ISSN: 0975-833X

Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 10, Issue, 10, pp.74717-74719, October, 2018

DOI: https://doi.org/10.24941/ijcr.32795.10.2018

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

RESEARCH ARTICLE

PREVALENCE OF BLOOD GROUPS IN A GROUP OF NEONATES AS WELL AS IN THEIR MOTHERS

***Chaudhary Veena**

Department of Physiology, World College of Medical Sciences and Research and Hospital, Jhajjar, Haryana, India, Pin-124103

ARTICLE INFO

Article History:
Received 12th July, 2018
Received in revised form
24th August, 2018
Accepted 19th September, 2018
Published online 31st October, 2018

Key Words:
(A+) A Positive blood group, (B+) B Positive blood group, (AB+) AB Positive blood group, (O +) O Positive blood group, (A-) A Negative blood group, (B -) B Negative blood group, (AB-) AB Negative blood group, (O -) O Negative blood group,

ABSTRACT

In this study, the aim was to find out the prevalence of blood groups in a group of neonates as well as in their mothers in Rockland Hospital, Delhi. In this study, the blood groups of 458 neonates and their 458 mothers were evaluated respectively. In our study, the results showed that the prevalence of different blood groups among one group of neonates was approximately: B+ 34%, O+ 27%, A+ 24%, AB+ 8% and Rh negative- 7 %. In this study, the results also showed that the prevalence of different blood groups among the mothers of the group of neonates was approximately as follows: O+ 30%, B+ 30%, A+ 21%, AB+ 10% and Rh negative- 9 %. Thus, there was similar trend of blood groups in both mothers and neonates. By conventional criteria, this difference was considered to be extremely statistically significant.

***Citation*: *Chaudhary Veena.* 2018.** "Prevalence of blood groups in a group of neonates as well as in their mothers", *International Journal of Current Research*, 10, (10), 74717-74719.

INTRODUCTION

The prevalence of different blood groups among one group of persons studied was approximately: O + 47 %, A+ 41 %, B 9% and AB+ 3%. It is obvious from these percentages that the O and A genes occur frequently, whereas the B gene is infrequent (Vaz Mario *et al*., 2013). About 85 % of all white people are Rh positive and 15 % are Rh negative. In American blacks, the percentage of Rh positives is about 95 %, whereas in African blacks, it is virtually 100 % (Vaz Mario *et al*., 2013). Data from the low-to middle income countries are limited.

AIMS AND OBJECTIVES

To find out the prevalence of blood groups in a group of neonates as well as in their mothers respectively in Rockland Hospital, Delhi.

MATERIALS AND METHODS

Study Setting and Period of Study: The study was conducted in the Department of Paediatrics, Rockland Hospital, Delhi, India during the period of 01 January 2012 to 07 August 2014.

Study Design: The study was a Hospital Based Study, conducted in the Department of Paediatrics, Rockland Hospital, Delhi.

Sample Size: For the present study, blood groups of a total of 458 neonates as well as their 458 mothers were recorded and studied.

Sampling Design: The study was done as Random Sampling of the neonates that were admitted in the Department of Paediatrics, Rockland Hospital. The mothers of these neonates were also included in the study.

Study Variables: Blood Groups of neonates and their mothers respectively

Inclusion Criteria/ Selection Criteria

Participants in the study eligible for inclusion were:

- Neonates of either sex upto 28 days of age and
- Mothers of the above neonates.

Neonates were included after obtaining proper informed written consent from their parent / guardian. Mothers were included after obtaining proper informed written consent from

Corresponding author:* **Chaudhary Veena,
Department of Physiology, World College of Medical Sciences and Research and Hospital, Jhajjar, Haryana, India, Pin-124103.

them. Participants were included only if the neonates were admitted in the Department of Paediatrics, Rockland Hospital, Delhi, India.

Study Characteristics: In this study, the blood groups of 458 neonates and their 458 mothers were evaluated respectively. The demographic information, history, physical examination, and type of blood group in the patient's questionnaire were recorded. In this study, blood group was recorded after collecting blood samples from neonate and mother under all aseptic procedures. Neonates and their mothers that satisfied the inclusion criteria were selected and the neonates who did not meet the inclusion criteria were excluded.

Data Collection Methods and Tools: Patients' history information was collected in questionnaires and blood groups data were collected and reported, and then statistical analysis of data was performed using SPSS software. Calculations of P values were done using QuickCalcs-Graphpad Software.

Statistical Methods and Statistical Interpretation: Chi-square test was used to calculate Two-tailed P values in our study. When presenting P values, it was helpful to use the asterisk rating system as well as quoting the P value: P < 0.05*, it is statistically significant, P < 0.01 **, it is very statistically significant, P < 0.001***, it is extremely statistically significant.

