

A STUDY ON THUMBPRINT PATTERN IN RELATION TO BLOOD GROUP AND GENDER AMONG THE STUDENTS AND STAFF OF SAINT JAMES SCHOOL OF MEDICINE

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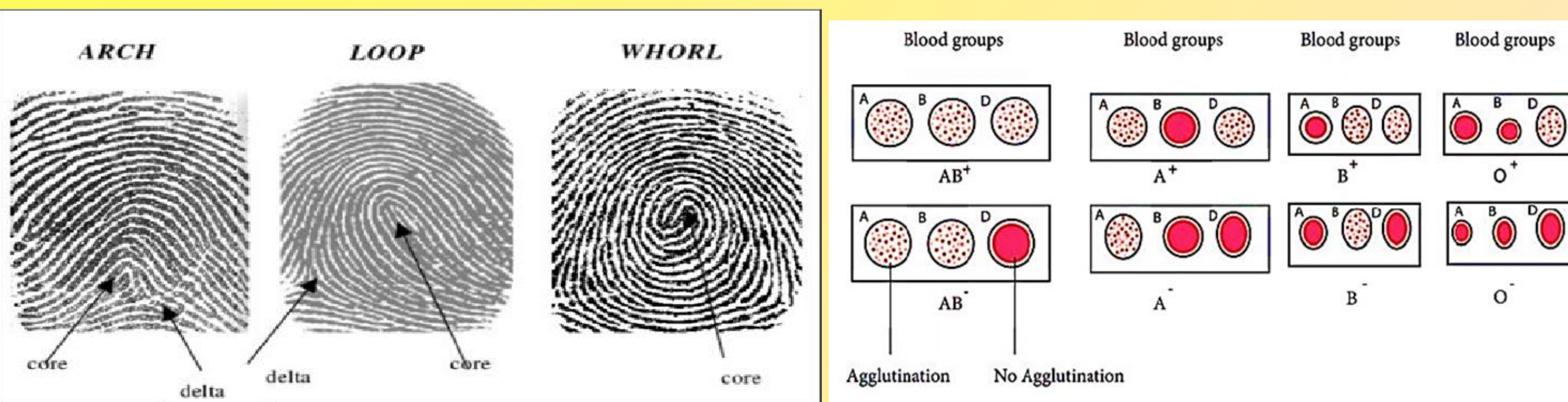
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INTRODUCTION:

The term dermatoglyphics (Fingerprint) was first identified by Anatomist Harold Cummins in 1926. Dermatoglyphics is defined as the scientific study of natural occurring epidermal ridges of digits, palms, and soles (Bhavana et al, 2013). The development of dermatoglyphic initiate from 12th-16th week of intrauterine life and accomplished by the 20th week of intrauterine life.² Fingerprint scans also used in biometric, validate electronic registration, cashless, library access, and forensic purpose.⁵ Sir Francis Galton in 1892 classified fingerprint primary pattern as loop (60-65%), whorl (30-35%), and arches (5%).⁶ ABO blood group classification technique was first discovered by Austrian Scientist Karl Landsteiner in 1901. According to Landsteiner's study, the most important ones among 19 groups are determined as 'ABO' and 'Rhesus'. In literature, there are a limited number of studies examining the relationship between fingerprints and blood groups. Fingerprint patterns formed during the fetal period is considered as the most accurate, easily available, rewarding method for identification in the practice of forensic medicine (Maheshwari, SE et al 2012). Current study aims to determine the relation of thumbprint patterns in different blood groups belonging to A,B, AB, O system, Rh factor and gender to find any association among different patterns and blood groups in undergraduate students and staff in Saint James school of medicine.

OBJECTIVES:

The purpose of this study was to find a correlation between Thumbprint pattern (dermatoglyphics), Gender, Rh Factor, and Blood type at Saint James.



MATERIALS AND METHODS:

A total 60 of undergraduate students and staff details such as name, age, blood group and gender were noted. Right and left thumb print pattern details of all participants were examined using magnifying glass and recorded. Along with thumb prints, each participant noted down their blood type, and Rh factor.

