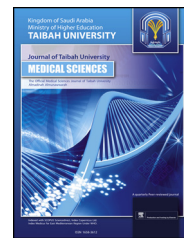




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Original Article

## Effects of cleft lip and palate on children's psychological health: A systematic review

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### المخلص

**أهداف البحث:** تهدف هذه الدراسة لتقييم الآثار النفسية للشفة والحك المشقوق على الأطفال وأولياء أمورهم وتحديد أي علاقة بين الدعم الاجتماعي، ووقت الإصلاحات الجراحية لهذه العيوب.

**طرق البحث:** مراجعة منهجية باستخدام طريقة المشكلة، والتدخل، والمقارنة، والنتيجة والإعداد. وشارك في الدراسة أطفال لديهم شفة وحك مشقوق، والتدخلات هي التصحيحات الجراحية، و/أو الدعم الاجتماعي، وكانت المقارنات مع الأطفال الذين ليس لديهم تصحيحات جراحية ولا دعم اجتماعي، وكانت النتائج هي الآثار النفسية، وكان تصميم الدراسة هو مراجعة منهجية. تم البحث في أربع قواعد بيانات إلكترونية: إيسكو، وبروكويست، وسينس دايريك، وسيك انفو على مدى عشر سنوات (يناير ٢٠٠٧ إلى يناير ٢٠١٧). واستخدمت القواعد الإرشادية لعناصر التقارير المفضلة للمراجعة المنهجية وتحليل - ميتا (بريزما) ٢٠٠٩ بشأن الإبلاغ عن المراجعات المنهجية في هذه الدراسة.

**النتائج:** كشف البحث في أربع قواعد البيانات ٥٣٣٤٦ مقالة؛ ولكن، استوفت ٢٦ مقالة فقط معايير الاشتمال وتم إدراجها. كان هناك عدد قليل من المقالات التي تعنى بالأطفال.

**الاستنتاجات:** الشفة والحك المشقوق لا ترتبط فقط بالآثار النفسية التي كانت تزعج تقدير الذات لدى الأطفال ووظائفهم النفسية، بل تمتد أيضا إلى آياتهم، وخاصة الأمهات. ومع ذلك، بدأ أن الدعم الأبوي والاجتماعي له نتائج إيجابية على الحد من هذه الآثار النفسية.

**الكلمات المفتاحية:** نفسي؛ الأطفال؛ الشق؛ الشفة؛ الحك

### Abstract

**Objectives:** This study aimed to evaluate the psychological effects of cleft lip and palate (CLP) on children and their parents and to determine any relationship between social support and timing of surgical repairs for these defects.

**Methods:** A systematic review that followed the problem, intervention, comparison, outcome and setting (PICOS) method was used. The participants were children with CLP, interventions were surgical corrections and/or social support, comparison occurred with children with neither surgical corrections nor social support, outcomes were psychological effects and the study design was a systematic review. Four electronic databases, EBSCO, ProQuest, Science Direct, and PsycInfo were used to search for studies over the period of ten years (January 2007 until January 2017). The Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) 2009 guidelines on systematic review reporting were used for this study.

**Results:** Searching through four databases revealed 53,346 articles; however, only 26 articles that met the inclusion criteria were included. There were few articles about children.

**Conclusions:** CLP is not only connected to psychological effects which distress children's self-esteem and psychological functions, it also extends to their parents, particularly their mothers. However, parental and social support seem to have positive influences by reducing these psychological effects.

**Keywords:** Children; Cleft; Lip; Palate; Psychological

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## Introduction

In recent decades, there has been a great increase in emphasis related to the rights of children in policy and research health, psychology and the wider society.<sup>1</sup> Cleft lip and/or palate (CLP) is one of the most common congenital anomalies that affect the orofacial area. The cleft pathogenesis occurs because of failure of the fusion of numerous facial processes early in the embryonic development.<sup>2</sup> Orofacial clefts involve the structures around the oral cavity and could be extended to the surrounding area in a comprehensive craniofacial deformity. The isolated cleft lips, with/or without the cleft palate, are the core categories that children could have as part of a child's syndrome.<sup>3,4</sup>

