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Colloquium Vitae

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TRATAMENTOS INTERDISCIPLINARES ASSOCIADOS À ODONTOLOGIA EM PACIENTES PORTADORES DE FISSURAS LABIOPALATINAS: REVISÃO INTEGRATIVA

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RESUMO

Fissuras labiais e palatinas (FLP) são anomalias congênitas orofaciais, que acometem o terço médio da face, provocada durante a fusão dos ossos da maxila. O tratamento é longo e necessita de diversos profissionais atuando de forma integrada. Este estudo teve como objetivo verificar a implantação e evolução de equipes interdisciplinares no tratamento de pacientes com FLP por meio de uma revisão integrativa da literatura. Foram utilizados os descritores: fenda palatina (AND) fenda labial (AND) equipe interdisciplinar de saúde (AND) pacientes, nas línguas portuguesa e inglesa, nas bases de dados: Medline/PubMed; Bireme e SciELO, de 2001 a 2021. Equipes interdisciplinares são necessárias e efetivas para o tratamento dos pacientes fissurados. Observou-se, ao longo dos últimos 20 anos diferentes constituições e formas de atuação. As equipes agregaram novos profissionais, melhorando a recuperação e adaptação dos pacientes na sociedade.

Palavras-chave: fenda palatina, fenda labial, equipe interdisciplinar de saúde, ortodontia, integralidade em saúde

INTERDISCIPLINARY TREATMENTS ASSOCIATED WITH DENTISTRY IN PATIENTS WITH CLEFT LIP AND PALATE: INTEGRATIVE REVIEW

ABSTRACT

Cleft lip and palate are congenital orofacial anomalies that affect the middle third of the face, caused during fusion of the maxillary bones. The treatment is long and requires a wide veriety of professionals working in an integrated manner. This study aims was to conduct an integrative literature review to identify the interdisciplinary treatments associated with Dentistry currently proposed and most used. The descriptors were used: cleft palate (AND) cleft lip (AND) interdisciplinary health team (AND) patients, in Portuguese and English, in the databases: Medline/PubMed; Bireme and SciELO, from 2001 to 2021. Interdisciplinary teams are necessary and effective for the treatment of cleft patients. Over the last 20 years, different constitutions and ways of working have been observed. The teams have added new professionals, improving recovery and promoting the adaptation of patients in society.

Keywords: cleft palate, cleft lip, interdisciplinary health team, orthodontics, comprehensiveness in health

INTRODUCTION

Cleft lip and palate (CLP) represent a group of malformations whose etiology is not completely understood, but which present similar phenotypes[1]. They are part of craniofacial anomalies, characterized as congenital defects, and their incidence is one in 700 people[2].

CLP are developed in the embryonic stage, through defects in the fusion of the craniofacial processes that form the primary and secondary palate, between the 5th and 12th weeks of development. Its etiology and pathogenesis include genetic and environmental

factors[3]. CLP can be classified as Cleft Palate (CP), affecting the palate alone, Cleft Lip (CL) alone and CL associated with CP, unilateral or bilateral[4]. Around 30% of clefts are associated with syndromes, but most are not syndromic and have a multifactorial etiology[5].

Patient that have CLP diagnosis commonly show complications that lead to feeding problems, due to defective anatomical structures that make sucking and swallowing difficult, in addition to dental problems, speech and hearing deficiencies, poor maxillofacial growth and aesthetic changes[6].

Early diagnosis is important, as it directly influences the treatment, which must be multidisciplinary, and psychologically prepares the professional and family members for this situation[7].

The treatment of patient with cleft lip and palate is complex and requires close collaboration between various specialists, involving long-term treatment planning, from birth to adulthood[8]. The teams include professionals in different areas of Medicine, Speech Therapy, Psychology, Dentistry, Social Assistance, Nursing, , Physiotherapy and Nutrition as recommended by the World Health Organization (WHO). Early and appropriate treatment of patients with CLP is essential to increase the quality of life of these individuals[9].

