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Prevalence of Facial Dimples among the Ndokwa People in Delta State, Nigeria

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ABSTRACT

Facial dimples are profoundly valued because the face is exceptionally visible, and it is a significant outlet for communicating thoughts and feelings. This study was carried out to determine the prevalence and pattern of facial dimples among the Ndokwa people of Delta State in Nigeria. This study adopted an observational cross-sectional study design and was conducted at Obiaruku in Delta State and involved male and female Ndokwas of Delta State. 384 subjects were used and the cluster sampling technique was adopted. Ethical clearance/approval was gotten from the Ethical Committee of the Department of Human Anatomy and Cell Biology, Delta State University, Abraka in Nigeria and data was collected with the aid of a questionnaire. The questionnaire included the following: age, gender, presence of facial dimples, the pattern of facial dimples, presence of facial dimples among parents of the respondents, pattern of facial dimples among parents of the respondents, and perception towards facial dimples. Data obtained were subjected to Statistical Package for the Social Sciences (SPSS). Chi-square was used to compare the prevalence of facial dimples between the sexes and a p-value lesser than 0.05 was considered to be statistically significant. Most of the subjects in this study were females (n=196, 51%) while minorities were males (n=188, 49%) and aged 18-23years, followed by 24-29 years, 30-35 years, and 36-40years. The prevalence of facial dimple was 31.8% (n=122). Most of the facial dimples were located in the cheek, followed by the chin. This present study demonstrated a higher prevalence of facial dimples among females than males. Facial dimples can be inherited and the dominant gene is thus responsible for this inheritance pattern.

Keywords: Facial, dimple, prevalence, Ndokwa, Nigeria

Introduction

Dimples are small visible indentations on the skin, and when present on the face, supposedly enhance beauty and expression and to a great extent, valued by others. Dimple exist as shallow or deep, but the deep dimple looks more appealing than shallow dimple though the shallow dimple gives delightful look. Dimples make the smile more prominent, which increase the view of expression and facial beauty (1).

Facial dimples are highly seen because is extremely visible in the face, and an important channel for expressing feelings and emotions beyond words. Facial dimples has a tendency to accentuate a smile, thus increasing the insight of attractiveness, sociability and facial beauty (2). Dimples are transient or permanent, depending on the cause or factor responsible for their occurrence (1).

The physical traits are observable attributes dictated by explicit sections of genetic materials known as genes which make every individual (3). Humans have hereditary traits including both dominant and recessive (4). The dominant genes liable for the inheritance of facial dimples have been proposed to be situated on chromosome 5 for the cheek dimple gene and chromosome 16 for the chin dimple gene. It could subsequently be construed that both dominant genes reside in individuals who express these dominants traits (1).

Morphological and behavioral hereditary characteristics demonstrate the ethnic variation and the diversity among humans. These features give novel chance to examine the morphogenetic variation among the endogamous populations living in various topographical and ecological conditions (5). Dimples occur in both sexes, with no predominance in either sex (1).

Anatomically double or bifid zygomaticus muscles are liable for facial dimples. This facial muscle enclosure into dermis causes a dermal tethering effect (6). Smiling makes the overlying skin draw inward, making the dimples larger and progressively obvious. Be that as it may, conversely, chin dimples are formed due to an underlying bone defect (7).

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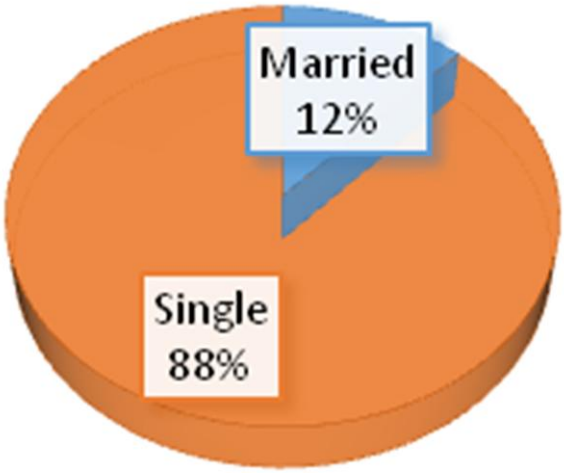

