External Nasal Appearance Preferred by Koreans: Photo Analysis

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ABSTRACT

A sound understanding of the preferred appearance of the external nose is central to successful rhinoplasty. A survey using photographs was conducted among college students and employees aged 20 to 39 years in Inchon, Korea. Three hundred and twenty-one subjects filled out a questionnaire about their preferences regarding external nasal appearance. The most commonly preferred height of the nasion, measured from the corneal plane, was 6 mm among both sexes, and the most commonly preferred depth of the nasion, measured from the glabella plane, was 3 mm among both sexes. Regarding the nasofrontal angle, men preferred an angle of 135 degrees and women preferred an angle of 140 degrees. Men preferred a nasofacial angle of 33 degrees while women preferred an angle of 30 degrees. A straight nasal dorsum was most commonly preferred among both sexes and the most commonly preferred dorsal width was 13 mm among men and 10 mm among women. The most commonly preferred tip projection was 30 mm among men and 27 mm among women and the preferred tip angle was 105 degrees among both sexes. The angle of the apex in the most commonly preferred nasal base configuration was 85 degrees among men and 70 degrees among women. The angle of the apex in the most commonly preferred lobular configuration was 65 degrees among both sexes. The most commonly preferred ratio between nostril length and the distance from the subnasale to the tip was 45 percent among both sexes. The most commonly preferred angle between both nostril axes was 60 degrees among both sexes. The most commonly preferred nasolabial angle was 90 degrees among men and 95 degrees among women. The main difference in preference between Koreans and Caucasians seemed to center on the radix area rather than the tip. These results can be useful as basic guidelines for rhinoplasty.

KEY WORDS: Rhinoplasty · Preference · Survey.

INTRODUCTION

Interest in the nasal shapes influencing facial appearance has grown over recent years as concern about beauty has increased. Although the nose is not as expressive as the eyes and the lips, it produces a deep impression. Demand for rhinoplasty has been on the increase over the past several years.2) Also, a considerable amount of literature is devoted to defining and developing the ideal nose.3-5) Despite this, there is little objective information about Korean preferences regarding the external appearance of the nose.6) Rhinoplasty in Korea has been based on surgeons’ past experiences, personal biases, and shapes preferred by Caucasians. Because the parameters of beauty, harmony, and proportion vary across cultures and geographic areas and change over time, surgeons should be sensitive to these factors. The aim of this study was to obtain objective data about what external nasal appearances Koreans prefer.

MATERIALS AND METHODS

Subjects

The survey was conducted from June 1997 through July 1997 among men and women aged 20 to 39 years in Inchon, Korea. The subject pool consisted of college students and employees requested to choose which nasal shape they most preferred. Replies were obtained from 321 subjects (167 men and 154 women) out of 412 subjects who were asked to fill out a questionnaire.

Methods

Fifteen clinically well-known items about nasal shapes4-9) were used in the survey. Five variations of each item were photographed and presented to the subjects, who were then asked to indicate their preference (Fig. 1). In order to eliminate any bias or neglected errors that might affect the survey, each photograph was taken with the same camera and film and with the same background and lighting and was presented in the same sized format. To measure the preferred length, a ruler was included in each photograph and the photographs were enlarged to actual life size by slide projection in analysis.
The 15 items consisted of the following. The height of the nasion was measured from the corneal plane on the lateral view (Fig. 2). The depth of the nasion was measured from the glabella plane on the lateral view. The nasofrontal angle was measured from the angle between the line from the nasion to the tip and the line from the nasion to the glabella on the lateral view. The nasofacial angle represented the angle between the line from the nasion to the tip and the vertical facial plane, which is a line perpendicular to the Frankfort horizontal plane on the lateral view. The shape of the nasal dorsum was evaluated on the lateral view. The dorsal width was measured between the lines reflected on the nasal dorsum on the frontal view (Fig. 3).