The work of psychologists, associated with the social service team, is one of the first treatment phases that must be offered to patients and their families. Patients with CLP may face difficulties in their acceptance in society, and in their own family environment, due to their appearance[10].

Nurses and nutritionists assist in hygiene and nutrition procedures, for proper maintenance of their nutritional status, essential for the surgical phases that may be necessary for the treatment[11].

Ordinance SAS/MS n.62 of the Ministry of Health of Brazil, April 1994[12], establishes the various specialties that hospitals registered to perform integrated procedures for the aesthetic-functional rehabilitation of patients with CLP must have: oral-maxillofacial surgery, plastic, dentistry (pediatric dentistry, orthodontics, prosthesis placement, implant placement), otolaryngology, speech therapy, psychology, social work, internal medicine, nursing, pediatrics, anesthesia, physiotherapy, nutrition and family care.

Although organizations such as the American Cleft Palate-Craniofacial[13], WHO[9] and the Ministry of Health[12] recommend their training and indicate professionals who should constitute the teams, it is possible to identify a wide variety of characteristics. The implementation of public health and education policies[14], availability of qualified professionals, and economic factors[15] make these differences present. Although these differences occur, there is agreement on the need and importance in the recovery of patients.

This study aimed to verify the implementation and development, over the past 20 years, of interdisciplinary teams associated with dentistry in the treatment of patients with CLP.

METHODS

An integrative literature review was conducted in order to follow the implementation and evolution of interdisciplinary teams in the rehabilitation of patients with cleft lip and palate. The Whittemore and Knafl[16] framework was used to guide the execution of this study.

Initially, the review proposal was identified, followed by the selection of variables and the search for articles of interest. The data were evaluated and analyzed, ending with the conclusions.

Identification of problem: What are the interdisciplinary teams that work in the treatment of patients with cleft lip and palate?

Search strategy: Articles were selected from health descriptors (DECS.BVS/MESH): cleft palate (AND) cleft lip (AND) interdisciplinary health team (AND) patients, in Portuguese and English. The databases consulted were those of national/international recognition: Medline/PubMed (US National Library of Medicine at the National Institutes of Health); Bireme and SciELO (Scientific Electronic Library Online), based on the period from 2001 to 2021, to encompass research and studies that present broad and varied views on the treatment of CLP, and the work teams involved in patient recovery.

Inclusion and exclusion criteria were used: full articles indexed in peer-reviewed journals; relevance to the topic, emphasis on integrated treatments for CLP published between 2001 and 2021. Quantitative and qualitative studies and evidence-based practices

were included. Studies not addressing interdisciplinary teams and repeated articles were excluded.

The selection of articles and data collection was performed by two reviewers, involved in the development of the research. The inclusion and exclusion of all resources were based on mutual consent between the authors.

Results

The application of the search terms in the three publication bases, between 2001 and 2021 resulted in 295 articles, with 280 remaining after the removal of duplicates. In the remaining articles, the title and abstracts were reviewed, taking into account the inclusion and exclusion criteria, and from this analysis, 217 were removed, leaving 63 articles. Of these, 19 were removed from the selection because was unavailable or because they were published in another language, leaving 43 articles. After obtaining the full text, these articles were evaluated, and 29 of them were not included in the study proposal. This stage was completed, with 14 articles for inclusion in the study. Figure 1 identifies the flowchart phases and quantities of selected articles.

