To complement the comprehensive care, it is suggested the performance of educational activities of oral health, not yet fully implemented in this multidisciplinary treatment center.

Indexing terms: Children. Cleft palate. Cleft lip. Oral health.

RESUMO

Esta pesquisa teve como objetivo determinar o acesso e a utilização de serviços odontológicos em centro de referência para pacientes com defeitos orofaciais no estado da Bahia, Brasil. Em entrevista um questionário foi preenchido sobre informações sociodemográficas, tipo de fissura, tipos de tratamentos especializados, tempo para agendamento e de retorno da consulta de 101 pacientes com fissura labial com ou sem fissura palatina não sindrômica e 101 indivíduos controles sem a malformação. Em ambos os grupos a faixa etária foi de 5 a 12 anos. Observou-se que indivíduos fissurados tiveram acesso mais rápido ao serviço odontológico em relação ao grupo

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controle e menor tempo de agendamento entre a primeira consulta e o retorno. Distintas necessidades na utilização de serviços odontológicos foram observadas nos grupos de estudo com diferenças em relação às especialidades (p=0,000). Indivíduos com fissura labial com ou sem fissura palatina não sindrômica mostraram dificuldades de socialização no grupo de faixa etária entre 9 e 12 anos e não tiveram dificuldades no acesso ao serviço odontológico especializado. Através desse estudo concluiu-se que os indivíduos fissurados não apresentaram dificuldades no acesso ao serviço especializado. Sugere-se a implementação de atividades educacionais básicas de saúde oral nesse centro de tratamento multidisciplinar.

Termos de indexação: *Criança. Fissura palatina. Fenda labial. Saúde bucal.*

INTRODUCTION

Cleft lips with or without cleft palates (CL±P) are malformations that occur during the embryonic period and according to the World Health Organization (WHO) it is characterized as a public health problem. They are the result from the failure of anatomical fusion of the facial processes that happen between the 4th and 12th gestational week. Approximately 70% of cases of CL±P occur in a nonsyndromic form (NSCL±P) i.e., isolated from other malformations. They have multifactorial etiology associated with interaction of genetic and environmental determinants [1]. The syndromic form refers, chromosomal, teratogenic disorders and sporadic conditions that include congenital defects.

In the literature there are several classifications on CL±P, however the most used is Spina et al. [2] which has as an anatomical reference the incisive foramen. Thus, the cleft lips with or without cleft palates are divided into 4 types. The pre-incisive foramen cleft or cleft lip reaches the lip and may extend to the anterior region of the incisive foramen. It is found in the unilateral, bilateral, and median forms. The incisive post-foramen cleft also called cleft palate, affects the median part of the hard and/or soft palate. The trans-foramen incisive cleft or cleft lip and palate reaches the lip, alveolar process and palate and can be found in unilateral or bilateral forms. The rare clefts of the face involve the lip, nose or the entire face of the individual.

Orofacial deformities result in physical and psychosocial impacts on the lives of cleft patients and can impair the individual's own acceptance, with negative sequelae and great impact to the integration of oneself in society [3,4].

For complete rehabilitation, it is important that patients with CL±P, obtain follow-up from birth, performed by a multidisciplinary team, with an interdisciplinary approach. The treatment involves a team of physicians, dentists, speech therapists, psychologists, social workers among others with the objective of providing good quality of life to these individuals and integration into society.

Health care and access face levels of complexity due to the lack and need to obtain orofacial rehabilitation. Interventions to address these problems in individuals with cleft that are carried out in reference centers, public or private hospitals depending on the public health policy of each country.

In Brazil there are several reference centers in the treatment of orofacial clefts. In the state of Bahia, the Craniofacial Anomalies Rehabilitation Center of the Santo Antônio Hospital located in Salvador was created in 1997 with the aim of facing and reducing this problem in the whole state [5]. Access to primary oral health care for individuals with clefts in this service has not yet been evaluated. Thus, this case control study aims to analyze data and information through a questionnaire on the access and use of oral health services of patients with CL±P in this only reference center in the state of Bahia.