The tip projection was measured from the vertical facial plane tangent to the alar crease to the tip (Fig. 2). The tip angle was measured as the angle intersected by the vertical facial plane tangent to the alar crease and the line to the tip. The angle of rotation was measured from the angle intersected by the line tangent to the columella and the line from the columella breakpoint to the tip.

The nasal base configuration is generally triangular in shape and an angle was measured from the apex of the triangle (Fig. 4). The lobule configuration is also generally triangular in shape and an angle was measured from the apex of the triangle. The length ratio of the nostril was calculated by dividing the length of the nostril by the distance from the subnasale to the tip. The angle of both nostril axes was measured from the angle intersected by both nostril axes.

The shape of the columella limb was evaluated on the lateral view (Fig. 2). The nasolabial angle, also known as the columella-labial angle, was measured from the angle intersected by the columella limb, which is the line from the columella breakpoint to the subnasale, and the labial limb, which is the line from the subnasale to the sulcus border of the upper lip.

**RESULTS**

Results of the survey are summarized in Table 1. The most commonly preferred heights of the nasion from the corneal plane...
The preferred depths of the nasion from the glabella plane were 3 mm (47%) and 2 mm (20%) among men and 3 mm (47%), 4 mm (29%), and 2 mm (20%) among women. Regarding the nasofrontal angle, men preferred 135 degrees (52%) and 130 degrees (26%) and women preferred 140 degrees (77%). Regarding the nasofacial angle, the survey revealed that the preferred angles were 33 degrees (53%) and 30 degrees (25%) among men and 30 degrees (59%) and 33 degrees (25%) among women. With regard to the dorsal shape, men preferred the straight shape (35%) and the smooth convex shape (25%) and women preferred the straight shape (61%) and the smooth convex shape (29%). The preferred dorsal widths were 13 mm (37%) and 8 mm (31%) among men and 10 mm (39%), 12 mm (38%), and 6 mm (9%) among women.
Regarding the height of the nasion from the corneal plane, the results of this study accord with one other survey. The results are also similar to the actual average measured from subjects generally considered to be attractive, which is 5.24 mm in men and 5.45 mm in women. The ideal height of the Caucasian nose, however, is 12 mm, while the actual average height of measurement is 8 mm. The preferred depth of the nasion from the glabella plane was 3 mm among Korean men and women in this study. This is in contrast to the ideal depth for the Caucasian nose, which is 4 mm to 6 mm. Clearly, there is a difference in preference between Koreans and Caucasians about the radix area.

The preferred nasofrontal angle was 135 degrees among Korean men and 140 degrees among Korean women. Similarly, the angle preferred by Caucasians is 134 degrees. The preferred nasofacial angle found in this study is close to the actual average angle measured from subjects generally considered attractive, which is 32 degrees in men and 30 degrees in women. The ideal angle of the Caucasian nose is four degrees greater than that of the Korean nose.

It was very difficult to measure with great accuracy the dorsal width, due to vagueness of the dorsal line reflected from the nasal dorsum. The dorsal width preferred by men was 13 mm while that preferred by women was 10 mm, which leads to the conclusion that women prefer a narrower dorsum than men.

In this study, the angle of the apex in the preferred nasal base configuration was 85 degrees among Korean men and 70 degrees among Korean women. Regarding the lobule configuration, an angle of 65 degrees was preferred by both sexes. The preferred nasal base shapes seem to be narrower among women, however, the preferred lobular shapes seem to be similar for both sexes. The preferred angles between both nostril axes measured 60 degrees for both sexes. This fact suggests that Koreans prefer angles that are sharper than those of actual measurement. Regarding the columnella shape, men preferred the straight shape and women preferred the smooth convex shape. Caucasians prefer the straight shape.

