

Gender Related Differences in the Possible Effect of Simian Crease on Alexithymia Scores in University Students

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ABSTRACT

Background: The simian crease is a single line on the palm. Normal healthy people can have it on their one or both palms, but it can be seen in persons with different pathologies such as Down's syndrome, leukemia, Alzheimer's disease, and some behavioral problems.

Methods: Fifty-seven Nigerian university students participated to the study. Participants were 38 men and 19 women who were 18-24 years of age. To get their alexithymia scores were used the Toronto Alexithymia Scale.

Results: There were no simian crease status-related statistically significant differences in alexithymia scores in the total sample, in male and in female subjects. However, there were statistically significant gender-related differences in total sample ($t=2.128$, $p=0.038$) and in subjects with simian crease ($t=2.551$, $p=0.016$), but not in subjects without simian crease.

Discussion: Gender related differences in the possible effect of simian crease on alexithymia scores in university students in the present study, the increased alexithymia scores in women compared to men in the normal population suggest that simian crease may be an important congenital or genetic factor in the pathogenesis of some psychologic abnormalities including depression and alexithymia, especially in women.

Conclusion: Therefore, the simian crease status can be taken into consideration in the diagnosis and clinical follow-up of alexithymia, especially in women

Key words: Simian crease, Alexithymia, Genetic, Gender, Psychology

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INTRODUCTION

The simian crease is a single crease on the palm and uncommon in normal population. It is produced congenitally by the unity of the two normal transverse palmar creases. The simian crease captured physician's attention because it can be together with some hereditary abnormalities [1]. It has been associated with different health conditions including Down's syndrome, leukemia, Alzheimer's disease, and some psychological disturbances and developmental problems at young ages [2]. Additionally, some exceptionally intelligent

individuals may have the simian crease [3]. The term "alexithymia" was first used by Sifneos, et al. in 1972 [4]. Three substantial characteristics causes' alexithymia diagnosis: People with alexithymia are failed (a) To identify emotions, (b) To exhibit feelings, (c) To produce different fantasies [5]. Other problems are difficulties to differentiate between feelings and physical feelings (states) secondary to emotional excitement, lack of self-examination, tendency to social conformity, reduction of daydreaming, externally oriented thinking [6], shortfall in the identifying of emotions within oneself or others [7], use of irrelevant defense mechanisms (e.g. projection) [8], lack of compassion, cold and reserved attitude towards other people [9], inability to establish close relationships and limited social skills [10].

In a study of healthy athletes, it has reported the relationship between alexithymia and the likelihood of sport accidents. People who have difficulty identifying and describing their emotions are more likely to seek out the experience of emotions. Alexithymia was associated with greater risk taking and a greater propensity to experience accidents [11]. There is no study about the associations between simian crease positivity and alexithymia in normal healthy university students. The present study aimed to investigate the relationships of simian crease positivity with alexithymia scores in normal healthy Nigerian university students.

METHODS

Participants

Fifty-seven university students who had classes at the time of the study were approached and requested to join the study. Thirty-four students with a simian crease were discovered. They and 23 university students without a simian crease were included in the study. All of them accepted to participate in this study voluntarily (38 men, average age=21.02 years, standard deviation, SD=0.92; 19 women, average age=21.48, SD=1.11). They were students of the different faculties (arts and humanities, science and engineering, law, college of health sciences) at Nile University of Nigeria, private tertiary institution in Abuja, Nigeria. The age of the participants was not different statistically by sex.

Inclusion criteria

1. Willingness to participate.
2. Only students were allowed to participate.
3. Only undergraduate students studying were included in the study.

Exclusion criteria

1. The study excluded participants that were not willing to be involved.
2. Students with respiratory, metabolic, cardiac, psychiatric or central and autonomic nervous system disease that might change the alexithymia scores were not involved.