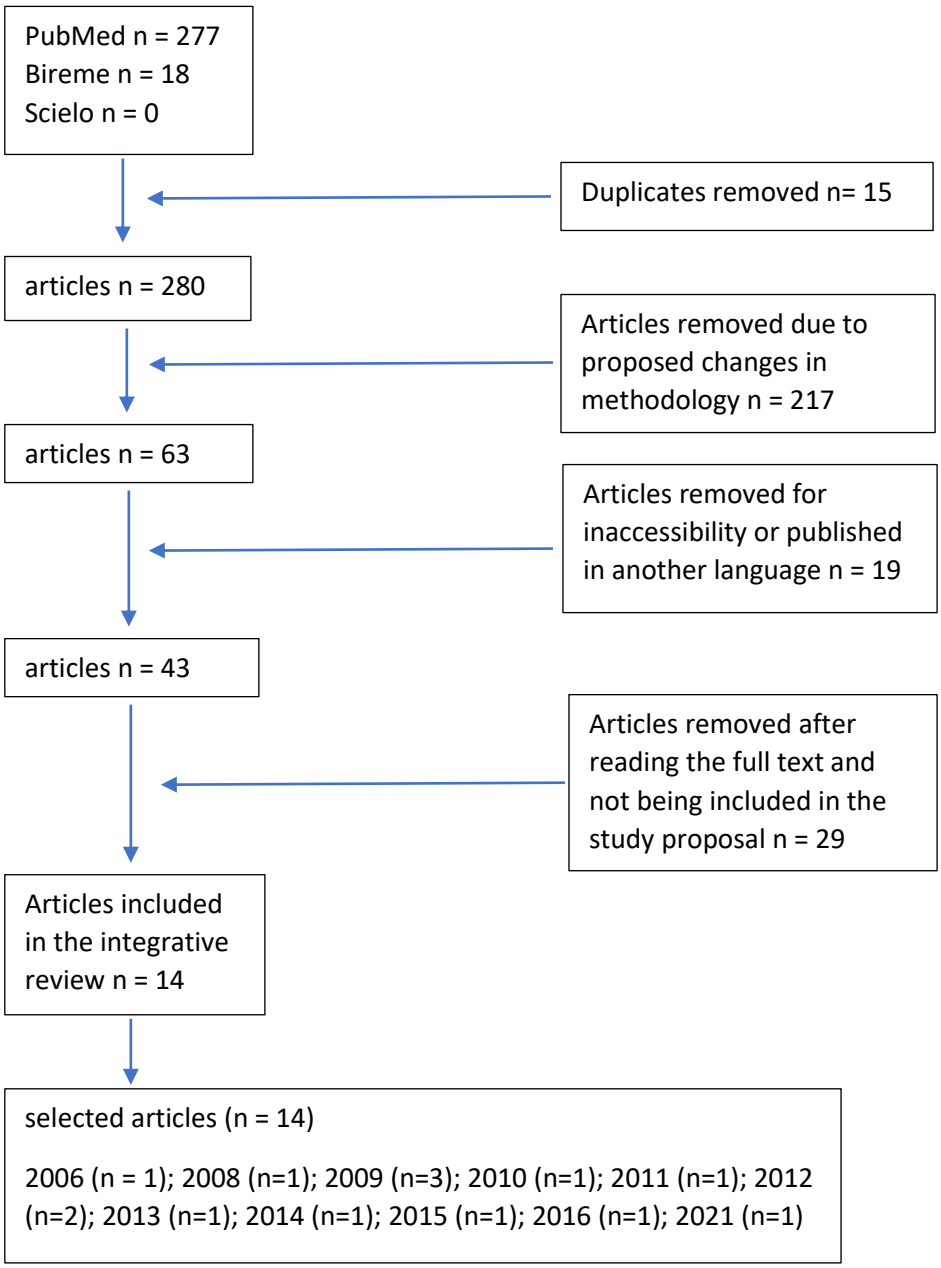

Figure 1. Flowchart of article selection

The 14 full texts were categorized as literature reviews (21.4%), descriptive studies (50%) and retrospective studies (28.6%). Each of the 14 articles were read fully by both reviewers.

The extracted data were organized in a table (Table 1), where they were listed according to the year of publication, containing data such as authors, title, published journal, and year of publication.