RESULTS AND DISCUSSION:

The results of the study discussed below

Fig. 1 shows the distribution of subjects according to blood group and gender and was recorded as that mainstream of subjects 20 (33.3%) go to blood Group "O" and followed by Group A 14 (23.3%), B 16 (26.7%), and AB 10 (16.7%). The p-values is more than 0.05, there is no significant correlation between blood group types and gender.

Fig. 2 shows the distribution of subjects according to Blood group and Rh Factors and it shows that maximum 46 (76.7%) subjects go to Rh-positive factors of blood and 14 (23.3%) go to Rh-negative factors of blood group. The P value is equal to 0.05, there is significant correlation between Blood types B, AB, and O and Rh factor. This results reject the null hypothesis.

Fig. 3 shows the distribution of fingertip pattern in the digit of both hands, and it shows that the maximum percentage 40% (48 digits) observed loops and followed by whorls of 36.7% (44 digits), and arches of 23.3% (14 digits). The p-values is more than 0.05, there is no significant correlation between fingerprint patterns and gender.

Fig 4 shows the distribution of fingertip pattern according to gender and we observed that out of 60 male finger digits, 26 (44.8%) have loops, 22 (36.2%) have Whorls, and 12 (19%) have Arches. In 60 female digits, 21 (35.5%) have Loops, 22 (37.1%) have Whorls, and 17 (27.4%) have Arches. The p-values is more than 0.05, there is no significant correlation between fingerprint patterns of both hands and gender.

Fig 5 shows the distribution of fingertip pattern of Right and left hand in 60 subjects according to ABO and Rh blood group in 120 finger digits. Incidence of loops were maximum in Rh-negative subjects of B blood group.

The above results showed significant correlation between Blood types B, AB, and O and Rh factor.

