Association of the Nipple-Areola Complexes with Age, Parity, and Breastfeeding in Korean Premenopausal Women

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Background: There is no standard method of measuring the nipple-areola complex or defining the normal range and the changes seen in this complex. Numerous factors are involved in the anthropometric characteristics of the nipple-areola complex.

Objective: The purpose of this study was to evaluate the anthropometric characteristics of the nipple-areola complex related to age, parity, and breastfeeding in 234 premenopausal Korean women (468 breasts).

Methods: This cross-sectional study was conducted from May 2011 to June 2012. Five parameters of both nipple-areola complexes were measured in volunteers who were placed in a supine position. The diameters of the nipple-areola complex and the nipple projection were measured using micrometer calipers.

Results: The size of the nipple-areola complex increased according to age (P < .05). The measurements of the right nipple and the vertical diameter of the right areola were larger than those of the left sides in all age groups. There were no differences in the horizontal areola diameter and nipple projection between the 2 sides. The left horizontal areola diameter in breastfeeding parous women was larger than that in the nonbreastfeeding parous women group (P = .011). The nipple projection was associated with the duration of breastfeeding (especially more than 12 months). The percentage of women with retracted nipples was 11.2%.

Conclusion: Our study may be helpful in understanding nipple-areola complex changes related to age, parity, and breastfeeding. These results should be evaluated with larger study cohorts and more longitudinal studies to better understand factors related to changes of the nipple-areola complex.

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