Although there have been several attempts to record the frequency of birth defects,<sup>5</sup> in some parts of the world, namely Africa, Asia, and Eastern Europe, there is no continuous availability of data on CLP frequency.<sup>6</sup> In the Middle East, there is lack of data on CLP occurrence; there seems to be a general idea of facial cleft incidences in the region. A study by Fida et al. found that 1.9 orofacial malformations per 1000 live births were reported in the western area of KSA.<sup>7</sup> Another hospital-based study in Riyadh found a high rate of cranial anomalies; 7.98 per 1000 pregnancies were reported at a women's specialized hospital (King Fahad medical city).<sup>8</sup> In the United Arab of Emirates, 0.3 per 1000 births had orofacial cleft congenital.<sup>9</sup> In Oman, the rate of oral clefts was 1.5 per 1000 births; whereas in Jordan, it was at 2.4 facial orofacial clefts.<sup>10</sup>

Studies have shown that environment and genetics are considered as the core aetiology of CLP. Moreover, the deficiency of folic acid, maternal age, mothers who smoke or consume alcohol, and viral infection were all risk factors that correlated to cleft development.<sup>3,4</sup>

CLP is not considered as a detriment to life. However, there are real consequences that resulted from a cleft even if there is an intervention early in the child's life; in addition to the potential of adverse health effects in the long term that were related to functional and psychological problems.<sup>3,4</sup> Children with orofacial clefts may endure numerous surgical and non-surgical treatments from birth until adulthood, which psychologically affects both the children and their family members.<sup>11</sup> Treatment of infants with cleft palate requires a multidisciplinary approach. In many cases, infants of age two to six months already had lip repair; however, the palate was deferred until they were one to two years old as negative effects on the growth and development of the maxilla might be caused due to early repair via scar tissue of the maxilla.<sup>11</sup> While delaying the surgical procedure, it is essential that adequate nutrition is maintained to allow for normal growth of the newborn as this would prepare the infant for future surgery to counter the abnormality.<sup>11</sup>

According to several studies conducted around the globe on this issue, it was agreed that physical and psychological rehabilitations are on the same level of importance, and should not be ignored so that a full recovery could be attained, as well as to elevate the patient's self-esteem and

mental health.<sup>12</sup> The psychosocial issues of children with CLP during their developmental age affect normal social interaction by increasing the chances of low self-esteem and shyness.<sup>13</sup> Therefore, the objectives of this study are to evaluate the psychological effects of CLP on children and their parents, and to investigate the relationship between social support and time of surgical repairs for these effects. This systematic review using the PICOS method comprises children with CLP as participants, interventions of surgical corrections and social support compared to those with neither surgical corrections nor social support, and the outcomes of psychological effects.

## Materials and Methods

A systematic review using the PICOS method, considering children with CLP as participants, interventions of surgical corrections and social support compared to those with no surgical corrections nor social support, the outcomes of psychological effects, and a systematic review study design that followed the PRISMA 2009 checklist on reporting systematic reviews was used in this study. However, some items in the methods and results sections were not applicable to a systematic review, but were applicable to meta-analysis; so, they were represented as not applicable (N/A) as shown in [Table 1](#).

The first step in this study started by AA who searched four electronic databases, EBSCO, ProQuest, Science Direct, and PsycInfo, over a period of ten years (January 2007 to January 2017) using the following keywords psychological, effects, children, cleft lip and/or palate, the repeated results were deleted. The second step was completed by AH, who screened articles based on the inclusion criteria of children of age (birth to 18 years), healthy children with American Society of Anesthesiologists scale class I and II, articles that were published in English and all types of studies that were published between January 2007 and January 2017, excluding those that did not meet the inclusion criteria. The third step was the extraction of results, which was completed by both authors using a standard formulated table based on the inclusion criteria for data collection.

The primary outcome was the psychological effects of CLP on children and their parents, whereas the secondary outcomes comprised the relationship between social support, time of the surgical treatment (the age of the child) and these psychological effects.

## Results

After an extensive electronic search of four databases using appropriate keywords, 53,346 articles were identified including duplicate research. Most of the identified studies were about surgical corrections and/or analysis of complications related to CLP surgical corrections or were among adult participants; therefore, they were excluded and only 26 articles were included. Details of the process of article selection throughout the study is presented in the flow diagram shown in [Figure 1](#). The summary of the 26 included articles is shown in [Table 2](#).

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