Fig 1. Marital Status of Respondents

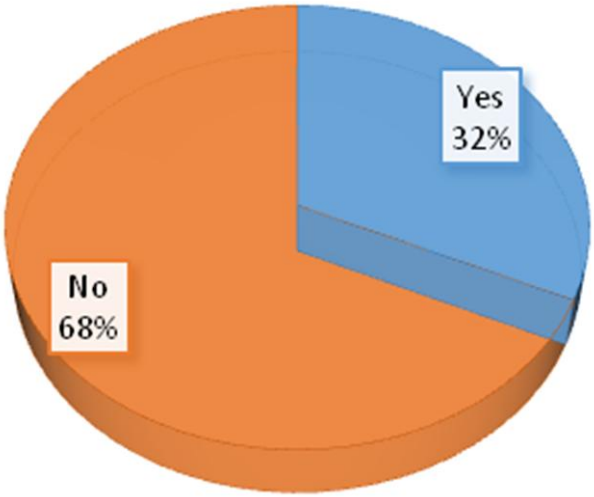

Fig 2. Prevalence of Facial Dimples

It is progressively common to have dimples occurring on both cheeks (bilateral) than one cheek (unilateral). Incomplete union of both halves of mandible is thus responsible for a cleft chin which results in a Y-shaped fissure at the center of the lower jaw-bone (8). This study was done to determine the occurrence and pattern of facial dimples among the Ndokwa people of Delta State. The study will be of value to plastic surgeons as they would be competent in deciding the most preferred pattern of facial dimples.

Materials and Methods

This present study adopted an observational cross-sectional study design and was conducted at Obiaruku in Delta State and included male and female Ndokwas of Delta State in Nigeria. Three hundred and eight-four (384) subjects were used and the cluster sampling technique was adopted. Data was collected using a self-administered questionnaire. The questionnaire included the following: age, gender, presence of facial dimples, the pattern of facial dimples, presence of facial dimples among parents of the respondents, pattern of facial dimples among parents of the respondents, and perception towards facial dimples.

The study excluded subjects who had surgically created facial dimples and subjects whose facial dimples were caused by an accident or injury. Ethical clearance/approval was gotten from the Ethical Committee of the Department of Human Anatomy and Cell Biology, Delta State University, Abraka in Nigeria. Preceding information assortment, the subjects were informed of the nature and reason for the study, and only those who gave their consent participated.

Data obtained were subjected to Statistical Package for the Social Sciences. A comparison of the prevalence of facial dimples between the sexes was carried out using chi-square and a p-value lesser than 0.05 was considered statistically significant.

Results

Most of the subjects in this present study were females (n=196, 51%) while minorities were males (n=188, 49%) and were aged between 18-23 years, followed by 24-29 years, 30-35 years, and 36-40 years. Minorities of the subjects (n=46, 12%) were married while majority (n=338, 88%) of the subjects were single.

The prevalence of facial dimples was 31.8% (n=122). Most of the facial dimples were located in the cheek, followed by the chin. Just a few of the subjects had facial dimples in both the cheek and chin.

Unilateral facial dimples were present in 15% (n=59) and had a prevalence of 9.6% (n=37) on the right side and a prevalence rate of 6.8% (n=26) on the left side. The prevalence of bilateral dimple among subjects was 16% (n=63).

Table 3 showed that most of the subjects with facial dimples had a normal depth, followed by mild depth and deep depth. Just a few of the subjects claimed their parents had facial dimples (n=88, 22.9%).

The most common hereditary feature of facial dimples was seen on the cheek, followed by the chin. Just a few had both cheek and chin dimples. The prevalence of facial dimple was higher among

Table 1. Age distribution of Respondents

Age (years)	Frequency	Percentage (%)
18-23	213	55.5
24-29	142	37.0
30-35	25	6.5
36-40	4	1.0
Total	384	100.0

Table 2. Location of Facial Dimples

Location	Frequency	Percentage (%)
Cheek	84	68.9
Chin	30	24.6
Cheek and Chin	8	6.5
Total	122	100.0

Table 3. Depth of Facial Dimples

Location	Frequency	Percentage (%)
Normal	56	45.9
Mild	42	34.4
Deep	24	19.7
Total	122	100.0

females when compared with their male partners. There was, be that as it may, no decisive gender variation in the frequency of facial dimple ($p>0.05$) (see tables 4 and 5).