METHODS

This research was approved by the Santo Antonio Hospital Ethics Committee (48777315.0.0000.0047) and was performed in accordance with the ethical standards established in the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards. We interviewed 202 individuals and/or guardians treated at the Santo Antônio Hospital, located in Salvador, Bahia in an environment with total privacy. The NSCL±P group consisted of 101 patients from the Craniofacial Anomalies Service. After clinical examination of these individuals, the types and subtypes

of clefts were classified [2]. The control group consisted of 101 individuals without clefts and/or craniofacial anomalies from the Pediatrics Service of the same hospital. In both groups the age was between 5 to 12 years old.

The questionnaire was applied to individuals from both groups and aggregated individual and family socio-demographic information, variables such as scheduling time and return of the consultation. The main means of transport and dental treatment were researched. Issues related to socialization, oral hygiene, feeding and activity limitation were also proposed.

For the statistical analysis and obtaining the results, measures of central tendency and dispersion were calculated. Pearson's Chi-square Test was used for bivariate analysis to evaluate the relationship between qualitative variables. The results were presented through tables. It was considered the value of p<0,05.

RESULTS

Of the total sample, 102 individuals (50.5%) were male and 100 (49.5%) were female. Most participants lived in urban areas (86.6%) while only 13.4% of the NSCL±P group lived in rural areas. The differences were statistically significant (p=0.000).

As for skin color, it was observed that the highest frequency was found in brown individuals (42.3%), followed by blacks (41.3%) with significant differences between these different variables. Regarding the economic condition of the cleft lip patients, it was noticed that 57.4% had no social benefits and 67.3% of them had income between two and three minimum wages (table 1).

Table 1. Sociodemographic and economic data of NSCL±P group and control group.

Variables	Control (n=101)		NSCL±P (n=101)		All	
	n	%	n	%	n	%
Gender						
Male	51	50	51	50	102	50.5
Female	50	50	50	50	100	49.5
p					1.00	
Residence						
Urban area	101	57.7	74	42.3	175	86.6
Rural area	-	-	27	100	27	13.4
p					0.000	
Skin color						
White	15	45.5	18	54.5	33	16.4
Brown	26	30.6	59	59.4	85	42.3
Black	60	72.3	23	27.7	83	41.3
Unanswered data			1			
p					0.000	
Social benefit						
Yes	52	61.2	33	38.8	85	42.5
No	49	42.6	66	57.4	115	57
Unanswered data			2			
p					0.009	
Family income (minimum wages)						
Below two	84	60.4	55	39.6	139	69.2
Between two/three	17	32,7	35	67.3	52	25.9
Between four/five	-	-	5	100	5	2.5
More than five	-	-	5	100	5	2.5
Unanswered data			1			
p					0.000	

Note: P<0.05; Pearson's Chi-square Test.

In addition to the socio-demographic aspects, other conditions were also analyzed.

Regarding the time of scheduling of the first consultation, in days, it was observed that on average, patients of the NSCL±P group were able to schedule in a shorter time (58±91.5 days) in relation to the individuals in the control group (75±61.2 days), as well as between the first consultation and return (58.9±94.4 days), compared with the control group (64±61.2 days).

Table 2 shows the distribution of dental treatment on individuals with cleft and controls. Of those who underwent dental treatment, 52.3% were from the control group and 47.7% belonged of the NSCL±P group. When observing the type of treatment, it was highlighted in controls orthodontics services (66.7%) and pediatric dentistry (78.6%), while in the NSCL±P patients, the procedures of tooth extraction and dentistry had the highest frequencies (p<0,05). In the other

Table 2. Distribution of dental treatment of NSCL±P group and control group.