Procedure

The experimental protocol was by following international ethical standards. The study was performed per under the Helsinki Declaration (1975, revised in 1996-2013). It was a descriptive cross-sectional study. The aims and objectives of the study were explicitly explained to the participants before the commencement of the study. All participants voluntarily gave written informed consent to participate in the study. The study was anonymous. A paper-and-pencil based method of filling questionnaires was utilized. Participants were administered the Toronto Alexithymia Scale (TAS-20) to assess the self-esteem score. The study was made between November 2019 and December 2019.

Alexithymia

Toronto Alexithymia Scale (TAS-20) [12] was used to get the alexithymia scores. The reliability and validity of TAS-20K have been well-demonstrated in adults by Lee et al. in 1996 [13] and in adolescents Seo et al. in 2009 [14]. A survey was carried out to assess alexithymia scores. The subjects were asked to rate the degree to which they agree with each of the statements using a five-point Likert rating scale that ranges from "strongly agree" to "strongly disagree."

Statistical analyses

Measured values are given as a mean +/- standard deviation. Statistical analysis was performed by using SPSS for Windows (version 18) statistical program. Student's t (independent sample test) was used to compare the alexithymia scores in university students. A p value less than 0.05 were considered significant.

RESULTS

There were no simian crease status-related statistically significant differences in alexithymia scores in the total sample, in male and in female subjects (Table 1). However, there were statistically significant gender-related differences in total sample (t=2.128, p=0.038)

Table 1: The mean (\pm SD) alexithymia scores by gender and simian crease status.

	Subjects with a simian crease	Subjects without a simian crease	T	p
Total sample (N=57)	113.29 \pm 16.638 (N=34)	112.35 \pm 9.013 (N=23)	0.249	0.805
Men (N=38)	108.32 \pm 12.62 (N=22)	112.81 \pm 8.589 (N=16)	-1.23	0.227
Women (N=19)	122.42 \pm 19.649 (N=12)	111.29 \pm 10.563 (N=7)	1.376	0.187
Gender Difference (t, p)	t=2.551, p=0.016	t=0.366, p=0.718		

and in subjects with simian crease ($t=2.551$, $p=0.016$), but not in subjects without simian crease ($t=0.366$, $p=0.718$) (Table 1).

DISCUSSION

In previous studies, the relationships of some environmental and hereditary factors such as gender, education, physical abnormalities, handedness, marital status, visual memory, and salivary testosterone with some psychologies including self-esteem, alexithymia, depression [15-19].

The simian crease can be seen in 5% of newborns. It is inherited as a genetic trait and mostly accepted as an anatomical variance. However, the simian crease in only one or both hands can be associated with some genetic disorders including Down's syndrome, with some congenital disorders including fetal alcohol syndrome and with some psychological abnormality such as depression. However, the prevalence of the simian crease is very low in the normal population but its usefulness in diagnosing congenital disorders, discussion of cases of those disorders could provide clinicians with further helpful diagnostic knowledge [20]. In a recent study, there were no simian crease positivity-related differences in self-esteem scores, but there was a simian crease positivity-related difference in the depression scores in only female subjects [21]. Some possible relationships between simian crease positivity and alexithymia can be expected. In the present study, there is no direct relationship between the alexithymia score and simian crease status in university students. However, there were gender-related differences in total sample and in subjects with simian crease, but not in subjects without simian crease. Women with simian crease had the higher alexithymia scores compared to men with simian crease. In recent two studies, alexithymia [18] and depression [16] scores were higher in healthy female university students than male university students.

Gender related differences in the possible effect of simian crease on alexithymia scores in normal healthy university students in the present study, the increased alexithymia [18] and depression [16,22-25] scores in women than in men in the normal population in literature, and the relationships between genetic factors and

depression [26] suggest that simian crease may be an important congenital or genetic factor in the pathogenesis of some psychological abnormalities including depression and alexithymia, especially in women.

CONCLUSION

The results of the present study suggested that the simian crease status can be taken into consideration in the diagnosis and follow-up of alexithymia, especially in women. We need the robust replication studies with the large number of subjects to clarify the effects of simian crease on alexithymia.

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