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Original Article

Congenital malformations and their impact on Oral Health-Related Quality of Life among Syrian children with cleft lip and/or palate

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ABSTRACT

Objectives: To investigate the prevalence of the associated congenital malformations, and assess their influence on Oral Health-Related Quality of Life among Syrian children with cleft lip and/or palate.

Material & methods: A cross-sectional study was carried out at the Pediatric Dentistry Department, Damascus University, Syria from April 2010 to May 2011. Our sample consisted of 93 children with oral cleft, who had been estimated in terms of the associated congenital malformations (CM) after excluding three syndromic cases. After excluding mentally disordered, dumb and/or deaf as well, 87 cleft children were divided in two groups: children with isolated cleft lip and palate (CL/P), and children with (CM) associated with cleft lip and/or palate (CM–CL/P). All the selected children completed the Arabic version of Child Oral Health-Related Quality of Life Questionnaire in its 4 domains. The *Chi Square* test was used to perform statistical analysis.

Results: Twenty CM were found in 17.2% of affected children. Overall Functional limitations domain showed significant differences between the two groups'. However, (CM–CL/P) were, dramatically, suffering from lower self-confidence and facing more educational problems than (CL/P).

Conclusion: Different CM types associated with cleft lip and/or palate had a negative impact on the OHRQoL of the children. Therefore,special care may be required during their lives.

1. Introduction

Congenital anomalies are affecting 2–3% of all newborns, and approximately 1% of those babies have syndromes or multiple anomalies; hence craniofacial anomalies are often considered a component part.[1] Cleft lip and palate, the most common of the craniofacial anomalies, affects one of 1000 newborns in the United States.[2] The reported incidence of associated malformations varied between different studies; which recorded 66% in a Turkish study,[3] while only 32.2% of

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cleft lip and/or palate patients had associated congenital malformations in another research conducted over twenty year period in the USA.[4] Moreover, the prevalence of the associated congenital malformations fluctuated through many studies. For example, Rawashdeh and Abu-Hawas[5] as well as Sekhon et al[6] found in two separated researches that about 14% of cleft patients had congenital malformations, which is slightly higher than Yazdee et al[7] and Jarur-atanasirikul et al[8] findings, who indicated in their Iranian and Thai studies respectively, that thirteen per cent of the cleft lip and/or palate involved cases were associated with malformations, in comparison with about a quarter of similar cases observed in Pakistan.[9] According to the recent definition of the health, which has been provided by the World Health Organization (WHO) as a state of complete physical, mental, and social wellbeing but not merely the absence of disease or infirmity,[10] and in response to that definition, researches in the medical field considered health as multi-dimensional concept.[11] In addition, quality of life was defined by WHO as a perception of person attitude in life according to the community value systems in which they live, and in relation to their aims, expectations, criteria, and fears.[12] Therefore, the Oral Health-Related Quality of Life (OHRQoL) concept has been found for the past few decades, and despite its emergence, it has remarkable effects on the clinical practice of dentistry and also in dental research.[13] The OHRQoL term has great importance in promoting oral health care thus, it should be the basis of any program goaled to improve oral health,[14] that led the WHO to consider OHRQoL concept as an essential part of the international oral health program.[15] Cleft lip and palate is a very dangerous defect, which will have a correspondingly greater impact on the quality of life as it may cause permanent abnormal face appearance over life.[16] McWilliams and Matthews[17] have suggested that the presence of congenital abnormalities rather than oral cleft, would increase the risk of the developmental disabilities. Children with craniofacial anomalies, frequently have associated anomalies and conditions that adversely affect other physical aspects of health; sensory, motoric, cardiovascular, and respiratory system functions.[18]

The current study aimed to investigate the prevalence of the associated congenital malformations, and assess the possible influence of these malformations on the OHRQoL among Syrian children with cleft lip and/or palate.

2. Material & methods

A cross-sectional study was conducted. All Syrian children with cleft lip and/or palate, who attended the Pediatric Dentistry Department in the Faculty of Dentistry at Damascus University over 13 months period, from April 2011 to May 2012, were recruited. In fact, this department is the main public sector, where all those patients are usually present. Ethical clearance was obtained from the concerned authorities. Our sample consists of (96) children with cleft lip and/or palate, aged between (6 and 14) years. Apart from 3 syndromic cases, there existed congenital malformations, for all isolated cleft lip and/or palate (CL/P) subjects. Data were recorded according to their medical reports, which were available at our department. In addition, Children's Oral Health-Related Quality of Life (OHRQoL) has been evaluated for the aforementioned subjects after excluding the mentally disordered, dumb, and deaf patients, due to their inability to reply. This assessment has been achieved among the two groups: children with cleft lip and/or palate (CL/P), and those with congenital malformations associated with cleft lip and/or palate (CM–CL/P). The Arabic version of Children Oral Health-Related Quality of Life questionnaire (COHRQoL), which is certified to be utilized throughout the Arab countries among children and teenagers, was applied.[19] It consisted of 36 items, encompassing four domains; Oral Symptoms (6), Functional limitations (9), Emotional wellbeing (9), and Social wellbeing (12). Moreover, it depended on face to face-interview for all patients 6 year old and over. Eighty seven children completed the (Yes/No) questionnaire, which were asked by us and answered by children themselves without parents' support. Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS Inc, Chicago, IL, USA) for Windows release 17.0. *Chi Square* test was used to compare differences between the two groups. Statistical significance was set at $P < 0.05$ and confidence levels at 95%.

3. Results

Results of the present study showed that twenty congenital malformations were observed in 17.2% of affected children. Moreover, the subjects who had only one malformation were exactly three times more than who had two together. The highest proportion has been recorded for Musculoskeletal

Table 1 – The congenital malformation types among non-syndromic cleft children.

Congenital malformations	Musculoskeletal malformations	Cardiovascular malformations	Central nervous system malformations
20 CM	14 (15%) Fingers fusion (5) 4 in hand's fingers 1 in foot's fingers Scoliosis (2) Pes Equinovalgus (2) Lacrimal canal Obstruction (2) Suburethral (1) Blepharoptosis (1) Aponeurotic Herbia (1)	4 (4.3%) Cyanosis (1) Capillary Hemangioma (1) Ventricular Septal Defect, VSD (2)	2 (2.1%) Hydrocephaly (2)