Variables	Control (n=101)		NSCL±P (n=101)		All	
	n	%	n	%	n	%
Dental treatment						
Yes	101	52.3	92	47.7	193	97.47
No	-	-	5	100	5	2.5
Unanswered data			4			
p					0.02	
Types of Treatment						
Tooth extraction	-	-	5	100	5	2.5
Dentistry	1	2.6	37	97.4	38	19.5
Orthodontics	4	66.7	2	33.3	6	3.0
Periodontics	15	60	10	40	25	12.8
Pediatrics	81	78.6	22	21.4	15	7.7
Prosthesis	-	-	15	100	103	52.8
Others	-	-	3	100	3	1.5
Unanswered data			7			
p					0.000	
Dental treatment outside the reference center						
Yes	8	25	24	75	32	16.4
No	93	57.4	69	42.6	162	83
Unanswered data			8			
p					0.001	
Supervised brushing						
Yes	99	66.4	50	33.6	149	75.2
No	2	4.1	47	95.9	49	24.7
Unanswered data			4			
p					0.000	
Oral health educational activities						
Yes	99	66.9	49	33.1	148	75.1
No	2	4.1	47	95.9	49	24.8
Unanswered data			5			
p					0.000	

Note: P<0.05; Pearson's Chi-square Test.

variables such as supervised brushing and oral health educational activity, it was observed in the NSCL±P group slower frequency when compared to the control group. Most of the patients in this group also had dental treatment outside the reference center. All these variables showed statistical differences (p<0,05).

The intermunicipal bus was the most used in the NSCL±P group (table 3). When evaluating the brushing, hygiene, feeding and socialization of cleft individuals, it was found that the cleft type did not interfere in these variables (table 4). Regarding age the data indicated socialization difficulties in individuals with clefts older than 9 years compared to the younger group (p=0,03, table 5). Regarding the other variables, there was no difference between the groups (p<0,05).

Table 3. Distribution of transport used by individuals from NSCL±P group and control group to access the dental service.

Variables	Control (n=101)		NSCL±P (n=101)		All	
	n	%	n	%	n	%
Transport						
Own car	7	38.9	11	61.1	18	8.9
Ride	3	100	-	-	3	1.5
Bus	89	73.6	32	26.4	121	60.2
Intercity bus	-	-	56	100	56	27.8
Taxi	2	66.7	1	30.3	3	1.5
Unanswered data			1			
p					0.000	

Note: P<0.05; Pearson's Chi-square Test.

Table 4. Distribution of variables related to hygiene, feeding, socialization and limitation of activities in individuals with cleft palate (CP), cleft lip (CL), cleft lip and palate (CLP) and cleft of the face (Rare).

Variables	CP (n=27)		CL (n=20)		CLP (n=52)		Rare (n=1)		All (n=100)	
	n	%	n	%	n	%	n	%	n	%
Did not brush the teeth due to the cleft										
Yes	2	15.4	4	30.8	7	53.8	0	0.0	13	13.5
No	25	30.5	14	17.1	42	51.2	1	1.2	82	86.3
Unanswered data			1		3					
p									0,53	
Difficulty in cleaning the mouth										
Yes	2	20	3	30	5	50	0	0.0	10	10.3
No	25	29.1	17	19.8	44	51.2	1	1.1	87	89.7
Unanswered data					3					
p									0.70	
Difficulty in feeding										
Yes	14	33.3	4	9.5	24	57.1	1	2.3	43	43.9
No	13	23.6	16	29.1	26	47.3	0	0.0	55	56.1
Unanswered data					2					
p									0.059	

Table 4. Distribution of variables related to hygiene, feeding, socialization and limitation of activities in individuals with cleft palate (CP), cleft lip (CL), cleft lip and palate (CLP) and cleft of the face (Rare).

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Variables	CP (n=27)		CL (n=20)		CLP (n=52)		Rare (n=1)		All (n=100)	
	n	%	n	%	n	%	n	%	n	%
Difficulty in socializing										
Yes	5	17.2	5	17.2	19	65.5	1	3.3	30	3.0
No	20	30.3	15	22.7	31	47	0	0.0	66	67.3
Unanswered data	2				2					
p									0.23	
Avoid smiling due to the cleft										
Yes	5	21.7	5	21.7	13	56.5	1	4.2	24	24.5
No	22	29.7	15	20.3	37	50	0	0.0	74	75.5
Unanswered data					2					
p									0.75	
Own oral health assessment										
Bad	1	25	1	25	2	50	0	0.0	4	4.0
Moderate	11	29.7	7	18.9	19	51.4	1	2.6	38	38.3
Good/excellent	15	26.3	12	21.1	30	52.6	0	0.0	57	58.1
Unanswered data					1					
p									0.99	

Note: P<0.05; Pearson's Chi-square Test.