RESULTS & OBSERVATIONS

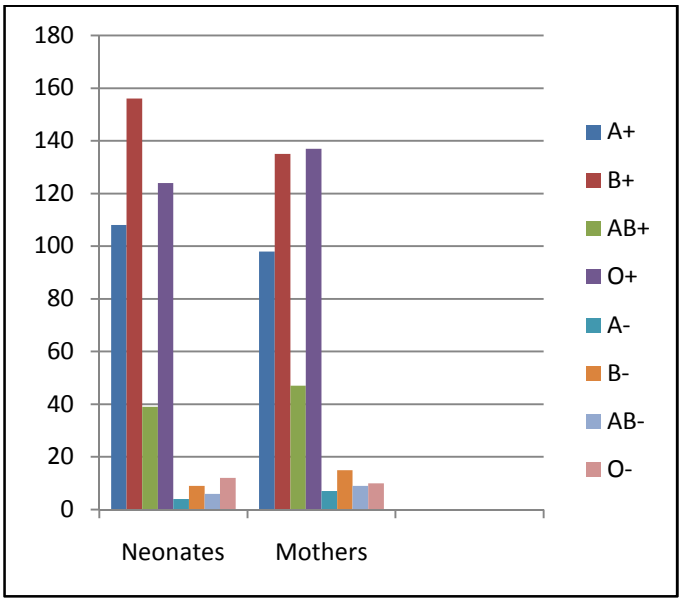

Figure 1. Bar Diagram showing prevalence of Blood Groups in a group of Neonates in relation to Blood Groups in their Mothers respectively

Table 1. Prevalence of Blood Groups in a group of Neonates in relation to Blood Groups in their Mothers respectively

Population sampled	A+	B+	AB+	O+	A-/B-/AB-/O-	Total	P value
Neonates	108	156	39	124	4/9/6/12	458	<0.0001
Neonates%	24%	34%	8%	27%	7%	100	<0.0001
Mothers	98	135	47	137	7/15/9/10	458	<0.0001
Mothers%	21%	30%	10%	30%	9%	100	0.0003
Total	206	291	86	261	11/24/15/22	916	<0.0001

DISCUSSION

In this study, it is evident that the most common blood group in neonates was B positive, followed by O+, further followed by A+ and AB+. The Rh negatives were about 7 %. The two-tailed P value was less than 0.0001***, in the Chi-square test. By conventional criteria, this difference was considered to be extremely statistically significant. In this study, the most common blood group in their mothers was O positive, followed by B+, further followed by A+ and AB+. The Rh negatives were about 9 %. The two-tailed P value was less than 0.0001***, in the Chi-square test. By conventional criteria, this difference was considered to be extremely statistically significant.

Following studies partly support our observations

- The prevalence of different blood groups among one group of persons studied was approximately: O + 47%, A+ 41 %, B+ 9 % and AB+ 3 %. It is obvious from these percentages that the O and A genes occur frequently, whereas the B gene is infrequent (Vaz Mario *et al*., 2013). But in the present study, B and O genes occur frequently, whereas the A gene is infrequent.
- About 85 % of all white people are Rh positive and 15 % are Rh negative. In American blacks, the percentage of Rh positives is about 95 %, whereas in African blacks, it is virtually 100 % (Vaz Mario *et al*., 2013). The present study results (Rh negatives is about 7% in neonates and 9% in their mothers) are intermediate between the percentage of Rh negatives of about 5 % in American blacks and 15% in white people.

SUMMARY

In this study, the aim was to find out the prevalence of blood groups in a group of neonates as well as in their mothers respectively in Rockland Hospital, Delhi. In this study, the blood groups of 458 neonates and their 458 mothers were evaluated respectively. Participants that satisfied the inclusion criteria were selected and the participants who did not meet the inclusion criteria were excluded. Patients' history information was collected in questionnaires and Blood Groups Data were collected and reported, and then statistical analysis of data was performed using SPSS software. Calculations of P values were done using QuickCalcs-Graphpad Software. The Chi-square test was used to analyze the collected data. In this study, the results showed that the prevalence of different blood groups among one group of neonates was approximately: B+ 34%, O+ 27%, A+ 24%, AB+ 8% and Rh negative- 7%. The two-tailed P value was less than 0.0001***, in the Chi-square test. By conventional criteria, this difference was considered to be extremely statistically significant. In this study, the results showed that the prevalence of different blood groups among the mothers of the group of neonates was approximately as follows: O+ 30%, B+ 30%, A+ 21%, AB+ 10% and Rh negative- 9 %. Thus, there was similar trend of blood groups in both mothers and neonates. The two-tailed P value was less than 0.0001***, in the Chi-square test. By conventional

criteria, this difference was considered to be extremely statistically significant.

CONCLUSION

From this study, it is concluded that the prevalence of different blood groups among one group of neonates was approximately: B+ 34%, O+ 27%, A+ 24%, AB+ 8% and Rh negative- 7 %. By conventional criteria, this difference was considered to be extremely statistically significant. It is also concluded that the prevalence of different blood groups among the mothers of the group of neonates was approximately as follows: O+ 30%, B+ 30%, A+ 21%, AB+ 10% and Rh negative- 9 %. Thus, there was similar trend of blood groups in both mothers and neonates. By conventional criteria, this difference was considered to be extremely statistically significant.

It is also concluded that the baby's blood group is usually same as mother's blood group, since both show B and O genes occur frequently, whereas the A gene is infrequent.

REFERENCES

Behrman, *et al*. 2005. Nelson Textbook of Pediatrics. 17th Edition. 601-605.

Landsteiner, Karl. 1990. "Zur Kenntnis der antifermentativen, lytischen und agglutinierenden Wirkungen des Blutserums und der Lymphe". Centralblatt f. Bakteriologie, Parasitenkunde u. Infektionskrankheiten. 27: 357-362.

Vaz M., Kurpad A., Raj T. 2013. Guyton and Hall Textbook of Medical Physiology. A South Asian Edition. 12th Edition: 156-157.

****