

# A Relationship between Nasolabial Appearance and Self-esteem in Adolescent with Repaired Cleft Lip and Cleft Palate at Khon Kaen University Cleft Center

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**Objective:** To examine levels of self-esteem of adolescents with repaired cleft lip and cleft palate at Khon Kaen University Cleft Center and its correlation with nasolabial appearance.

**Material and Method:** Across-sectional survey of 93 adolescents with repaired cleft lip and palate.

**Results:** A total nasolabial appearance score was  $2.8 \pm 0.36$  (fair to good). The mean of the total self-esteem score for all respondents was  $20.11 \pm 3.27$  (maximum 30). There was no significant correlation between nasolabial appearance and self-esteem (Pearson product-moment correlation coefficient  $(r) = 0.18$ ,  $p = 0.08$ ). The self-esteem scores of good, fair and poor appearance were  $20.5 \pm 0.98$ ,  $19.8 \pm 0.32$ ,  $19 \pm 2.09$  respectively.

**Conclusion:** The nasolabial appearance of repaired cleft lip and palate not be the only factor but other psychosocial factors also may play a role in their self-esteem. The analysis of this study found no relationship between self-esteem and appearance.

**Keywords:** Self-esteem, Adolescents with cleft lip and cleft palate, Appearance and aesthetic level

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The incidence of cleft lip and palate in Thailand is 1 in every 600 live births. According to Khon Kaen University cleft center or Tawanchai cleft center, the incidence of cleft lip and palate in Northeastern Thailand is 2.5 in every 1,000 live births. Tawanchai cleft center has developed guidelines for cheiloplasty and palatoplasty and surgical specialists correct the defects including half of the cases which were partly corrected by surgeons from other centers and hospitals in this region. Adolescents with cleft lip and palate need long-term care and multiple surgeries following the initial corrective procedure.

These congenital facial deformities have strong impact to child and the family especially on appearance even after surgical correction. Kramer FJ et al 2008 study found out that children with cleft lip and palate have low self-esteem and poor quality of life. Andrade D et al, 2001 reported low self-esteem among

adolescents with cleft lip and palate compared with normal group. However, further studies are required to explore the impact of nasolabial appearance and self-esteem<sup>(1-8)</sup>.

## Objective

To examine levels of self-esteem of adolescents with repaired cleft lip and cleft palate at Khon Kaen University Cleft Center and its correlation with nasolabial appearance.

## Material and Method

A cross-sectional study was conducted at Srinagarind Hospital, Khon Kaen University cleft center (Tawanchai cleft center). A total number of 93 adolescents, regardless of gender (males 49 and females 44) with repaired cleft lip and palate aged between 12-19 were recruited. This study was conducted for 13 months from February 2012 to February 2013. The subjects were asked to answer Rosenberg's self-esteem scale questionnaire (had 10 items) that measures global self worth by using 4 point Likert scale format of strongly agree, agree, disagree and strongly disagree<sup>(9)</sup>.

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The correlations of the scale is 0.82-0.88 and Cronbach's alpha is 0.77-0.88 (Blascovich and Tomaka, 1993). Total score of Rosenberg's self-esteem is 30. There is no discrete cut off points to delineate high and low self-esteem.

The adolescents were taken photographs of their nasolabial appearance after the corrective procedures. The photographs were cropped to have only nose, nasolabial area and chin. The components of nasolabial appearance to be rated were nasal form, nasal symmetry, mucocutaneous junction and profile view<sup>(10-13)</sup>. Trained staffs with a 5 grade esthetic index rated the nasolabial appearance from very good, good, fair, poor and very poor (very good-1, very poor -5).

### Statistical analysis

Descriptive statistics were performed on demographic data. Levels of self-esteem and nasolabial appearance were reported in mean and standard deviation (SD). The relationship between nasolabial appearance and Rosenberg's self-esteem was investigated using Pearson product-moment correlation coefficient, in which *p*-value of 0.05 was considered statistically significant. Data were analysed using MedCalc Statistical Software version 13.3.3 (Medcalc Software bvba, Ostend, Belgium; <http://www.medcalc.org>; 2014).

