

# الآية

بسم الله الرحمن الرحيم

قال تعالى:  
{ فَتَبَسَّمْ ضَاحِكًا مِّن قَوْلِهَا وَقَالَ رَبِّ  
أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي أَنْعَمْتَ  
عَلَيَّ وَعَلَىٰ وَالِدَيَّ وَأَنْ أَعْمَلَ صَالِحًا  
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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## 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 هدفت لدراسه تردد الزمر الوظيفيه لفصايل الدم وفروعها والعامل الريصي , وأجريت هذه الدراسه في قبيله الجموعيه السودانيه في ولايه الخرطوم خلال فتره سته أشهر من شهر يناير وحتى يونيو 2011 وبعد أخذ الموافقه و ثم تجميع 100 عينه دم في وعاء سعه 2.5مل يحتوي علي ماده مانعه للتخثر EDTA من أفراد هذه القبيله . تم فحص العينات لمعرفة الزمر الوظيفيه لنظام ال ABO و A-sub group بواسطة طريقه الشريحه المباشره ولنظام الدم ال Rhesus فقد تم استخدام طريقه الانبويه المباشره , أما بالنسبه للعينات سالبه العامل الريصي (D) فقد تم فحصها بواسطة Du method . أوضحت نتائج الدراسه لنظام ABO أن الزمره الوظيفيه A هي الاكثر شيوعا" بنسبه (43% تليها O بنسبه (37%) ثم B بنسبه (17%) بينما الزمر A2 و A1B هي أقل ترددا" (3%) . وفي نظام Rhesus ( فقد بينت الدراسه أن الزمره الوظيفيه c هي الأكثر شيوعا" بنسبه (100%) تليها e بنسبه (98%) ثم D بنسبه (96%) ثم C بنسبه (87%) بينما الزمره الوظيفيه E هي الأقل ترددا" بنسبه (49%).

تمت مقارنه النتائج المتحصله لهذه الدراسه مع نتائج بعض القبائل السودانيه في نفس الانظمه , فوجد أن هناك تشابه أحيائنا" في بعض الزمر الوظيفيه مع قبائل الدناقله والشاقيه والمسيرييه بينما هنالك اختلاف من الزغاوه والهندوده والمحس . وعليه نلخص الي أن التشابه بين القبائل 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 بمنطقة جغرافيه محدوده.

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## List of abbreviation

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