

Dedication

To ...

My parents and loved ones of their endless encouragement and understanding at every stage of my life, without them I would not be what I am today .

To ...

My loving and caring husband for his invaluable moral support and frequent assistance.

To ...

My daughter Razan who took the pressure of delivering the work .

To...

My Teachers, Student and Colleagues .

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Abstract

This descriptive, prospective and analytical study that aimed to determine the frequency of Kell antigens (K,k), phenotypes and genotypes, ABO blood group system phenotypes and Rhesus (D) factor.

The study was conducted in Alshaigia tribe during the period over three months. Following informed consent, a total of hundred samples were collected in 2.5 ml EDTA container from unrelated individuals of the Alshaigia tribe. From each individual were collected. The red cells were tested for Kell antigens (K, k) by using the particle gel immunodiffusion, for ABO and Rhesus (D) factor by using direct slide method and D^u method for the negative results. Similarities between Alshaigia tribe and different populations were calculated using Jaccard's coefficient of similarities.

The k antigen was the commonest with the frequency of (100%), while the K antigen was with low frequency (4%) among the study group. The genotype kk was showed the high frequency (96%), whereas the genotype Kk has low frequency 4% and the genotype KK was not detected.

O antigen was the most common with the frequency of 49% followed by A antigen (26%), B antigen (22%), and AB antigen was least frequent (3%) in ABO blood group system .

The Rhesus (D) factor was highly frequent with the frequency of (96%) among Alshaigia tribe. There are similarities between alshaigia tribe and other Sudanese tribes such as Alshokria and Mahas could probably point to a common ancestry in very ancient days. Some change could be seen which be explained by wandering nature of some Sudanese tribes. The difference between the study tribe and some other populations such as Germany and Indian may be due to the difference geographical area.

الخلاصة

هذه دراسة وصفية تحليلية هدفت لدراسة تردد الزمره الوظيفيه والنمط الظاهري والتركيبه الوراثيه لفصيلة الدم Kell والنمط الظاهري لفصائل الدم ABO والعامل الريصى (D). أجريت هذه الدراسة على قبيلة الشايقية خلال فترة ثلاثة أشهر . أخذت الموافقة من الأشخاص الذين تمت عليهم الدراسة , حيث تم تجميع مائه عينة من مائه شخص لا تربطهم صلة قرابة من قبيلة الشايقية وكانت العينة عبارة عن 2.5 مل من الدم وضعت في حاوية تحتوى على مضاد تخثر EDTA.

تم فحص العينات لمعرفة الزمر الوظيفية Kell بواسطة Gel technique . ولمعرفة فصائل الدم الأساسية (ABO+Rh) تم استخدام طريقة الشريحة المباشرة , أما بالنسبة للعينات سالبة العامل الريصى تم استخدام Dⁿ method . لقد تم تحديد نسب التشابه بين المجتمعات المختلفه بواسطة قانون جاكرد للتشابه.

أوضحت الدراسة أن الزمره الوظيفية k هو الأكثر شيوعا بنسبة (100%) بينما الزمره الوظيفية K هو الأقل ترددا بنسبة (4%) , والنمط الوراثى k k هو الأكثر ترددا بنسبة (96%) بينما النمط الوراثى K k هو الأقل ترددا بنسبة 4% , أما النمط الوراثى K K لم يوجد في القبيلة تحت هذه الدراسة . وجد أن زمرة الدم O هي الأكثر شيوعا بنسبة 49% ثم الزمرة A بنسبة 22% ثم الزمرة B بنسبة 26% بينما الزمرة AB هي الأقل ترددا بنسبة 3% في قبيلة الشايقية . في العامل الريصى وجد أن نسبة وجود الزمره (D) كانت 96%.

هناك تشابه بين القبائل السودانية المختلفة وقد يعزي ذلك الي وجود سلف مشترك منذ القدم.

وجد ان هنالك اختلاف بين بعض القبائل قد يعزي الي طبيعة حركتها من مكان الي اخر. و الاختلاف بين قبيلة الشايقية وبعض المجتمعات الاخرى قد يعزي الي الاختلاف الجغرافي.

Abbreviations

Ag Antigen

| | |
|-------------|------------------------------|
| Ab | Antibody |
| DAT | Direct Antiglobulin Test |
| HDN | Hemolytic Disease of Newborn |
| AHG | Antihuman Globulin |
| IAT | Indirect antiglobulin Test |
| Rh | Rhesus |
| LISS | Low Ionic Strength Solution |
| P S | Precursor Substance |
| IgG | Immuno Globulin G. |
| IgM | Immuno Globulin M. |

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