With regard to the tip angle, men preferred an angle of 105 degrees and women preferred angles of 105 degrees and 110 degrees in this study. Danie has reported that the ideal angle is 100 degrees for men and 105 degrees for women, which, together with the findings of this study, indicates that the tip angles preferred by Koreans are greater than those preferred by Caucasians. Regarding the tip projection, men preferred 30 mm and women preferred 27 mm in this study. Caucasians also prefer a 30 mm tip projection. When the nasolabial angle, also known as columnella-labial angle, was measured, it was difficult to identify the subnasale as an anatomically accurate point because of its round shape. The average actual nasolabial angles are 88 degrees in Korean men and 94 degrees

**DISCUSSION**

Standards of beauty and preferences about nasal shapes have changed as time has passed. These standards and preferences also vary according to regional differences and disparity of age. Therefore, when rhinoplasty is considered, it is important to have an understanding of the nasal shapes preferred by those who want to correct their noses, that is, adults who are highly conscious of their appearance and who are active in society. It was for this reason that college students and employees aged 20 to 39 years were considered appropriate for this study.

**Table 1.** The most commonly preferred external nasal appearances among Koreans

<table>
<thead>
<tr>
<th>Items</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height of the nasion from the corneal plane</td>
<td>6 mm</td>
<td>6 mm</td>
</tr>
<tr>
<td>Depth of the nasion from the glabella plane</td>
<td>3 mm</td>
<td>3 mm</td>
</tr>
<tr>
<td>Nasofrontal angle</td>
<td>135 degrees</td>
<td>140 degrees</td>
</tr>
<tr>
<td>Nasofacial angle</td>
<td>33 degrees</td>
<td>30 degrees</td>
</tr>
<tr>
<td>Dorsal shape</td>
<td>Straight</td>
<td>Straight</td>
</tr>
<tr>
<td>Dorsal width</td>
<td>13 mm</td>
<td>10 mm</td>
</tr>
<tr>
<td>Nasolabial angle</td>
<td>90 degrees</td>
<td>95 degrees</td>
</tr>
</tbody>
</table>

The tip projections most preferred by men were 30 mm (48%) and 27 mm (20%) and those preferred by women were 27 mm (36%) and 32 mm (35%). Regarding the tip angle, men preferred an angle of 105 degrees (78%) and women preferred angles of 105 degrees (71%) and 110 degrees (19%). The preferred angles of rotation were 40 degrees (42%) and 35 degrees (42%) among men and 35 degrees (48%) and 25 degrees (34%) among women.

With regard to the shape of the nasal base configuration, men preferred 85 degrees (31%) and 75 degrees (26%) and women preferred 70 degrees (70%), 65 degrees (12%), and 80 degrees (12%). Regarding the shape of the lobular configuration, men preferred 65 degrees (32%), as did women (72%). The length ratio of the nostril most preferred by men was 45 percent (72%) and those preferred most by women were 45 degrees (48%) and 50 degrees (32%). Regarding the angle between both nostril axes, men preferred 60 degrees (38%) and 55 degrees (22%) and women preferred 60 degrees (74%).

Regarding the shape of the columnella limb, men preferred the straight shape (38%) and the smooth convex shape (32%) and women preferred the smooth convex shape (69%) and straight shape (31%). Regarding the nasolabial angle or the columella-labial angle, men preferred angles of 90 degrees (42%) and 85 degrees (21%) and women preferred angles of 110 degrees (40%) and 95 degrees (40%).
in Korean women.\textsuperscript{12}) The present survey, using photographs, indicated the preferred angle to be 90 degrees among Korean men and 110 degrees and 95 degrees among Korean women. Daniel\textsuperscript{13}) has reported the average angle in Caucasians to be 104.2 degrees, however, the ideal angles to be 92 degrees for men and 105 degrees for women. Regarding the tip projection and the nasolabial angle, preferences seemed to be similar for both Koreans and Caucasians.

CONCLUSION

The main difference in preference between Koreans and Caucasians seems to center on the radix area rather than the tip. Objective data obtained from this study can be useful as basic guidelines when performing rhinoplasty.

REFERENCES