

IMPORTANCE OF ANDROGYNY SCORE IN DIFFERENTIATION BETWEEN SEXES AND AS A DIAGNOSTIC TOOL IN SCHIZOPHRENIC FEMALESArpan Dubey¹**HOW TO CITE THIS ARTICLE:**

Arpan Dubey. "Importance of Androgyny Score in Differentiation between Sexes and as a Diagnostic Tool in Schizophrenic Females". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 11, February 05; Page: 1765-1768, DOI: 10.14260/jemds/2015/252

ABSTRACT: **AIM:** Importance of androgyny score in differentiation between sexes and as a diagnostic tool in schizophrenic females. **MATERIAL AND METHODS:** We studied 23 schizophrenic females diagnosed on basis of DSM-IV-TR criteria by consultant psychiatrist of M.Y. Hospital, M.G.M. medical college, Indore. 60 controls (28 females and 32 males) were also included in the study. Biacromial and bi-iliac diameter were measured by Martin's sliding anthropometer and androgyny score was calculated. **STATISTICAL ANALYSIS:** Mean and standard deviation were calculated. Further analysis of data was done using student's t-test. **RESULT:** Significant lower androgyny score was not observed in schizophrenic females in both groups and difference between androgyny was highly significant when males and females were compared. **CONCLUSION:** Androgyny score is very effective to differentiate between the sexes but not an effective tool for diagnosis in schizophrenic females.

KEYWORDS: androgyny score, biacromial diameter, bi-iliac diameter, schizophrenia.

MESHTERMS: schizophrenia: F03.700.750&DSM (diagnostic and statistical manual of mental disorders)-IV: L01.453.245.945.200.

INTRODUCTION: Anthropometry, a branch of physical anthropology, which indicates measurement of human body can be utilized for identifying, classifying and for diagnosis of several heterogeneous disorders like schizophrenia and for identifying sex of an individual. However anthropometric measurements are quite underutilized by practicing clinicians due to lack of available data. As age, sex and stature are primary characteristics of identification, differentiation between sexes is significant for anatomists, forensic experts and anthropologists for medico legal and humanitarian reasons.

The androgyny score is a measure of relative maleness and femaleness of a body build. The androgyny score enables the most effective differentiation to be made between the sexes.¹ Schizophrenia is characterized by disturbances in thought and verbal behavior, perception, affect, motor behavior and relationship to the external world.² Syndrome begins in late adolescence, has insidious onset, progressive in nature and present in low socio-economic families and is increasing worldwide problem.³

Previous studies done by Rey JH et al⁴ and Cowie V et al⁵ showed significantly lower androgyny score in both male and female schizophrenics whereas Kelsey FD⁶ found lower androgyny score only in female schizophrenics and Vivek M et al⁷ observed significantly lower androgyny score only in male patients.

Present study aims at evaluating androgyny score as a tool to differentiate between sexes and its diagnostic utility in schizophrenic females.

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MATERIAL AND METHODS: Study population comprised of 23 schizophrenic females well diagnosed on basis of DSM-IV-TR criteria by consultant psychiatrist of M.Y. Hospital, M.G.M. Medical College, Indore and 60 controls (32 males and 28 females) were also included in the study.

SELECTION OF CASES: Cases were both males and females, from 20 to 70 years of age of central India region, having no physical illness or psychiatric illness other than schizophrenia and having no congenital or hereditary disorders.

SELECTION OF CONTROLS: They were taken on same criteria as cases; in addition it was specifically observed that they were not blood relatives of schizophrenic patients.

- Anthropometric measurements were taken using sliding anthropometer.
- Biacromial diameter- a cms.
- Bi-iliac diameter- b cms.
- Androgyny score is calculated by formula.
- Androgyny score = $(3 \times a) - (1 \times b)$.
- After selections of cases and controls, following groups were made:

ETHICS: In the present study the procedures followed were in accordance with the ethical standards of 'Ethics Review and Scientific Literature Committee' M. G. M. Medical College, Indore (M.P.), India-452001.

STATISTICAL ANALYSIS: Mean and standard deviation were calculated. Further analysis of data was done using student's t-test.

OBSERVATION AND RESULT: The present study shows that androgyny score is very effective to differentiate between sexes as significant difference between androgyny score of males and females is observed. But it fails to show any diagnostic significance of androgyny score in schizophrenic females with and without family history of schizophrenia as difference between androgyny scores of schizophrenic females and control females is insignificant.

| Group | Biacromial diameter(cm) | | Bi-iliac diameter(cm) | |
|-------|-------------------------|------|-----------------------|------|
| | Mean | SD | Mean | SD |
| SF | 26.62 | 0.76 | 24.12 | 1.23 |
| SFF | 26.50 | 0.71 | 24.00 | 0.70 |
| CF | 26.79 | 0.84 | 24.54 | 0.77 |
| CM | 32.41 | 1.12 | 25.70 | 0.98 |

Table 1: Showing mean and standard deviation (SD) of biacromial diameter and bi-iliac diameter of schizophrenic cases and controls

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| Group | Androgyny score | |
|-------|-----------------|------|
| | Mean | SD |
| SF | 53.43 | 1.13 |
| SFF | 57.00 | 2.12 |
| CF | 55.61 | 1.96 |
| CM | 70.53 | 2.93 |

Table 2: Showing mean and standard deviation (SD) of androgyny score of schizophrenic cases and controls

| Group | Comparison group | 't' value | 'p' value | Significance |
|-------|------------------|-----------|-----------|-------------------|
| SF | SFF | 0.65 | >0.05 | No significance |
| SF | CF | 0.74 | >0.05 | No significance |
| SFF | CF | 1.19 | >0.05 | No significance |
| CF | CM | 24.10 | <0.001 | High significance |

Table 3: showing significance 't' value of Androgyny Score in Schizophrenic cases and controls.

ABBREVIATIONS: * = Standard deviation.

SF=schizophrenic females, SFF=schizophrenic females with positive family history of schizophrenia, CF=control females, CM=control males.

DISCUSSION: Present study shows that androgyny score is a reliable measure of relative maleness and femaleness of a body build and thus can be used to determine the degree of masculinity in females or femininity in males, which is in accordance with previous studies by Rey JH and Coppens AJ.⁴ In present study two groups were made, with and without family history of schizophrenia to elaborate the prevalence of genetic descendents but the difference between androgyny score in schizophrenic females in both groups is insignificant. Tanner JM,¹ Rey JH and Coppens AJ,⁴ Cowie et al⁵ found significantly lower androgyny score in both schizophrenic male and female patients but they did not mention whether patients were having positive family history or not. Kelsey FD⁶ found reduced androgyny score only in female schizophrenics. The results of study carried out by Vivek M et al⁷ were in accordance with that of present study. Martha Sajatovic et al⁸ also observed lower masculine characters in schizophrenic males and females.

CONCLUSION: This study is of anthropological and medico legal importance as the findings indicate that androgyny score can be effectively used to differentiate between the sexes. But it does not establish any clinical or diagnostic importance of androgyny score in schizophrenic females.

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