# الآية

بسم الله الرحمن الرحيم

قال تعالي:

{فَتَبَسَّمَ ضَاحِكاً مِّن قَوْلِهَا وَقَالَ رَبِّ أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي أَنْعَمْتَ عَلَيَّ وَعَلَى وَالِدَيَّ وَأَنْ أَعْمَلَ صَالِحاً تَرْضَاهُ وَأَدْخِلْنِي بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ }

سورة النمل 19

# Dedication

**To who taught me how to be available member**

**In the community ...**

**My father**

**To who give me the love and security..**

**My Mother**

**To dears brothers and sisters**

**To my dear friends;**

**To those who helped me to complete this research:**

**To all my colleagues in Shendi University.**

**I dedicate this simple effort with my love and best wishes.**

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Thanks for all.

# Abstract

This is a descriptive, prospective and analytical study that aimed to determine the frequency of ABO, A-sub group and Rhesus blood group antigens and phenotypes among El-gamoia ethnic group in A Khartoum state.

This study was conducted during the period of six month (January – June 2011), following informed consent , A total of 100 venous blood samples were collected in 2.5ml EDTA blood container from un related individuals. The samples were tested for ABO blood group antigens and A-sub group by direct a slide method , while for the Rhesus blood group antigens the sample were tested by tube method. Du technique was performed for each Rh (D) negative sample.

The result obtained from this study showed that in ABO blood group system the A antigen was the commonest antigen with the frequency of (43%), followed by O antigen (37%),B antigen (17%) and the least common was AB antigen (3%).In A-sub group A1antigen had the highest frequency (40%), while both A2 and A1B were the rarest with same frequency (3%).

In Rhesus blood group antigens the frequency of c antigen was (100%) which was the highest frequency followed by e antigen (98%) , D antigen (96%), C antigen (87%) and E antigen (49%) which was the lowest frequency .

The result of this study when compared with the results of other Sudanese ethnic groups in the same systems and were found that there were similarity in some ABO blood group and Rhesus antigens with the Danagla , Shaigia and Miseria. And difference with the Hadndwa, Zagawa, Mahas and some other populations such as Whites population , England , Indian, South Africa and Turkey.

This study concluded that the similarity between Sudanese tribes that living in one area resulting from inter action and intermarriage between them .


# ملخص الأطروحه

هذه دراسه وصفيه تحليليه مقطعيه هـدفت لدراسـه تـردد الزمـر الوظيفيه لفصايل الدم وفروعها والعامل الريصي , وأجريت هذه الدراسه في قبيله الجموعيه السودانيه في ولايه الخرطوم خلال فتره سته أشهر مـن شـهر ينـاير وحـتي يونيـو 2011 وبعـد أخـذ الموافقه وثم تجميع 100 عينه دم في وعاء سعه 2.5مل يحتـوي علي ماده مانعه للتخثر EDTA من أفراد هذه القـبيله . تـم فحـص العينـات لمعرفـه الزمـر الـوظيفيه لنظـام ال ABOو A-sub group بواسطه طريقه الشريحه المباشره ولنظام الدم ال Rhesus فقـد تم استخدام طريقه الانبوبه المباشره ,أما بالنسبه للعينات سالبه العامل الريصي (D) فقدتم فحصها بواسطه Du method . أوضحت نتايـج الدراسـه لنظـام ABO أن الزمـره الـوظيفيه A هـي الاكـثر شيوعا" بنسبه (43% تليها O بنسبه (37%) ثـم B بنسـبه (17%) بينما الزمر A2 و A1B هي أقل ترددا" (3%) .وفي نظام Rhesus ) فقد بينت الدراسـه أن الزمـره الـوظيفيه c هـي الأكـثر شـيوعا" بنسبه(100%) تليهـا e بنسـبه (98%) ثـم D بنسـبه(96%) ثـم C بنسبه (87%) بينما الزمــره الـوظيفيه E هي الأقل ترددا" بنسبه (49%).

تمت مقارنه النتايج المتحصله لهذه الدراسه مع نتايج بعض القبائل السودانيه في نفس الانظمه ,فوجد أن هناك تشابه أحصايئا" في بعض الزمر الوظيفيه مع قبايل الدناقله والشاقيه والمسيريه بينما هنالك أختلاف من الزغاوه والهدندوه والمحس . وعليه نلخص الي أن التشابه بين القبايل السودانيه التي تقطن في منطقه جغرافيه واحده ناتجا" عن التداخل والتزاوج بين هذه القبائل وان الاختلاف الذي وجد في بعض القبائل يمكن ان يكون بسبب الترحال وعدم التقيد بمنطقه جغرافيه محدوده.

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| | |
|---|---|
| Ab | Antibody |
| Ag | Antigen |
| EDTA | Ethylene diamine tetra acetic acid |
| HDN | Hemolytic disease of Newborn |
| IgA | Immunoglobulin A |
| IgG | Immunoglobulin G |

| | |
|---|---|
| IgM | Immunoglobulin M |
| ISBT | International society of blood transfusion |
| LISS | low ionic strength solution |
| LW | Landenstiner and Wiener |
| RBCs | Red blood cells |
| RH | Rhesus |