

## **SEXUAL DIMORPHISM OF HAND DIMENSIONS OF A GROUP OF MEDICAL STUDENTS**

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Sexual dimorphism is the phenotypic difference between males and females of the same species that influence the success of sexual reproduction. These morphological traits influence the biological role of males and females. These differences are not only reflected in the reproductive organs and external genitalia but also in other morphological features such as skeletal development, muscle mass, fat distribution, etc. As such sexual dimorphism of skeletal development and proportionate growth of body segments too are regulated by the sex chromosomes and sex hormones. These features are further modified by environmental factors such as nutrition and physical activity. Therefore, assessment of these features in the normal population would provide an insight to understand aberrant sexual development. The present study describes the sexual dimorphism and distribution of quantitative traits of hand in a group of medical students of Faculty of Medicine University of Peradeniya.

A sample of 284 healthy medical students aged between 21 to 26 were studied. The hand length, palm length, palm breadth, finger lengths, second finger length (2D) and fourth finger length (4D) were measured. Also Finger length /palm length ratio (fl/pl), finger length /palm breadth ratio (fl/pb), palm length /palm breadth ratio (pl/pb), 2D:4D ratio and summation of (fl/pl) + (fl/pb) + (pl/pb) were calculated. Descriptive statistics and distribution patterns were analysed using "Minitab 16" statistical software.

Accordingly the mean values (SD) of right hand measurements for females and males, respectively were; hand lengths 167.97 (7.35) mm and 184.54 (8.91) mm, palm breadths 72.32 (3.77) mm and 83.28 (3.92) mm, middle finger lengths 72.85 (4.05) mm and 79.74(4.16) mm, fourth finger lengths 67.59(3.85) mm and 74.44 (3.95) mm, palm lengths 95.031 (4.45) mm and 104.56 (5.64) mm. All anthropometric measurements and ratios demonstrated significant differences between males and females whereas left and right side measurements of each individual were not significantly different. Distribution pattern of palm breadth showed a better discrimination. Therefore, it was concluded that sexual dimorphism was apparent in anthropometric parameters of hand while the palm breadth been the best indicator of it.