### Results

All respondents are living in Northeastern Thailand. The response, summarized in Table 1, indicates that there were more male respondents than females with mean ages 14.6±2.1 years. They were 63

respondents with unilateral cleft lip and palate and 28 with bilateral cleft lip and palate. The subjects underwent cheiloplasty or palatoplasty before the age of ten (Cheiloplasty was performed for 43 cases at Srinagarind hospital and 50 cases by other hospital; 51 respondents underwent palatoplasty at Srinagarind hospital and 42 of them from other hospitals). The average family income of the respondents was 14,122 baht per month. The nasolabial appearance mean score was 2.8±0.36 (very good = 1 to very poor = 5). 72 respondents (77.4%) were scored for good, 5 for poor and none received a score of very poor. The inter rater agreement; Kappa coefficient of raters in nasolabial appearance score was 0.44.

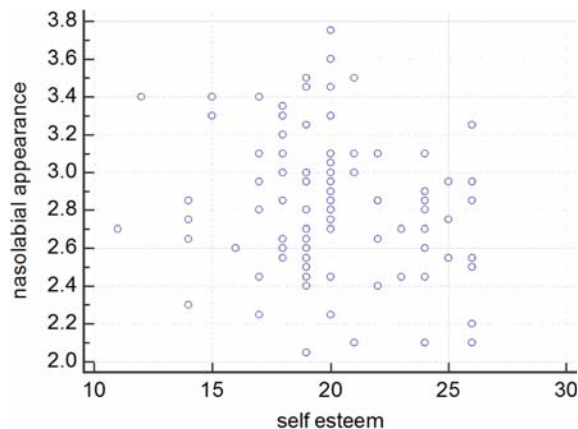
The mean of total Rosenberg self-esteem score for all respondents (n = 93) was 20.11±3.27 (maximum 30, no cut-off point). Respondents with a good nasolabial-appearance score (n = 16, 17.2%) had Rosenberg's self-esteem mean score of 20.5±0.98; a fair nasolabial-appearance score (n = 72, 77.4%) had Rosenberg self-esteem score of 19.8±0.32; and poor nasolabial-appearance score (n = 5, 5.3%) had Rosenberg's self-esteem score of 19±2.09. There was no significant correlation between nasolabial appearance and self-esteem, *r* = -0.1813, *p* = 0.08 (Fig. 1).

### Discussion

In the present study, a total number of 93 adolescents with repaired cleft lip and cleft palate were treated at the Tawanchai cleft center, Srinagarind Hospital, Khon Kaen University, Thailand. Despite these patients have been cared following the cleft care

**Table 1.** Demographic data

Characteristics	Average (year)	No. of patients (%)
Age (n = 93)	-	-
Male	-	49 (52.7%)
Female	-	44 (47.3%)
Unilateral CLCP	-	64 (68.8%)
Bilateral CLCP	-	29 (31.2%)
Family income per month	14,122 baht (470 USD)	-
Nasolabial appearance score (n = 93)	2.8±0.36	
Good appearance	Score (1.1-2.5)	16 (17.2%)
Fair appearance	Score (2.6-3.5)	72 (77.4%)
Poor appearance	Score (3.6-4.5)	5 (5.3%)
Total self esteem score (n = 93)	20.11±3.27	Correlation coefficient , <i>r</i> = -0.1813
Good appearance	20.5±0.98	<i>p</i> = 0.08
Fair appearance	19.8±0.32	95% confidence interval of <i>r</i>
Poor appearance	19±2.09	= -0.37-0.023



**Fig. 1** Scatter diagram shows correlations between nasolabial appearance in y-axis (low is better) and self-esteem in x-axis (more is better).

guidelines in surgical and dental procedures since they were children, some disfigures could not be repaired and reconstructed to normal levels. Our study measured patient's nasolabial appearance using five raters (three physicians, one nurse and one research assistant). Photograph's ratings have been used in measuring aesthetic outcome of facial appearance.

