

Problems and Challenges Faced in a Tertiary Center Blood Bank: Supply Deficits

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Abstract: Background: Blood donation is a life saving essential part of our healthcare system. It ensure an adequate supply of blood for people who are sick or injured. About 117.4 million blood donations are collected worldwide. Aim: This study was conducted to assess and compare the demand and supply deficit of various blood groups from year 2017-2019. Materials and Method: This study was conducted in the department of pathology of Chittaranjan National Cancer Institute, Kolkata, over a period of 2 years from Aug 2017-Aug 2019. Deficit in demand and supply of individual blood groups were calculated and compared. Study design: Cross sectional study with retrospective observation carried out at blood bank. Results: There is a minor deficit in supply of A positive blood group in the two years understudy.

1. Introduction

Blood transfusion and blood banking is an integral part of management of modern medicine. Most of the medical and surgical specialities rely on steady supply of blood from volunteer, healthy and low risk donors. In India most of the collection from these donors happens in voluntary blood donation camps organised by various government and private health sectors. Despite this most of the blood banks frequently face the problem of scarcity of blood. It seems there is sufficient blood supply in a blood bank but the real data scenario is very different and also supply of some particular blood groups are in excess, while others fall short.

2. Results and Analysis

Demand and supply of blood in 2 years								
Blood group	2017-2018				2018-2019			
	Demand	%	Supply	%	Demand	%	Supply	%
A+	756	15.20	708	13.80	1118	19.87	891	15.56
A-	16	0.31	24	0.46	24	0.42	30	0.53
B+	1925	38.7	1974	38.5	1935	34.40	2078	36.3
B-	56	1.12	79	1.54	57	1.01	88	1.53
AB+	335	6.74	387	7.54	332	5.91	352	6.15
AB-	19	0.38	20	0.40	08	0.14	43	0.75
O+	1831	36.8	1897	37	2115	37.61	2202	38.47
O-	37	0.75	39	0.76	36	0.64	41	0.71
Total	4975	100	5128	100	5625	100	5725	100

Total collections from blood donation camps from Aug 2017-Aug 2019 is 10600. While the demand for all the blood groups in these 2 years was 10853. There is an overall increase in supply of blood in these 2 years as the rising demand have been met with organizing more blood donation camps. It seems that supply is adequate but some blood groups always fall short of while some are wasted due to over supply. It has been seen A positive blood group has

always been short in all the 2 years by 1.40% in 2017-2018 and 4.31% in 2018-2019.

3. Discussion

The main objective to conduct this study is to assess demand and supply of the four blood groups so as to ensure proper supply of that particular blood group. This study was specifically conducted on blood collection in the blood bank through blood camps. In our study there is deficit of supply of blood group A compared to the demand in 2 years. Similar findings has been found in various studies conducted on voluntary blood donor as well as replacement donors in different part of India. The shortage of blood group A positive in our study could be a chance effect. This deficit is easily manageable by encouraging healthy donors of blood group A positive to donate blood more frequently.

4. Conclusion

This study concludes that there is deficiency of blood group A in CNCI, Kolkata and this absolute minor deficit can be managed by motivating and encouraging deficient blood group donor to donate blood more frequently at voluntary blood donation camps.

References

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