INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND DENTAL HEALTH

Volume08 Issue09, Sep-2022, pg. 01-04

Published Date: - 04-09-2022

E-ISSN: 2454-4191
P-ISSN: 2455-0779

ASSOCIATION BETWEEN FINGERPRINT PATTERNS AND BLOOD GROUPS AMONG LIBYAN STUDENTS

Kawakeb Abd Alalim

Department of Zoology, Faculty of Sciences, Umar Al Mukhtar University, Albyda, Libya

Abstract: This study explores the potential association between fingerprint patterns and blood groups among Libyan students. Fingerprint patterns are unique to each individual and have been extensively studied in forensic and biometric applications. Blood group phenotypes, such as ABO and Rh types, are well-established genetic markers that vary among individuals and populations. The study involves a sample of Libyan students from [name of university/school], who provided both fingerprint impressions and blood samples for analysis. The fingerprint patterns were classified into arches, loops, and whorls, while blood group phenotyping was performed using standard serological methods. Data analysis aims to investigate any potential relationship between specific fingerprint patterns and blood group types. The findings may contribute to understanding genetic variations and forensic applications of fingerprint patterns and blood group phenotypes in the Libyan student population.

Keywords: Fingerprint patterns, blood groups, genetic variations, forensic applications, biometrics, Libyan students, ABO blood group, Rh blood group, genetic markers, phenotyping.

INTRODUCTION

Fingerprint patterns and blood groups are two distinct characteristics that are inherent to each individual and have been widely studied in various scientific fields. Fingerprint patterns, known for their uniqueness and stability over a person's lifetime, have been extensively used in forensic investigations, identification, and biometric applications. On the other hand, blood groups, including ABO and Rh types, are well-established genetic markers that exhibit variations among different populations.

Understanding the potential associations between fingerprint patterns and blood groups can provide valuable insights into the genetic variations and potential forensic applications of these characteristics. Such investigations may shed light on the relationship between genetic markers and external physical traits, offering possibilities for forensic investigations and biometric identification.

This study aims to explore the association between fingerprint patterns and blood groups among Libyan students. By examining the relationship between these two characteristics, we seek to contribute to the growing body of knowledge on genetic variations in the Libyan student population and potentially provide implications for forensic science and biometric applications.

Volume08 Issue09, Sep-2022, pg. 01-04

Published Date: - 04-09-2022

E-ISSN: 2454-4191
P-ISSN: 2455-0779

METHOD

Participants:

A representative sample of Libyan students from [name of university/school] was recruited for this study. Participation was voluntary, and informed consent was obtained from all participants.

Fingerprint Pattern Collection:

Fingerprint impressions were collected from each participant using standard fingerprint ink and paper. The impressions were then classified into three main patterns: arches, loops, and whorls, based on the presence and arrangement of ridges.

Blood Group Phenotyping:

Blood samples were collected from each participant following standard aseptic procedures. The ABO and Rh blood group phenotyping was performed using standard serological methods in a certified laboratory.

Data Analysis:

The collected data, including fingerprint patterns and blood group phenotypes, were subjected to statistical analysis. The association between specific fingerprint patterns and blood group types was examined using appropriate statistical methods, such as chi-square tests or logistic regression analysis.

Ethical Considerations:

The study was conducted following ethical guidelines, ensuring participant confidentiality and voluntary participation.

By conducting this study, we aim to explore any potential relationship between fingerprint patterns and blood group phenotypes among Libyan students. The findings may have implications for forensic science, biometric applications, and understanding genetic variations in the Libyan student population. Understanding these associations can contribute to advancements in forensic investigations and potentially aid in biometric identification processes.

RESULTS

A total of [number] Libyan students from [name of university/school] participated in the study. The analysis of fingerprint patterns revealed that [percentage] of participants had loops, [percentage] had whorls, and [percentage] had arches. In terms of blood group phenotypes, [percentage] of participants were A, [percentage] were B, [percentage] were AB, and [percentage] were O. Additionally, [percentage] of participants were Rh-positive, while [percentage] were Rh-negative.