Rosenberg stated that there was no cut off point. The score may vary in specific groups. A study by Kanthawong et al conducted in southern Thailand with adolescent with repaired CLCP and found there were small numbers of low self-esteem<sup>(14)</sup>. There is no evidence to support our study that patient that has good nasolabial appearance have higher scores in self-esteem than poor nasolabial appearance ( $p = 0.08$ ). The self-esteem may not relate to nasolabial appearance. This is similar to the study of Roberts<sup>(11)</sup>. The psychosocial support and social engagement, fear, anxiety and/or life stresses may be other important factors that may affect self-esteem. This study highlights a comprehensive cleft care involving reconstruction, psychosocial support, social engagement and family support.

### Conclusion

The analysis of this study found no evidence to support the relationship between self-esteem and appearance.

### Acknowledgement

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participate in this study.

### Potential conflicts of interest

None.

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ระดับความสวยงามบนใบหน้ากับความภูมิใจแห่งตนของผู้ป่วยวัยรุ่นที่มีภาวะปากแหว่งเพดานโหว่ที่ศูนย์การดูแลผู้ป่วยปากแหว่งเพดานโหว่ มหาวิทยาลัยขอนแก่น

นิรมล พันธ์สุนทร, กุศลาภรณ์ วงษ์นิยม, สุธีรา ประดับวงษ์, นวนันท์ ปิยะวัฒน์กุล, บวรศิลป์ เชาวนชื่น

**วัตถุประสงค์:** เพื่อวัดระดับความภูมิใจแห่งตนของผู้ป่วยวัยรุ่นที่มีภาวะปากแหว่ง เพดานโหว่หลังได้รับการผ่าตัดซ่อมแซมแล้ว ณ ศูนย์การดูแลผู้ป่วยปากแหว่งเพดานโหว่ มหาวิทยาลัยขอนแก่นและหาความสัมพันธ์กับความสวยงามที่ปรากฏบนใบหน้า

**วัสดุและวิธีการ:** เป็นการศึกษาแบบพรรณนาและวิเคราะห์ระดับความสวยงามที่ปรากฏที่ใบหน้า (nasolabial appearance) ในวัยรุ่นที่มีภาวะปากแหว่งเพดานโหว่ หลังได้รับการผ่าตัดซ่อมแซมแล้วจำนวน 93 ราย ว่าสัมพันธ์กับระดับความภูมิใจแห่งตน (Rosenberg self esteem score)

**ผลการศึกษา:** ระดับความสวยงามที่ปรากฏที่ใบหน้าของผู้เข้าร่วมวิจัย อยู่ในระดับพอใช้ถึงระดับดี ( $2.8 \pm 0.36$ ) ระดับความภูมิใจแห่งตนด้วย Rosenberg self esteem score อยู่ในระดับ  $20.11 \pm 3.27$  (คะแนนเต็ม 30) แม้ว่าจะไม่พบความสัมพันธ์กันอย่างมีนัยสำคัญทางสถิติระหว่างความสวยงามกับความภูมิใจแห่งตน ( $r = 0.18$ ,  $p = 0.08$  95% confidence interval of  $r = -0.37-0.023$ ) แต่ก็มีความโน้มว่าผู้ที่มีความสวยงามน้อยกว่าจะมีคะแนนความภูมิใจแห่งตนน้อยกว่า (คะแนนความภูมิใจของกลุ่มสวยงามระดับดี ปานกลางและไม่มีค่าตามลำดับดังนี้  $20.5 \pm 0.98$ ,  $19.8 \pm 0.32$ ,  $19 \pm 2.09$ )

**สรุป:** ความสวยงามบนใบหน้าที่ได้รับการซ่อมแซมแล้ว ดูเหมือนจะไม่ใช่ว่าปัจจัยเดียวในการมีผลต่อความภูมิใจแห่งตนอาจจะมีปัจจัยอื่นๆ ร่วมด้วย เช่น การช่วยเหลือให้กำลังใจทางจิตสังคมและชุมชนช่วยเหลือ

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