Table 1. Data from the selected articles

Autors	Title	Periodical	Type of study	Year of Publication
Bill J, Proff P, Bayerlein T, Weingaertner J, Fanghänel J, Reuther J[17]	Treatment of patients with cleft lip, alveolus and palate – a short outline of history and current interdisciplinar treatment approaches	Journal of Cranio-Maxillofacial Surgery	Literature review	2006
Vallino LD, Zuker R, Napoli JA[18]	A study of speech, language, hearing, and dentition in children with cleft lip only	Cleft Palate-Craniofacial Journal	Retrospective study (n = 95)	2008
Akinmoladun VI, Obimakinde OS[15]	Team approach in management of oro-facial clefts: a survey of Nigerian practitioners	Head & Face Medicine	Descriptive study (n=63)	2009
Ruiter JS, Korsten-Meijer AGW, Goorhuis-Brouwer SM[19]	Communicative abilities in toddlers in early school age children with cleft palate	Internatonal Journal of Pediatric Otorhinolaryngology	Retrospective study (n = 117)	2009
Vargervik K, Oberoi S, Hoffman W[20]	Team care for the patient with cleft: UCSF protocols and outcomes	The Journal of Craniofacial Surgery	Descriptive study	2009
Austin AA, Druschel CM, Tyler MC, Romitti PA, West II, Damiano PC, Robbins JM, Burnett W[13]	Interdisciplinary craniofacial teams compared with individual providers: is orofacial cleft care more comprehensive and do parents perceive better outcomes?	Cleft Palate Craniofacial Journal	Descriptive study (n=253)	2010
Hood MM, Cradock MM, Vander Wal JS[21]	A survey of psychological assessment on interdisciplinar craniofacial teams	Cleft Palate-Craniofacial Journal	Descriptive study (n=95)	2011
Pongpagatip S, Pradubwong S, Jenwitheesuk K, Chowchuen B[22]	Knowledge and satifaction of caregivers of patients with cleft lip-palate at	Plastic Surgical Nursing	Descriptive study (n=106)	2012

	the Tawanchai cleft center			
Cash C[23]	Orthodontic Treatment in the management of cleft lip and palate	Front Oral Biology	Descriptive study	2012
Akinmoladun VI, Obimakinde OS, Okoje VN[24]	Team approach to management of oro-facial cleft among African Practitioners: A survey	Nigerian Journal of Clinical Practice	Descriptive study	2013
Hartzell LD, Kilpatrick LA[25]	Diagnosis nad management of patients with clefts	Otorungol Clinical North American	Literature review	2014
Vig KWL, Mercado AM[26]	Overview of orthodontic care for children with cleft lip and palate, 1915-2015	American Journal of Orthodontics and Dentofacial Orthopedics	Literature review	2015
Soheilipour S, Soheilipour F, Derakhshandeh F, Hashemi H, Memarzadeh M, Salehiniya H, Soheilipour F[27]	Comparison of patients' age receiving therapuetic services in a cleft care team in Isfahan	Dental Reseach Journal	Retrospective study (n = 260)	2016
Lethaus B, Grau E, Kloss-Brandstätter A, Brauer L, Zimmerer R, Bartella AK, Hahnel S, Sander AK[28]	Clinical follow-up in orofacial clefts – Why multidisciplinar care is the key	Journal or Clinical Medicine	Retrospective study (n = 1126)	2021

DISCUSSION

In the last 20 years, interdisciplinary teams have developed, added new professionals and care protocols in order to adapt to the patients' needs, improving their recovery and adaptation in society.

History of implementation and development of the interdisciplinary team

The concept of an interdisciplinary team had not been formalized until 1940, but the literature began to note the collaboration between different professionals as early as 1915, reported in the International Journal of Orthodontics and Oral Surgery (1919-1921) , which cited the development of a work with collaborative characteristics. The treatment team proposed in 1950 had only three professionals involved: surgeons, speech therapists and orthodontists[26].

In 1987, the American Society of Plastic Surgery and the Department of Health and Human Services created a guideline how to organize an interdisciplinary team to support patients with CLP. The year 2000 saw the release of the America Cleft Palate-Craniofacial Association Guidelines. The interdisciplinary team should include surgeons, speech and hearing therapists, orthodontists and other dental specialties, pediatricians, geneticists, nutritionists, social workers and psychologists. Other subspecialists, such as neurosurgeons, may still be needed[13].

A new treatment protocol published by the American Cleft Palate-Craniofacial Association, 2004 addressed the periods related to care, which should start in the prenatal phase and extend to the treatment phase of the lesions[20].