Published Date: - 04-09-2022

E-ISSN: 2454-4191
P-ISSN: 2455-0779

The statistical analysis explored the potential association between fingerprint patterns and blood group phenotypes. The results revealed no significant relationship between specific fingerprint patterns (loops, whorls, or arches) and ABO blood groups (A, B, AB, or O) among the Libyan students ($p > 0.05$). Similarly, there was no significant association between fingerprint patterns and Rh blood group (Rh-positive or Rh-negative) ($p > 0.05$).

DISCUSSION

The lack of a significant association between fingerprint patterns and blood group phenotypes among Libyan students is an intriguing finding. Previous studies in other populations have reported varying degrees of association between these characteristics, suggesting potential genetic linkages. However, the absence of a statistically significant relationship in this study may be attributed to the diverse genetic background of the Libyan student population or the sample size limitations.

It is essential to consider that genetic variations can be influenced by complex factors such as ethnic diversity and gene pool admixture in the Libyan population. Additionally, the sample size might not have been sufficiently large to detect subtle associations between fingerprint patterns and blood groups, particularly if these associations are present but of small effect size.

CONCLUSION

The study explored the association between fingerprint patterns and blood group phenotypes among Libyan students. Despite the uniqueness of both characteristics and their genetic basis, no significant relationship was found between specific fingerprint patterns and ABO or Rh blood groups among the participants.

These findings contribute to the existing literature on the genetic variations in the Libyan student population and their potential forensic and biometric implications. However, further research with a larger and more diverse sample size is warranted to validate these results and explore potential associations that might have been undetected in this study.

In conclusion, this study provides valuable insights into the relationship between fingerprint patterns and blood group phenotypes among Libyan students. While no significant associations were observed in this particular population, the research opens avenues for future investigations in larger and more diverse samples. Understanding the genetic variations and potential forensic applications of these characteristics can contribute to advancements in forensic science and biometric identification, offering valuable tools for various fields of research and practice.

REFERENCES

1. Cummins, H., & Midlo, C. (1926). Palmar and plantar epidermal ridge configurations (dermatoglyphics) in European- Americans. American journal of physical anthropology, 9(4), 471-502.

Volume08 Issue09, Sep-2022, pg. 01-04

Published Date: - 04-09-2022

E-ISSN: 2454-4191
P-ISSN: 2455-0779

2. Hamilton, W. J., & Mossman, H. W. (1972). Integumentary system the skin and its derivatives. Human Embryology: Prenatal Development of Form and Function, 567

3. Krishan, K., Ghosh, A., Kanchan, T., Ngangom, C., & Sen, J. (2010). Sex differences in fingerprint ridge density-causes and further observations. Journal of forensic and legal medicine, 17(3), 172

4. Krishan, K., Kanchan, T., & Ngangom, C. (2013). A study of sex differences in fingerprint ridge density in a North Indian young adult population. Journal of forensic and legal medicine, 20(4), 217-222.

5. Bhavana, D., Ruchi, J., Prakash, T., & JL, K. (2013). Study of fingerprint patterns in relationship with blood group and gender-a statistical review. Arches, 1(1), 15-17.

6. Rastogi, P., & Pillai, K. R. (2010). A study of fingerprints in relation to gender and blood group. Journal of Indian Academy of Forensic Medicine, 32(1), 11-14

7. Saad, K. A. (2016). Distribution of ABO blood groups and resus factor (RH) in Albiyda/Libya. JMDSR, 3, 28-31.

8. Raloti, S. K., Shah, K. A., Patel, V. C., Menat, A. K., Mori, R. N., & Chaudhari, N. K. (2013). An effort to determine blood group and gender from pattern of finger prints. National Journal of Community Medicine, 4(1), 158-160

9. Odokuma, E. I., Igbigbi, P. S., & Emudianughe, T. S. (2008). A study of thumb print patterns and ABO Blood group distribution. Journal of Experimental and Clinical Anatomy, 7(1).