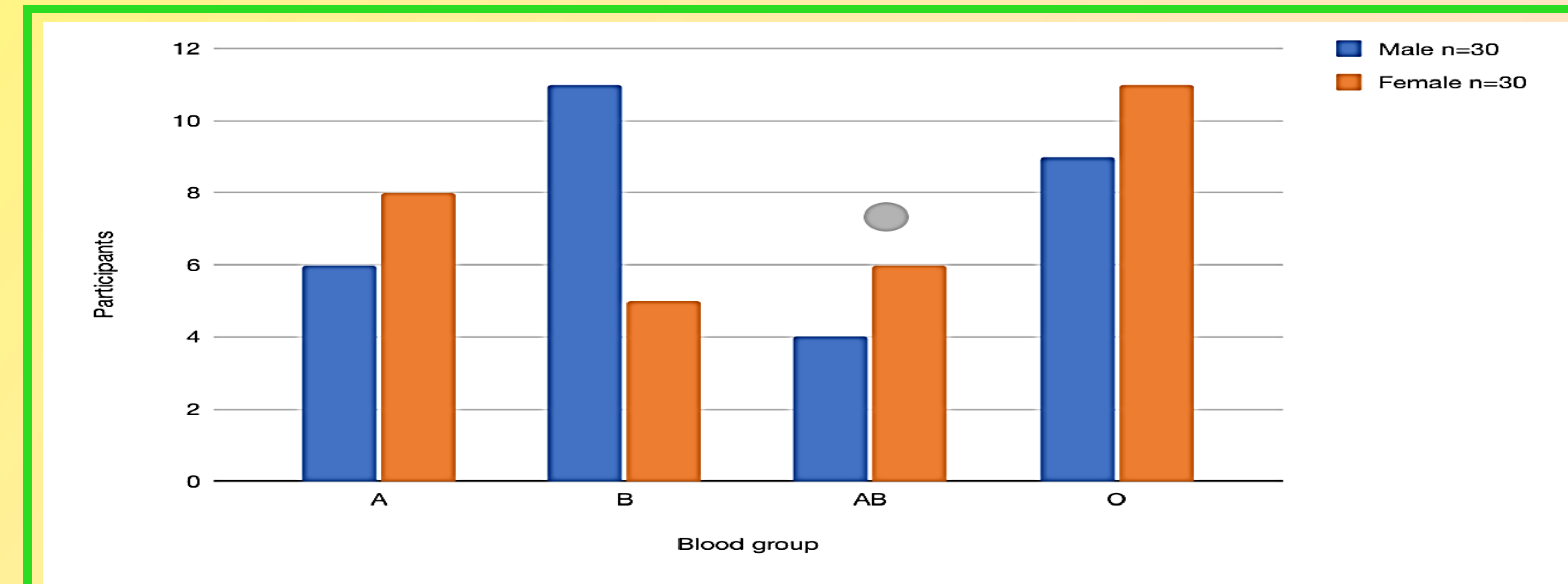


Figure 1: DISTRIBUTION OF SUBJECTS ACCORDING TO BLOOD GROUP AND GENDER

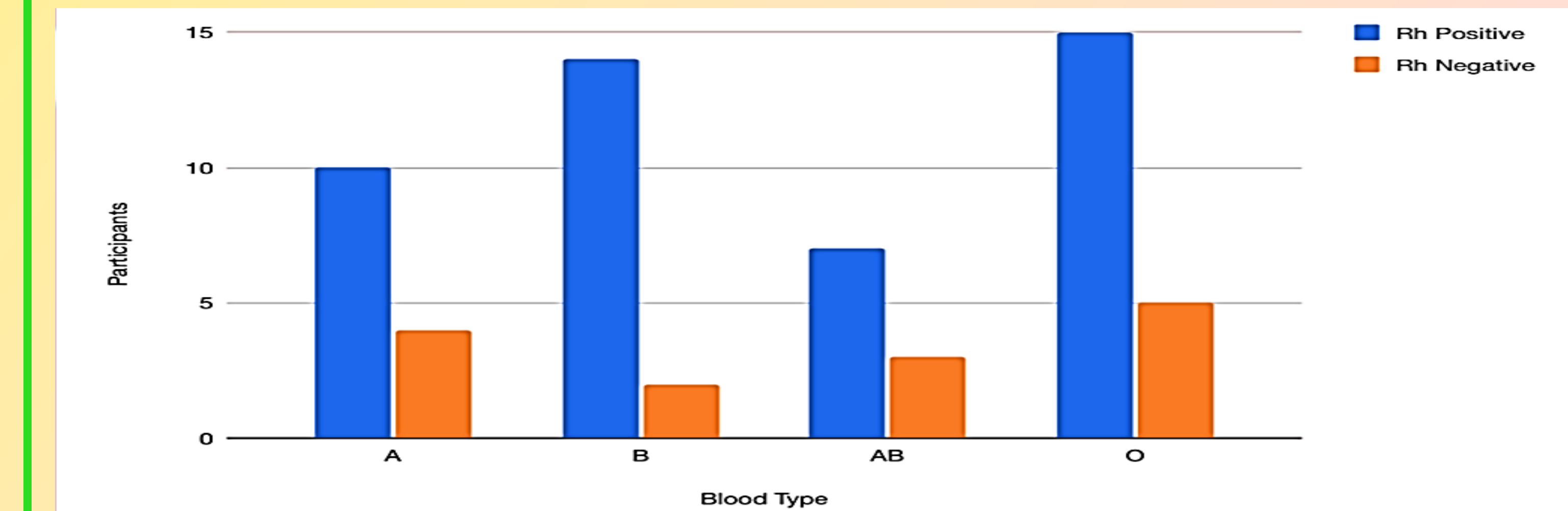


Figure 2: DISTRIBUTION OF SUBJECTS ACCORDING TO BLOOD GROUP AND Rh FACTORS

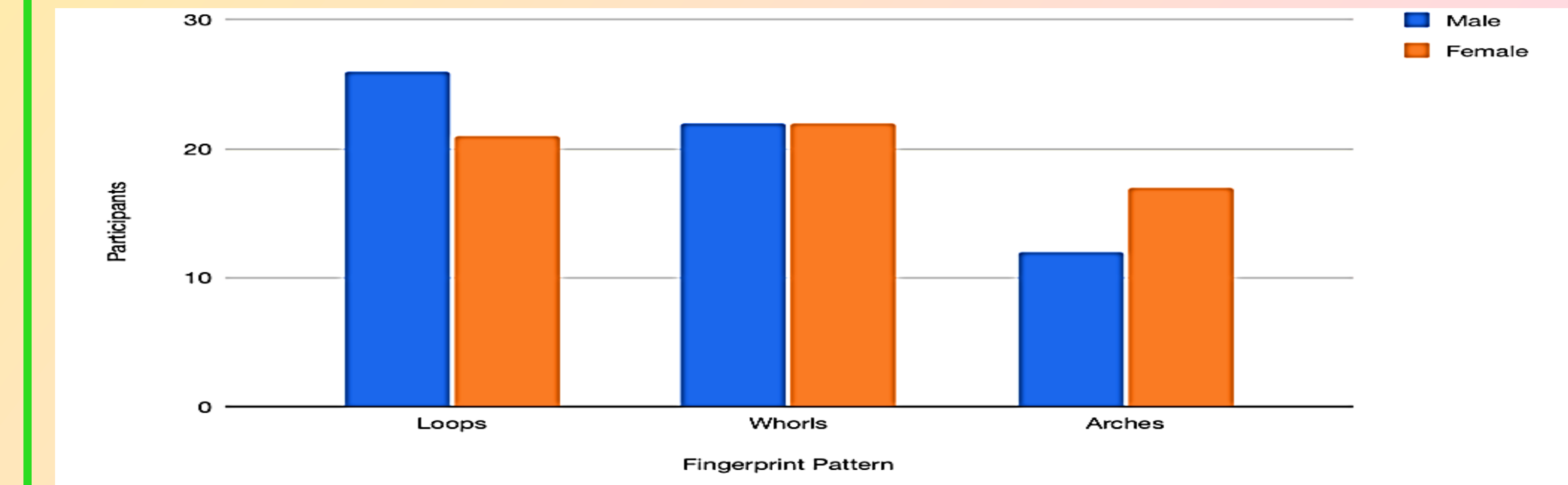


Figure 3: DISTRIBUTION OF FINGERTIP PATTERN ACCORDING TO GENDER

