



CODEN [USA]: IAJPBB

ISSN: 2349-7750

**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1420177>Available online at: <http://www.iajps.com>

Research Article

**A RESEARCH TO ASSESS THE RH-NEGATIVE FREQUENCY
IN THE PREGNANT CASES REGARDING DISTRIBUTION OF
RHESUS BLOOD GROUPS AND PARITY**¹Muhammad Faaiz, ²Zobia Shahid, ³Mishaim Bakhtawar¹Sheikh Zayed Hospital Rahim Yar Khan²Mayo Hospital Lahore³Sheikh Zayed Hospital Rahim Yar Khan**Abstract:**

Objective: The main purpose of this study was the occurrence of the negative Rhesus factor strength in the pregnant women.

Methodology and Place: This study was carried out on pregnant women who did not have the D antigen on the surface of red blood cells in the department of maternity at Service Hospital, Lahore (September 2016 to August 2017). The information of the patients was gathered, analyzed and evaluated from early checkups before birth records and labour rooms.

Results: The occurrence of the rhesus factor D in the women having a baby in their body was concluded as 1.4% in this study work. Blood group "O" was the most frequent blood group in the patients and it was found in about thirty-seven percent participants. Blood group "A" was found in thirty-two percent participants, B- was found in twenty-four percent participants and blood group AB was found in eight percent participants of the research. About 90% of the patients were not found with any previous record of injections against the anti D antigens.

Conclusion: Rh negative D immunity can be avoided. This is regarded as a disease which can be prevented easily. It can be prevented with routine checkups, controlling of rhesus factor negative and application of the anti D antibody in the healthcare institutes.

Keywords: Rhesus, immunity, Rh D, Red blood cells.

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Please cite this article in press Muhammad Faaiz et al., A Research to Assess the Rh-Negative Frequency in the Pregnant Cases Regarding Distribution of Rhesus Blood Groups and Parity., Indo Am. J. P. Sci, 2018; 05(09).

INTRODUCTION:

The negative Rhesus factor in the people varies from the nation to nation and race. It is concluded as only one percent in China and very high in Japan; as hundred percent in Basques as (100%). The occurrence of the negative rhesus factor in whites' people of North America was concluded as 15% but it was concluded seven to eight percent of the blacks of North America.

The most common connection with the alloantibody is thought to be the maternal haemorrhage [1]. The Rh-positive blood of the unborn children can be mixed with the Rh-negative blood of the patients during the total duration of the pregnancy. It can be caused due to blood loss from the front part of the pregnant women in the twentieth week of the pregnancy period can cause to the loss of babies and other birth-related difficulties. The other most common cause is concluded as not related to the evolutionary origin of blood in the veins and arteries in the complete program. During the period of first pregnancy, making organisms sensitive due to series of injections is not thought to be dangerous. Difficulties are initiated when a female with the negative rhesus factor becomes pregnant with a child of positive rhesus factor.

In the serious nature of the cases, making sensitive to the organisms with series of injections during the period of pregnancy can lead to the mental problems, lasting brain issues, and body disorders [2]. A practical anti D antibody has assured the decrease of immunity off rhesus factor D from 16% in the females with negative rhesus factor D to a lower value of 0.3% as solved by anti D, this same issue is also confirmed by the occasions of making organisms sensitive with series of injections and it is also confirmed by taking the regular dose of the anti-D prophylaxis during the last three months of the pregnancy period [3]. The aim of this research was to check the strength of occurrence of negative Rhesus factor D in the females having a baby in their body. There was no such research work was found on the same topic.

METHODOLOGY:

The main objective of this research was to know about the rate of occurrence of negative D rhesus factor in the pregnant females at Service Hospital, Lahore (September 2016 to August 2017). This study was carried out in the department of maternity of the hospital. The information was collected gathered and analyzed in the labour rooms of the hospital records and records of the patients before delivery. The files of the cases were thought to be the most important source of the information about the previous checkups history of the patients. All the cases from the labour room were the participants of this study. We collected the information from the patients about their name, the age at the time of pregnancy, their pregnancy month, address, their mode of living, reception of the anti D antibody, previous medical history, blood transfusion, any major disease, their mode of childbirth, and the health of the children after birth if alive. Negative D rhesus factor is considered as the main part for the admission in the hospital for complete interrogation of disease in the labour room. Most of the females came with many family members so the information of the blood group of their husbands was not recorded.