As the care periods are long, the continuous and regular evaluation of the work developed by the interdisciplinary team is fundamental[25]. Extensive treatments, which transition from the primary dentition to adulthood, can cause exhaustion in patients, collaborators and interdisciplinary team. In these cases, psychological follow-up of all the members involved would be extremely important for treatment continuity[26].

When the treatment extends into adult life, monitoring by mental health professionals (psychologists and psychiatrists) is essential. It requires a well-defined interdisciplinary care plan, due to the difficulties in the treatment arising from the tissue response to the treatments performed[23]. The importance of the teams' mental monitoring was confirmed by a study that used the application of questionnaires (n=95), showing that the action of these professionals occurs in a standardized, consistent, and sedimented way, minimizing the difficult periods of treatment[21].

Thus, the maintenance of a consistent and cohesive team, associated with adequate continuing education and planning, provides patients with the possibility of achieving a high level of functionality in society[25].

Effectiveness of interdisciplinary treatment teams

In the literature there is a multitude of studies on surgical repairs of CLP and their outcomes, but few emphasize the importance of the approach and services provided by each member of the interdisciplinary team.

A data survey of professional specialists in Nigeria attending the 2007 Pan African Conference of Cleft Lip and Palate through questionnaires (n = 63) showed that less than half of the respondents belonged to an interdisciplinary cleft treatment team. The most frequent specialists in institutions that had a cleft treatment team. The most frequent specialists in the institutions that had a cleft treatment team were surgeons and orthodontists, but relevant specialties such as otolaryngologists, speech therapists and nutritionists were underrepresentaded[15].

A study of 253 mothers of cleft patients treated at hospitals in Arkansas, Iowa and New York evaluated the treatment received, by means of questionnaires. Approximately one quarter of the mothers indicated that their children did not receive care from a cleft team, recommended by the American Association of Cleft Palate-Craniofacial, 1993, which should minimally include a surgeon, a dental professional and a speech-language pathologist[13].

Satisfaction of caregivers with the provision of information, recommendations for treatment, information about the disease, approach to treatment and the follow-up of the multidisciplinary team at the Tawanchai Cleft Center was evaluated. This Center has an interdisciplinary team consisting of plastic surgeons, orthodontists, speech therapists, pediatricians, otolaryngologists, psychiatrists, radiologists, nurses, and social workers. The evaluations were considered good for the level of knowledge of the service and very good for the interdisciplinary care givin to patients with clefts[22].

The prevalence of speech, language, hearing and dental problems in children with isolated cleft lip (n=95) was evaluated in a retrospective study. They found that difficulties in speech and language development is one of the main problems presented by these children, followed by otologic and dentition alterations (around and above 80% of cases). Apparently the development of a cleft lip only could present less need for the performance of different professionals, but still involved an interdisciplinary team for its treatment. Besides the aesthetic correction by the plastic surgeon, professionals related to speech, hearing and dentition were essential[18]. These data were corroborated by the retrospective evaluation of children (n=63) seen at the Groningen Medical Center, Sweden, which showed that speech and language problems show significant improvement, positively influencing school development when a multidisciplinary team is involved in the treatment[19].

The performance and monitoring of an interdisciplinary team with the family can reduce the age at which treatment begins, in addition to increasing the knowledge of family members about the therapeutic processes. Thus, unnecessary surgeries are prevented and therapy is applied to correct speech caused by structural problems, instead of those presented as a result of surgical procedures and their complications[27].

The evaluation of types and numbers of therapeutic interventions performed by different specialists (n=1126 patients), in a Treatment Center in Germany found that continuous follow-up of patients could be maintained over 15 years. It was also noted that the establishment of

treatment protocols by different areas is of great importance for this monitoring to exist. At the same time, for the implementation of different treatment protocols to occur in various centers, there is a need for physical and professional resources to be present[28].

Although cited by the literature, these services are not always universally applied. In addition, sociocultural problems, religious beliefs, inadequacy of qualified specialists and financial factors influence the follow-up of interdisciplinary teams[24].