Table 5. Distribution of variables related to hygiene, feeding, socialization and limitation of activities in individuals with cleft regarding age.

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Variables	Between 5 and 8 years old (n=54)		Between 9 and 12 years old (n=46)		All (n=100)	
	n	%	n	%	n	%
Did not brush the teeth due to the cleft						
Yes	6	46.2	7	53.8	13	13.5
No	45	54.2	38	45.8	83	86.5
Unanswered data	3		1			
p					0.58	
Difficulty in cleaning the mouth						
Yes	5	50	5	50	10	10.2
No	48	54.5	40	45.5	88	89.8
Unanswered data	1		1			
p					0.78	
Difficulty in feeding						
Yes	24	54.5	20	45.5	44	44.4
No	29	52.7	26	47.3	55	55.5
Unanswered data	1					
p					0.85	

Table 5. Distribution of variables related to hygiene, feeding, socialization and limitation of activities in individuals with cleft regarding age.

Variables	Between 5 and 8 years old (n=54)		Between 9 and 12 years old (n=46)		All (n=100)	
	n	%	n	%	n	%
Difficulty in socializing						
Yes	12	38.7	19	61.3	31	31.9
No	41	62.1	25	37.9	66	68.1
Unanswered data	1		2			
p					0.03	
Avoid smiling due to the cleft						
Yes	10	40	15	60	25	25.3
No	43	58.1	31	41.9	74	74.7
Unanswered data		1				
p					0.11	
Own oral health assessment						
Bad	3	75	1	25	4	4.0
Moderate	20	52.6	18	47.4	38	38.0
Good/excellent	31	53.4	27	46.6	58	58.0
p					0.68	

Note: P<0.05; Pearson's Chi-square Test.

DISCUSSION

Orofacial defects evidence a major oral health problem, with a negative impact on facial aesthetics, the functionality of structures involving soft and hard tissues and also on socialization, especially in individuals with CL±P. Thus, it is important to study indicators related to the access and use of multidisciplinary primary care services of CL±P individuals in the only reference center for orofacial defects in the state of Bahia.

Over the decades, researches have shown epidemiological diversity and the exact prevalence of CL±P varies according to ethnicity, gender and socioeconomic conditions. In general, they are more frequent in males and with a higher prevalence of cleft lip and palate, the most severe type of them [6,7]. These findings were also observed in the sample studied. Despite the predominance of residents in urban areas in both groups, where social programs are assumed to be more accessible in comparison to the rural area, NSCL±P individuals obtained fewer government benefits. It is believed that these results are a consequence of better socioeconomic conditions of the CL±P individuals, since most received two to three minimum wages, in contrast to the controls that received up to one minimum wage. A study conducted in Paraná, another Brazilian state [8], showed family income of the CL±P individuals in this wage range. In other studies, families of patients with craniofacial anomalies received between one and two minimum wages [9,10]. In low-income countries, it was observed that the CL±P patients had an even lower socioeconomic level, up to a minimum wage [8,11] . In a multivariate logistic regression analysis, other risk factors were associated with low economic status such as region of birth, home delivery or delivery in a publicly funded hospital, father's or mother's family history background and prenatal diet [7].

Regarding to skin color, it was expected that in both groups, the individuals mostly declared themselves brown or black. In Bahia, where the research was conducted, there is a predominance of individuals of African ancestry, resulting from the miscegenation of peoples of three ethnicities [12].

The use of dental services was very present in the study groups and differed only in relation to specialties (p=0.000). In the cleft service, the most used specialties were tooth extraction and dentistry. In the control group, orthodontics and pediatric dentistry stood out. The statistical difference shows distinct treatment needs of both groups. In the study by Bathia & Collard [13], the most sought-after service was emergency, especially for orthodontic appliance repair. In another study, a greater use of surgical procedures were observed [14]. Based on cost-benefit analysis the major contributors to the financial benefit are procedures, particularly those with plastic surgery [15]. In the present analysis, surgery was not inserted as a study variable, because all NSCL±P patients presented surgical indication for correction of the orofacial defect.

