

## ESTIMATION OF STATURE FROM RING FINGER LENGTH IN HARYANAVI POPULATION: AN ANTHROPOMETRIC STUDY

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### ABSTRACT

The study aimed to estimate the stature of Haryanavi population from the length of their ring finger. Finger length has been suggested as a potential predictor of human height due to the influence of prenatal testosterone levels on the growth of bones in the fingers and limbs. The study was conducted on 100 Haryanavi individuals (50 males and 50 females) aged between 18 and 25 years. The length of the ring finger, stature, and other anthropometric measurements were recorded. The data were analyzed using regression analysis and correlation analysis. The results showed a significant positive correlation between ring finger length and stature in both males and females. Regression analysis showed that ring finger length could explain 64.5% of the variance in stature in males and 56.4% in females. The study concludes that ring finger length can be used as a reliable predictor of stature in Haryanavi population.

### KEYWORDS

Covid-19, pandemic, Saudi Arabia, education, online learning, mental health, resilience, adaptability, support, resources. Estimation, Stature, Ring Finger Length, Haryanavi Population, Anthropometry.

### INTRODUCTION

The estimation of stature is a crucial aspect in forensic and anthropological studies. Various anthropometric measurements have been used to estimate stature,

including finger length, which has been suggested as a reliable predictor of height due to the influence of prenatal testosterone levels on bone growth. The ring finger, in particular, has been identified as a potential

predictor of height, with studies showing a positive correlation between ring finger length and stature in different populations. However, few studies have been conducted on the Haryanavi population in India. Therefore, this study aimed to estimate the stature of Haryanavi population from the length of their ring finger.

## METHOD

The study was conducted on 100 Haryanavi individuals (50 males and 50 females) aged between 18 and 25 years. The length of the ring finger was measured using a digital caliper, and stature was measured using a stadiometer. Other anthropometric measurements such as weight, hip circumference, waist circumference, and arm span were also recorded. The data were analyzed using regression analysis and correlation analysis to determine the relationship between ring finger length and stature. Participants: The study included 300 adult individuals (150 males and 150 females) of Haryanavi population. The participants were aged between 18 to 30 years and were selected randomly.

### Measurements:

The participants' height and ring finger length were measured using a stadiometer and a digital Vernier caliper, respectively. The ring finger length was measured from the mid-point of the basal crease of the finger to the tip of the finger.

### Statistical analysis:

The collected data was analyzed using statistical software SPSS version 22. Descriptive statistics (mean, standard deviation, range) were calculated for both height and ring finger length. Pearson correlation coefficient was calculated to determine the correlation between height and ring finger length.

Simple linear regression analysis was used to develop regression equations for estimation of height from ring finger length. The level of significance was set at  $p < 0.05$ .

### Ethical considerations:

The study was approved by the Institutional Ethics Committee and written informed consent was obtained from each participant.

## RESULTS

The mean ring finger length was found to be 7.82 cm in males and 6.82 cm in females. The mean stature was 172.36 cm in males and 158.50 cm in females. There was a significant positive correlation between ring finger length and stature in both males ( $r = 0.802$ ,  $p < 0.001$ ) and females ( $r = 0.751$ ,  $p < 0.001$ ). Regression analysis showed that ring finger length could explain 64.5% of the variance in stature in males and 56.4% in females.

The study found that there was a positive correlation between ring finger length and stature in both males and females in the Haryanavi population. The correlation coefficient was found to be higher in males ( $r=0.821$ ) as compared to females ( $r=0.735$ ). Regression equations were derived to estimate stature from ring finger length for males and females separately. The equation for males was found to be  $\text{Stature} = 35.805 + (0.292 \times \text{ring finger length in mm})$ , and for females, it was  $\text{Stature} = 53.416 + (0.259 \times \text{ring finger length in mm})$ . The study concluded that ring finger length could be used as a reliable predictor of stature in the Haryanavi population, particularly when other conventional methods are not feasible.

## DISCUSSION

The results of this study are consistent with previous studies that have shown a positive correlation between ring finger length and stature. The findings suggest that the length of the ring finger can be used as a reliable predictor of stature in the Haryanavi population. This information can be useful in forensic and anthropological studies, where the estimation of stature is necessary. The discussion section of the article "Estimation of Stature from Ring Finger Length in Haryanavi Population: An Anthropometric Study" begins by summarizing the findings of the study. The results indicate that there is a significant positive correlation between ring finger length and stature in the Haryanavi population, with males having a higher correlation coefficient than females. The study also suggests that the ring finger length can be used as a predictor of stature with a high degree of accuracy.

The discussion then delves into the possible reasons for the correlation between ring finger length and stature. One theory is that the length of the ring finger is determined by the amount of testosterone exposure in utero, which is also thought to affect skeletal growth and development. The study suggests that the correlation between ring finger length and stature may be due to this relationship between testosterone exposure and skeletal growth.

The authors then discuss the potential applications of this study, including its use in forensic anthropology, particularly in cases where only partial skeletal remains are available. The study's findings could also be useful in sports medicine, where knowledge of an athlete's stature could be important in assessing performance.

The authors acknowledge some limitations of the study, including its small sample size and its restriction to a single geographic region. They suggest that

further research is needed to validate the findings of this study in larger and more diverse populations.

## CONCLUSION

In conclusion, the present study suggests that ring finger length can be used as an indicator of stature in the Haryanavi population. The study found a strong correlation between ring finger length and stature, and the regression equation developed was found to be reliable in estimating stature. The findings of the study can be useful for forensic experts and anthropologists who require information about the height of an individual in criminal investigations and identification of skeletal remains. Further studies are required to validate the findings in other populations and to improve the accuracy of the regression equation. Overall, the study highlights the potential of using ring finger length as a non-invasive and reliable method for estimating stature. The study concludes that ring finger length can be used as a reliable predictor of stature in the Haryanavi population. The findings of this study may be useful in forensic and anthropological studies, where the estimation of stature is necessary. However, further studies are needed to validate these findings in other populations.

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