RESULTS:

In this study, thirty-six thousand eight hundred and fifty-four pregnancy cases were evaluated in the gynae department. Among these patients, negative D Rhesus factor cases were five hundred and twenty-six with an occurrence rate of 1.4%. one hundred and ninety-two patients were found with duplicated blood group in the cases having O blood group. Their percentage was about thirty-seven percent. One hundred and sixty-seven patients were found of A blood group with a percentage of about thirty-two percent. One hundred and twenty-five patients were of B blood group and their percentage was about twenty-four percent. Forty-two patients of "AB" blood group were about eight percent according to the investigations as described in table number one. 90% of the patients were not found with any previous record of injections against the anti D antigens. From zero to eighteen was the parity of the women with an average value of (4.4 ± 3.42) of anti-D antibody injection. Dead intrauterine, hydropsfetalis and hydro-ceph were found in a small number of patients.

Table – I: Distribution of Rhesus blood groups

Blood Group	No	%
O Rh Negative	192	36.5
An Rh Negative	167	31.75
B Rh Negative	125	23.77
AB Rh Negative	42	8

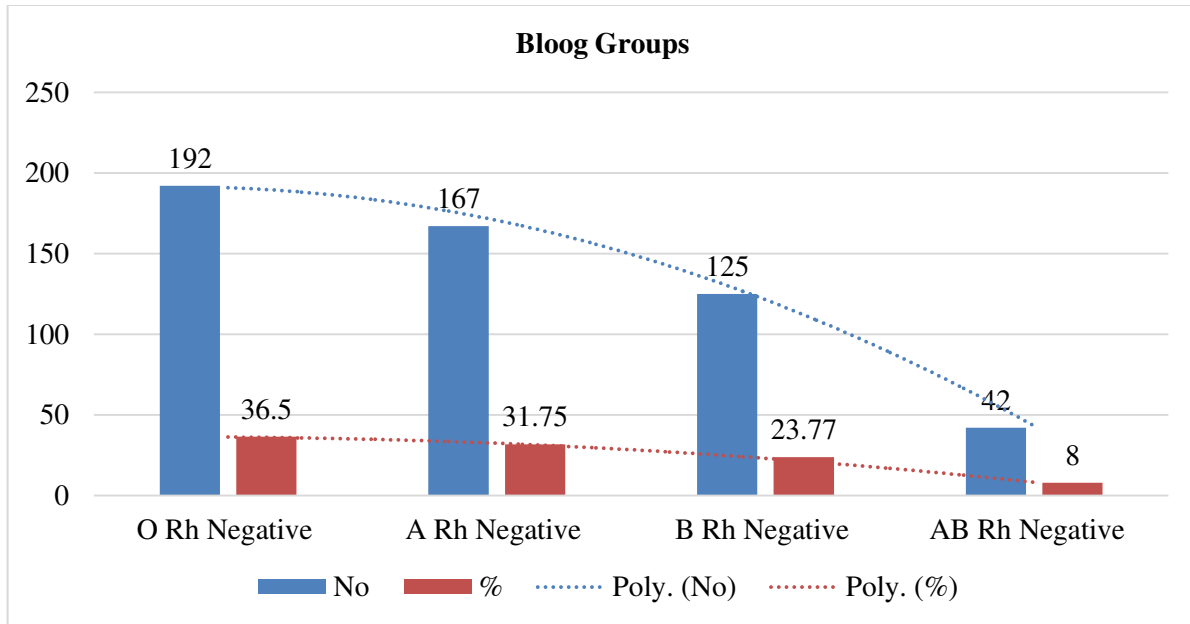


Table – II: Parity of patients

Parity	No	%
Primigravida	171	32.5
2 nd – 3 rd gravida	152	29
4 th – 5 th gravida	97	18.44
> 5 th gravida	96	18.3