To complement the profile that was used in dental services of the present study, others variables were studied. Participation in supervised brushing and oral health educational activities were twice as frequent in the control group. Only 33% of the NSCL±P patients participated in these activities, which are usually performed at the school and/or in the treatment center. Although the cleft service has multidisciplinary treatment, offering various medical and dental specialties, basic educational activities in oral health almost was not fully carried out. Ise et al. [14] also identified lack of availability of oral care related to individuals with clefts. In a study conducted in South Wales, it was observed that the vast majority had preventive counseling related to oral health [13].

Our results show that most of NSCL±P individuals resided in urban centers, many of them located outside the state capital. In a study conducted in Sergipe, another Brazilian state, the results were different. There was a higher prevalence of individuals from the countryside, outside the large metropolises [11]. These differences in residential zones were also seen in a case-control study conducted in Mexico [7].

It was also observed that the intermunicipal bus was the most used in the NSCL±P group, although they are not always available daily, but on previously established dates. These difficulties did not prevent the faster access of NSCL±P patients to the specialized dental service in relation to the controls. In a study conducted in São Paulo [14], the largest Brazilian capital, it was observed that the lack of transportation and the cost of travel for treatment resulted in a barrier to the access CL±P service. These results were also observed in studies conducted in Vietnam [17] and in the United States in patients with craniofacial anomalies [17]. The average distance and longer travel time to reach hospitals were obstacles to care for.

It was also verified that in the NSCL±P group there was shorter time of care between the first consultation and the return, compared to the control group. Thus, we can infer that access to the cleft service was more efficient in relation to pediatric service, where the sample of control individuals was obtained. However, in both services, the scheduling time did not exceed two months. In the study by Lynn et al. [18] individuals with craniofacial anomalies had consultations every 36 days, with an average of 10.9 appointments scheduled per year. Pourtaheri et al. [15] verified almost similar results with an interval of 33 days at each visit and 10 meetings per patient per year. On the other hand, Bathia & Collard [13] reported irregular consultations of CL±P patients and checkup at 6 months intervals. The reason was a difficulty to access a public dental service.

Variables related to hygiene, feeding, socialization and limitation activities of NSCL±P individuals were also analyzed. It was observed that the presence of the cleft, regardless of type, did not prevent the activities mentioned above in most patients.

However, even in the absence of statistical significance, it was noticed that NSCL±P individuals with the most severe type of cleft, the cleft lip and palate, presented greater difficulty in feeding, socializing and limiting smiling, in relation to other types of cleft. Oliveira et al. [10] observed that the type of cleft has no effect on health-related quality of life. However, in the study by Trezza et al. [9] voice, speech and facial aesthetics were associated with some level of sequelae and the most severe occurred in incisive trans-foramen cleft. From this, it is considered that among the types of clefts, the trans-foramen cleft has a greater impact on the quality of life of its patients, since it reaches the lip and palate, and consequently impairs several physiological functions and the appearance of the individual.

When the association was studied in different age groups with hygiene, food, socialization and activity limitation of the NSCL±P individuals, statistical relevance was obtained only regarding socialization. It was observed that social

relationships were impaired in the older group, i.e., between 9 and 12 years. Rando et al. [3] and Rivaldo et al. [19] obtained similar results and concluded that increasing age intensifies negative perceptions of the quality of life of CL±P individuals. Silva et al. [20] and Pisek et al. [21] showed greater impact on socialization and smiling. Oliveira et al. [10] and Ward et al. [4] reported that in NSCL±P individuals, age had no effect in the quality of life.

CONCLUSIONS

We conclude that in our study NSCL±P individuals did not present difficulties in accessing the treatment center where specialists in rehabilitation and multidisciplinary treatment coexist. To complement the comprehensive care to the NSCL±P individuals, it is suggested the performance of educational activities of oral health, not yet fully implemented in this single reference center in the treatment of orofacial cleft in the state of Bahia.

Collaborators

JA Barbosa, BMM Araújo, L Kawano and ARAP Medrado performed the field research, data collection, data analysis and interpretation, writing the article. SRA REIS was responsible for the design, analysis and interpretation of the data, critical review and approval of the final version of the manuscript.

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