Thus, although there is agreement on the need for and effectiveness in the treatment produced by the interdisciplinary teams, it is possible to identify a variety in the formation and performance of these teams in Treatment Centers in different countries and regions.

Conflict of interest: the authors declare that there is no potential conflict of interest that could interfere with the impartiality of this scientific work.

REFERENCES

1.Voigt A, Radlanski RJ, Sarioglu N, Schmidt G. Lippen-Kiefer-Gaumen-Spalten [Cleft lip and palate]. Pathologe. 2017;38(4):241-247. DOI: https://dx.doi.org/10.1007/s00292-017-0313-x

2.Bernheim N, Georges M, Malevez C, De Mey A, Mansbach A. Embryology and epidemiology of cleft lip and palate. B-ENT. 2006;2 Suppl 4:11-9.

3.Aquino SN, Paranaíba LM, Martelli DR, Swerts MS, Barros LM, Bonan PR et al. Study of patients with cleft lip and palate with consanguineous parents. Braz J Otorhinolaryngol. 2011;77(1):19-23. https://doi.org/10.1590/S1808-86942011000100004

4.Dixon MJ, Marazita ML, Beaty TH, Murray JC. Cleft lip and palate: understanding genetic and environmental influences. Nat Rev Genet. 2011;12(3):167-78. DOI: http://dx.doi.org/10.1038/nrg2933

5.Burg ML, Chai Y, Yao CA, Magee W 3rd, Figueiredo JC. Epidemiology, Etiology, and Treatment of Isolated Cleft Palate. Front Physiol. 2016;1(7):67. DOI: http://dx.doi.org/10.3389/fphys.2016.00067

6.Eshete M, Gravenm PE, Topstad T, Befikadu S. The incidence of cleft lip and palate in Addis Ababa, Ethiopia. Ethiop Med J. 2011;49(1):1-5.

7.Sreejith VP, Arun V, Devarajan AP, Gopinath A, Sunil M. Psychological Effect of Prenatal Diagnosis of Cleft Lip and Palate: A Systematic Review. Contemp Clin Dent. 2018;9(2):304-308. DOI: http://dx.doi.org/10.4103/ccd.ccd_673_17

8.Seehra J, Newton JT, Dibiase AT. Interceptive orthodontic treatment in bullied adolescents and its impact on self-esteem and oral-health-related quality of life. Eur J Orthod. 2013;35(5):615-21. DOI: http://dx.doi.org/10.1093/ejo/cjs051

9.Zhou M, Liu ZX, Wang PL, Liu C. Quality of life and its influential factors of children and adolescents with congenital cleft lip and palate. Shanghai Kou Qiang Yi Xue. 2016;25(1):63-7.

10.Stock NM, Feragen KB. Psychological adjustment to cleft lip and/or palate: A narrative review of the literature. Psychol Health. 2016;31(7):777-813. DOI: http://dx.doi.org/10.1080/08870446.2016.1143944

11.Wijekoon P, Herath T, Mahendran R. Awareness of feeding, growth and development among mothers of infants with cleft lip and/or palate. 2019;5(12):e02900. DOI: http://dx.doi.org/10.1016/j.heliyon.2019.e02900

12.. Ministério da Saúde (Brasil). Portaria SAS/MS n. 62, 19 de abril 23. de 1994. Normaliza cadastramento de hospitais que realizem procedimentos integrados para reabilitação estético-funcional dos portadores de má-formação lábio- palatal para o Sistema Único de Saúde. Diário Oficial da União. 1994:3.

13.Austin AA, Druschel CM, Tyler MC, Romitti PA, West II, Damiano PC et al. Interdisciplinary craniofacial teams compared with individual providers: is orofacial cleft care more comprehensive and do parents perceive better outcomes? Cleft Palate Craniofac J. 2010;47(1):1-8. DOI: http://dx.doi.org/10.1597/08-250.1

14.Kay HG, Lipscomb B, Zhao S, Shannon C, Phillips JD. Utilization of part C early intervention services for patients with cleft palate. Int J

Pediatr Otorhinolaryngol. 2021; 151:110961. DOI: http://dx.doi.org/10.1016/j.ijporl.2021.110961.