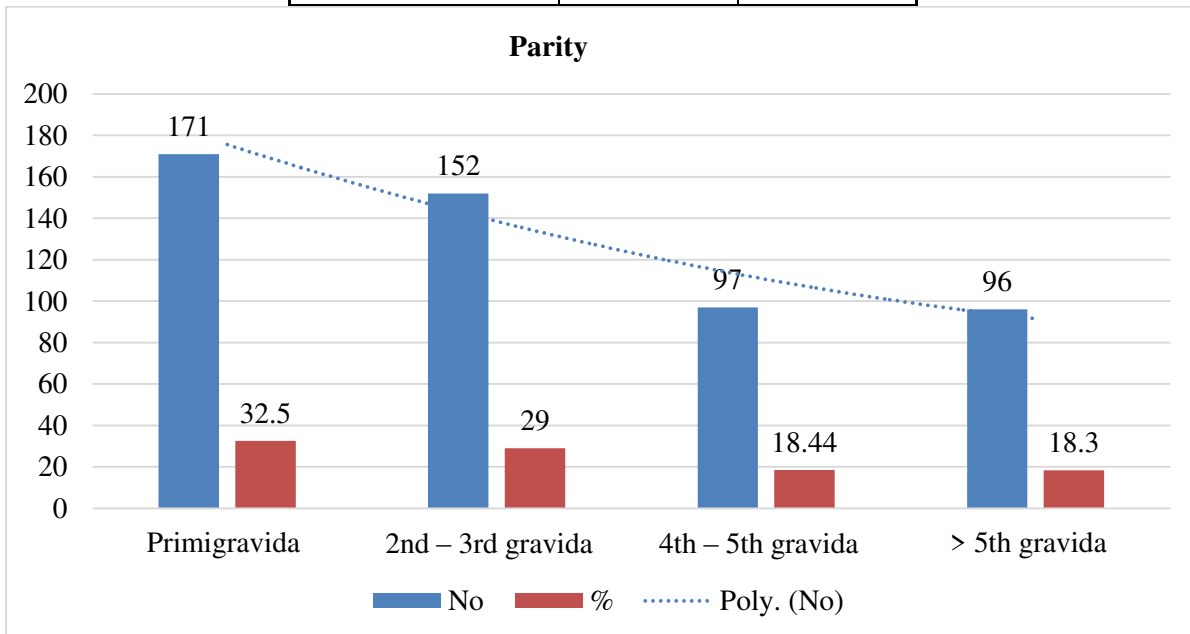
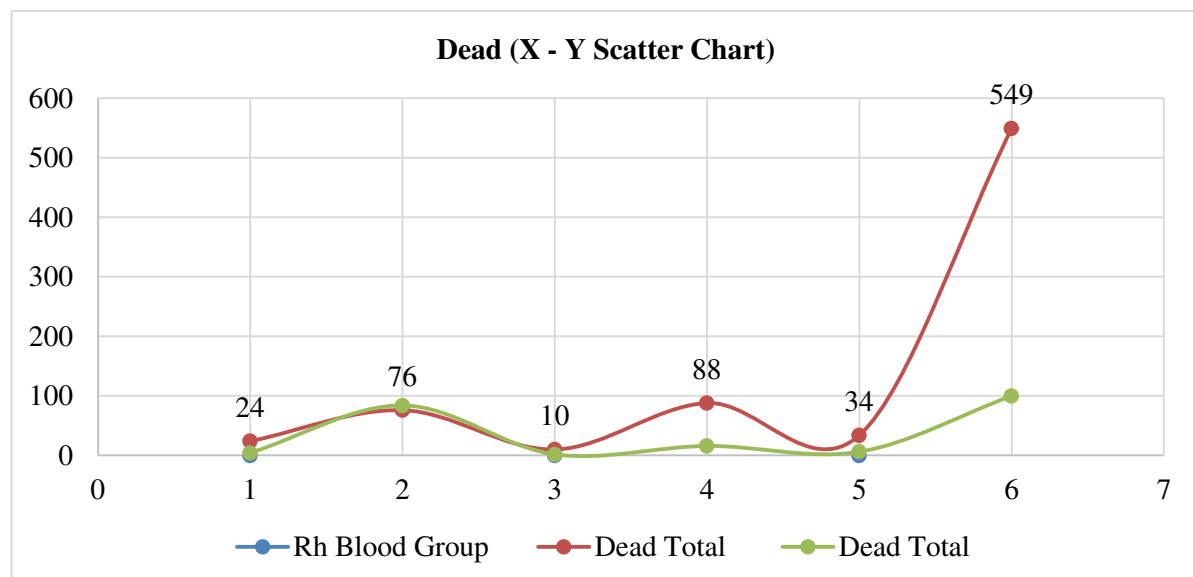
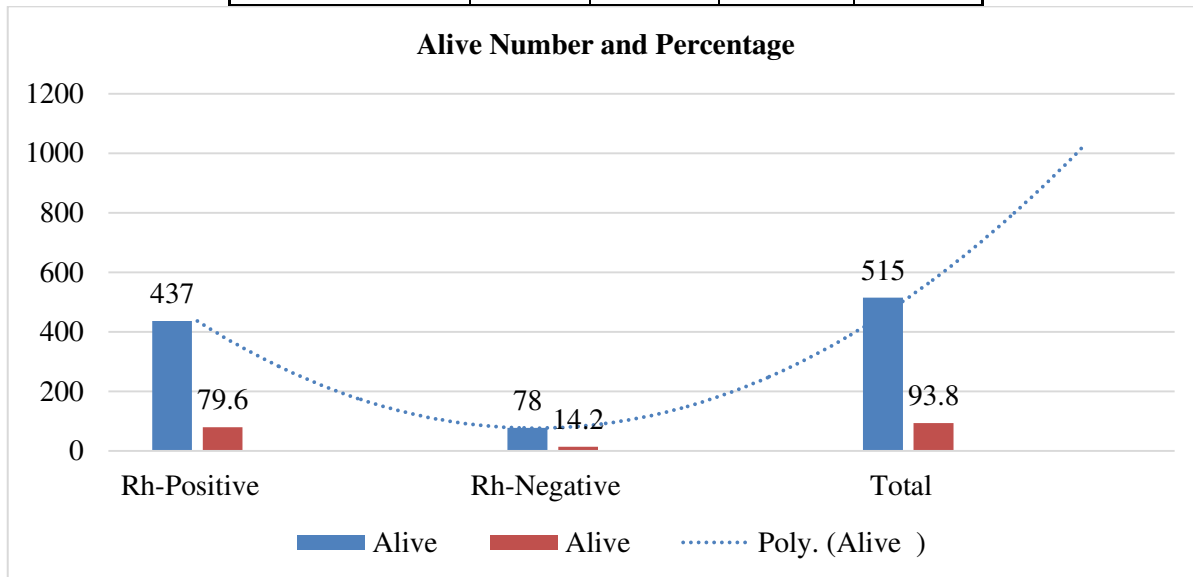