Table 6 demonstrated that the prevalence of bilateral facial dimples was higher in males when compared to their female counterparts. This was however not statistically significant ($p>0.05$).

Table 7 showed that the prevalence of unilateral facial dimples was lower in males when compared to their female counterparts. This was however not statistically significant ($p>0.05$).

Discussion

This study provided new reliable information about the prevalence of facial dimples among the Ndokwa people of Delta State, Nigeria. The majority of the respondents in this current study were females (51%) while minorities were males (49%) and 55.5% of the respondents that participated were within the age bracket of 18-23years.

The occurrence of cheek dimples in the Ndokwa individuals was viewed as 68.9% and cheek dimples was the most frequent facial dimples among the Ndokwa people of Delta State and it was seen more frequently in females than males. Our outcomes are in accordance with the work detailed by Omotoso et al (1). An examination by Anibor, on the occurrence of facial dimples among the Niger Deltans in Nigeria, likewise indicated that cheek dimples occurred more regularly in females than males (9). Facial dimples were seen in Greek children and showed low frequency in males (12.7%) and high frequency in females (13.08%) (10).

We found that most of the subjects with facial dimples had a normal depth, followed by mild depth and deep depth. It was also shown that 88.6% of the participants (male and female) had shown inheritance of both cheek and chin dimples from one or both of their parents. The results of an examination by Omotoso et al. are steady with our findings (1). The prevailing genes responsible for the inheritance of facial dimples have been suggested to be given on chromosome 5 for the cheek dimple gene and chromosome 16 for the jaw dimple gene respectively (11). It could, therefore, be inferred that both predominant genes live in individuals who express these prevailing characteristics.

Bilateral facial dimple was commoner in males when compared to their female counterparts while unilateral dimple was rarer in males when compared to their female counterparts. This

Table 4. Hereditability of Facial Dimples

Location	Frequency	Percentage (%)
Cheek	58	65.9
Chin	20	22.7
Cheek and Chin	10	11.4
Total	88	100.0

Table 5. Association between Gender and the Prevalence of Facial Dimples

Gender	Presence of facial dimples	
	Yes	No
Male	60 (49.2%)	128 (48.9%)
Female	62 (50.8%)	134 (51.1%)
Total	122 (100%)	262 (100%)

P = 0.953 (not significant)

Table 6. Association between Gender and the Prevalence of Bilateral Facial Dimples

Gender	Presence of bilateral facial dimple	
	Yes	No
Male	32 (50.8%)	156 (48.6%)
Female	31 (49.2%)	165 (51.4%)
Total	63 (100%)	321 (100%)

P = 0.750 (not significant)

Table 7. Association between Gender and the Prevalence of Unilateral Facial Dimples

Gender	Presence of unilateral facial dimple	
	Yes	No
Male	28 (47.5%)	160 (49.2%)
Female	31 (52.5%)	165 (50.8%)
Total	59 (100%)	325 (100%)

P = 0.802 (not significant)

difference was however not statistically significant ($p>0.05$). This current study concurred with the trend in Southern Nigeria, where the frequency of unilateral types of cheek dimples occurred more frequently in females than males, but this present study did not agree with the trend in Southern Nigeria, where the frequency of bilateral types of cheek dimples occurred more frequently in females than males but instead this current study opined males than females. In Southern Nigeria, a male is bound to have a unilateral left cheek dimple than a right cheek dimple, while a female is more likely to have a unilateral right cheek dimple than a left dimple (12,1).

Taking everything into account, this current examination demonstrated a higher predominance of facial dimples among females than males. The reason for the possible different values of parameters in the different populations may be linked to genes and can be inherited and the dominant gene is thus responsible for this inheritance patterns.

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