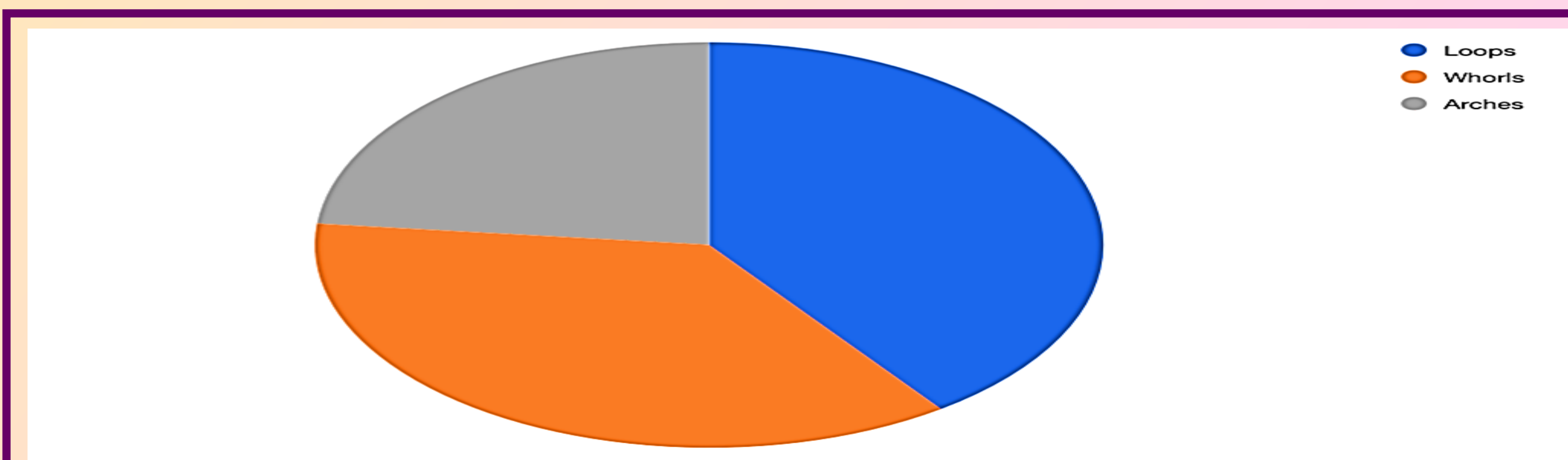


Figure 4: DISTRIBUTION OF FINGERTIP PATTERN IN THE DIGIT OF BOTH HANDS

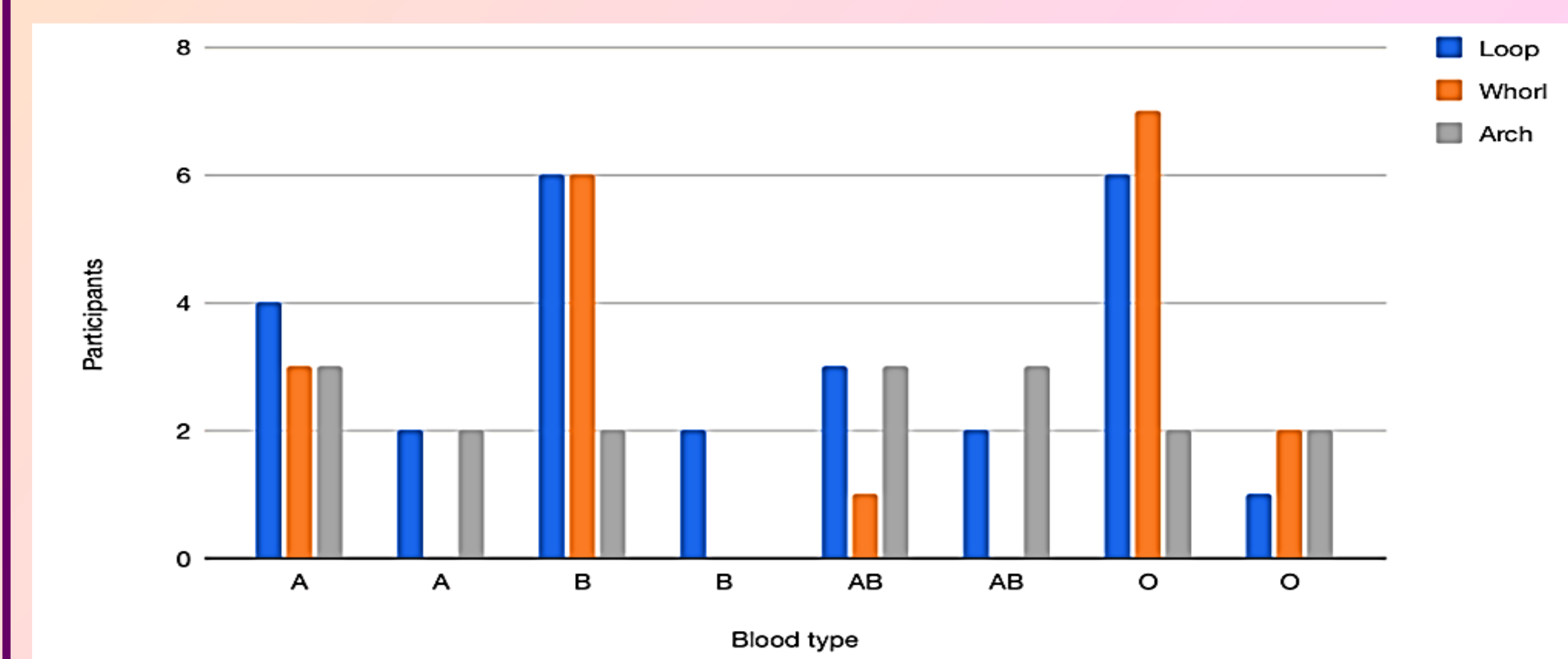


Figure 5: DISTRIBUTION OF FINGERTIP PATTERN OF RIGHT AND LEFT HAND IN 60 SUBJECTS ACCORDING TO ABO AND Rh BLOOD GROUP

CONCLUSION

There is significant correlation between blood types B, AB, O and Rh factor. There is no significant correlation in between other variable relations. The data obtained from this studies will be useful for future studies. To get significant correlation need to include more participants in this study. Dermatoglyphics having Forensic Importance.

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