Table – III: Baby blood group and outcome

Rh Blood Group	Alive		Dead Total	
	No	%	No	%
Rh-Positive	437	79.6	24	4.4
			76	84
Rh-Negative	78	14.2	10	1.8
			88	16
Total	515	93.8	34	6.2
			549	100



DISCUSSION:

About 1.4% was the rate of the negative D rhesus factor in the females of Quetta which is compared to 1.2% and 4.5 percent in North Western Nigeria and Nigeria respectively as mentioned by different

authors [3]. Fourteen percent and eighty-six percent are the rates of negative rhesus factor and positive rhesus factor respectively in the southern areas of Pakistan and this is the conclusion of the study carried out by Karim Fet. The results of our research

work are quite different from the result of this study [4]. Bondage NS and Bragner, in their study, concluded the rates in France and Saudi Arabia as 7.5% and 15% [5].

The prevalence of the negative rate in blood group in this study was concluded about thirty-seven percent in O negative blood group, about thirty-two percent in A negative blood group, about twenty-four percent in B negative blood group and eight percent in AB blood group. About thirty-one percent and ten percent were the rates in O negative and AB negative blood groups according to the study of Karim F [7]. Different research works gave different negative rates in the blood groups which were totally different from the outcomes deducted from our research work.

The death of the baby inside the female body was concluded at 6.2% which was the result of different causes. This research was very important as a natural way of protection [11]. We were unable to screen the patients due to lack of the interrogation tools and different medical apparatus still it was a study which was widely accepted and concluded in a range from 0.4% to 2.7% [12]. Prim gravid was thirty-three percent and multi gravid was sixty-seven percent in this research work.

It was also checked in the UK that 40% of the patients having negative D rhesus factor also have the negative rhesus factor unborn child and they were treated by giving an Anti D antibody to them which was not necessary for them and does not play a vital role in the process [18]. There were also some hindrances and limitations in this study work as the record of the blood group of the husbands was not maintained, as it was a backwards-looking study work and the important and needed data was missing in the record. The poor patients refused to take the anti D antibody and left the further treatments [19]. In this research work, 21 twins' cases were also included. Expensive testing was not carried out in this research work.

CONCLUSION:

Rh-D immunization can be avoided. It is thought to be a disease which can be prevented. The prevention from this disease requires regular checkups, controlling of the negative D rhesus factor in the blood group and the presence of anti D antibody in the medical departments as control dose. Negative D rhesus factor rate is smaller in our country as compared to the other countries of the world. But we cannot reject the worst outcomes of this factor at all. The making the organisms sensitive by regular injections can take the lives of mothers. Different types of life taking difficulties are the outcome of this

factor. Lack of ignorance and better education are needed to keep the people aware of the outcomes of this serious problem. During the growth of the baby in the female body, the regular checkups and treatment are very important for safety. Therefore, it is required to ensure the provisions of the antibody anti D in the medical departments on suitable rates for the patients.

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