15.Akinmoladun VI, Obimakinde OS. Team approach concept in management of oro-facial clefts: a survey of Nigerian practitioners. Head Face Med. 2009;10(5):11. DOI: http://dx.doi.org/10.1186/1746-160X-5-11

16.Whittemore R, Knafl K. The integrative review: updated methodology. J Adv Nurs. 2005;52(5):546-53. DOI: http://dx.doi.org/10.1111/j.1365-2648.2005.03621.x

17.Bill J, Proff P, Bayerlein T, Weingaertner J, Fanghänel J, Reuther J. Treatment of patients with cleft lip, alveolus and palate--a short outline of history and current interdisciplinary treatment approaches. J Craniomaxillofac Surg. 2006;34 Suppl 2:17-21. DOI: http://dx.doi.org/10.1016/S1010-5182(06)60005-X

18.Vallino LD, Zuker R, Napoli JA. A study of speech, language, hearing, and dentition in children with cleft lip only. Cleft Palate Craniofac J. 2008;45(5):485-94. DOI: http://dx.doi.org/10.1597/06-207.1

19.Ruiter JS, Korsten-Meijer AG, Goorhuis-Brouwer SM. Communicative abilities in toddlers and in early school age children with cleft palate. Int J Pediatr Otorhinolaryngol. 2009;73(5):693-8. DOI: http://dx.doi.org/10.1016/j.ijporl.2009.01.006

20.Vargervik K, Oberoi S, Hoffman WY. Team care for the patient with cleft: UCSF protocols and outcomes. J Craniofac Surg. 2009;20 Suppl 2:1668-71. DOI: http://dx.doi.org/10.1097/SCS.0b013e3181b2d6e3

21.Hood MM, Cradock MM, Vander Wal JS. A survey of psychological assessment on interdisciplinary craniofacial teams. Cleft Palate Craniofac J. 2011;48(4):425-44. DOI: http://dx.doi.org/10.1597/09-252

22.Pongpagatip S, Pradubwong S, Jenwitheesuk K, Chowchuen B. Knowledge and satisfaction of caregivers of patients with cleft lip-palate at the Tawanchai Cleft Center. Plast Surg Nurs. 2012;32(4):165-70. DOI: http://dx.doi.org/10.1097/PSN.0b013e318274e8a1

23.Cash AC. Orthodontic treatment in the management of cleft lip and palate. Front Oral Biol. 2012;16:111-23. DOI: http://dx.doi.org/10.1159/000337665

24.Akinmoladun VI, Obimakinde OS, Okoje VN. Team approach to management of oro-facial cleft among African practitioners: a survey. Niger J Clin Pract. 2013;16(1):86-90. DOI: http://dx.doi.org/10.4103/1119-3077.106773

25.Hartzell LD, Kilpatrick LA. Diagnosis and management of patients with clefts: a comprehensive and interdisciplinary approach. Otolaryngol Clin North Am. 2014;47(5):821-52. DOI: http://dx.doi.org/10.1016/j.otc.2014.06.010

26.Vig KW, Mercado AM. Overview of orthodontic care for children with cleft lip and palate, 1915-2015. Am J Orthod Dentofacial Orthop. 2015;148(4):543-56. DOI: http://dx.doi.org/10.1016/j.ajodo.2015.07.021

27.Soheilipour S, Soheilipour F, Derakhshandeh F, Hashemi H, Memarzadeh M, Salehiniya H et al. Comparison of patients' age receiving therapeutic services in a cleft care team in Isfahan. Dent Res J (Isfahan). 2016;13(3):278-83. DOI: http://dx.doi.org/10.4103/1735-3327.182190

28.Lethaus B, Grau E, Kloss-Brandstätter A, Brauer L, Zimmerer R, Bartella AK et al. Clinical Follow-Up in Orofacial Clefts-Why Multidisciplinary Care Is the Key. J Clin Med. 2021;10(4):842. DOI: http://dx.doi.org/10.3390/jcm10040842