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ORIGINAL RESEARCH

Demographic and clinical profile of blood transfusion recipients of a tertiary care hospital

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ABSTRACT

Background: Blood transfusion plays important role in medical and surgical practice. A number of studies on blood and blood component utilisation have been carried out in recent years. Hence; the present study was undertaken for assessing the clinical and demographic profile of blood transfusion recipients of a tertiary care hospital. **Materials & methods:** A total of 200 patients were enrolled in the present study. Complete demographic details of all the patients were obtained. All these patients were the scheduled recipients of blood transfusion. A data sheet was prepared and clinical profile was evaluated. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software. **Results:** Mean age of the patients was found to be 45.8 years. 62 percent of the patients were males while the remaining 38 percent were females. In 22.5 percent of the patients, A+ blood group was transfused, while in 21 percent of the patients, O+ blood group was transfused in 21 percent of the patients. Red blood cell units were transfused in 26 percent of the patients, while whole blood was transfused in 27 percent of the patients. While correlating the type of blood group and gender-wise distribution, non-significant results were obtained. **Conclusion:** A+ and O+ blood group are the most common type of blood group to be transfused with significantly more common in males.

Key words: Blood, Transfusion

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INTRODUCTION

Blood transfusion plays important role in medical and surgical practice. In order to achieve these, critical review and continuous evaluation of the use of blood and its components becomes essential.¹⁻³ These entails studying the pattern of blood components use, the clinical conditions and wards requiring blood transfusion, the risks associated with blood transfusion and the demographic characteristics of the blood transfusion recipients in a population. Evaluation of blood requisition and utilization is essential in assessing the present and future demands for blood and avoiding unnecessary requests and transfusions.⁴

A number of studies on blood and blood component utilisation have been carried out in recent years. Substantial variations in transfusion practices, arising

from differences in population age structures, prevalence's of conditions requiring transfusion, and levels of health care provision, have been reported. However, most of these studies have been conducted in developed countries in which the population and disease burden are different from those in developing countries. Most developed countries have an ageing population, chronic non-infectious diseases and advanced surgical technology all of which may result in different patterns of blood component use when compared with developing countries.⁵⁻⁸ Hence; the present study was undertaken for assessing the clinical and demographic profile of blood transfusion recipients of a tertiary care hospital.

MATERIALS & METHODS

The present study was conducted in the department of Pathology and it included assessment of the clinical and demographic profile of blood transfusion recipients of a tertiary care hospital. Ethical approval was obtained from institutional ethical committee and written consent was obtained from all the patients after explaining in detail the entire research protocol. A total of 200 patients were enrolled in the present study. Complete demographic details of all the patients were obtained. All these patients were the scheduled recipients of blood transfusion. A data sheet was prepared and clinical profile was evaluated. All the results were recorded in Microsoft excel sheet and were analysed by SPSS software. Chi-square test was used for assessment of level of significance. P-value of less than 0.05 was taken as significant.

In the present study, a total of 200 patients were enrolled. Mean age of the patients was found to be 45.8 years. 42 percent of the patients belonged to the age group of 30 to 50 years. 33.5 percent of the patients belonged to the age group of more than 50 years. 62 percent of the patients were males while the remaining 38 percent were females. In 22.5 percent of the patients, A+ blood group was transfused, while in 21 percent of the patients, O+ blood group was transfused in 21 percent of the patients. In 20.5 percent and 11 percent of the patients B+ and AB+ blood group was transfused respectively. In 4 percent of the patients, O- blood group was transfused.

In the present study, red blood cell units were transfused in 26 percent of the patients, while whole blood was transfused in 27 percent of the patients. Fresh frozen plasma and platelets were transfused in 24.5 and 22.5 percent of the patients respectively. While correlating the type of blood group and gender-wise distribution, non-significant results were obtained.

RESULTS

Graph 1: Age and gender-wise distribution

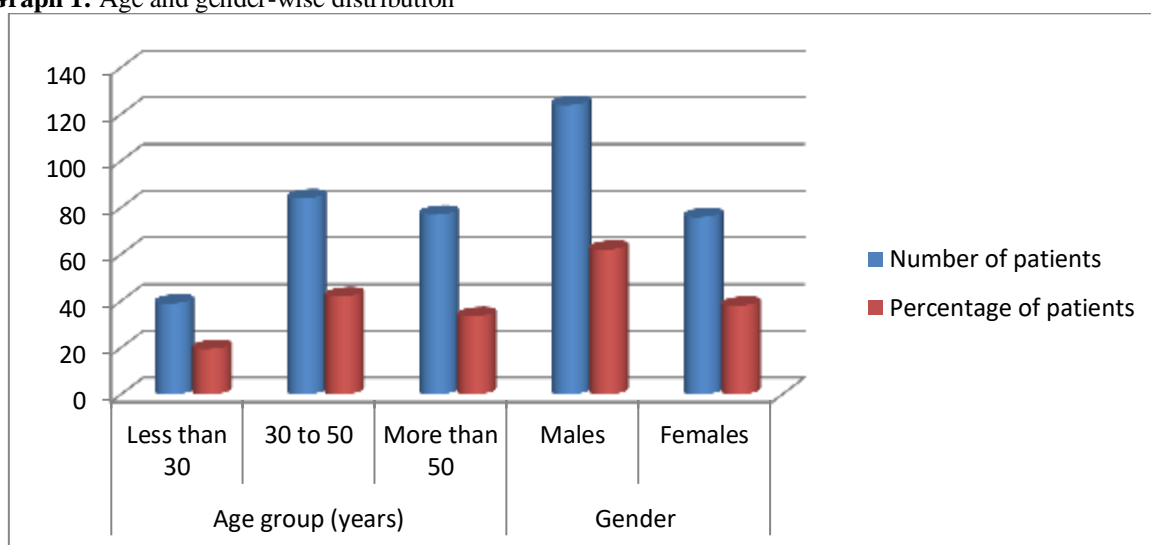


Table 1: Distribution of patients according to type of blood group

Type of blood group	Number of patients	Percentage of patients
A+	45	22.5
A-	13	6.5
B+	41	20.5
B-	15	7.5
AB+	22	11
AB-	14	7
O+	42	21
O-	8	4

Table 2: Distribution of patients according to component of blood transfused

Component of blood transfused	Number of patients	Percentage of patients
Red blood cell units	52	26
Fresh frozen plasma	49	24.5
Platelets	45	22.5
Whole blood	54	27

Table 3: Correlation of type of blood group and gender-wise distribution

Type of blood group	Number of patients	Gender		Chi- square value	p- value
		Males	Females		
A+	45	25	20	26.86	0.315
A-	13	10	3		
B+	41	25	16		
B-	15	10	5		
AB+	22	11	11		
AB-	14	10	4		
O+	42	28	14		
O-	8	5	3		

DISCUSSION

Transfusion of human-derived blood products is essential to life for many clinical conditions, making it one of the most common medical procedures for inpatient hospitalizations. The study of transfusion practice presents challenges to investigators whose subjects, treatments, and duration of follow-up are often heterogeneous. Blood transfusion plays important role in medical and surgical practice. In order to achieve these, critical review and continuous evaluation of the use of blood and its components becomes essential. These entails studying the pattern of blood components use, the clinical conditions and wards requiring blood transfusion, the risks associated with blood transfusion and the demographic characteristics of the blood transfusion recipients in a population.⁶⁻⁸ Hence; the present study was undertaken for assessing the clinical and demographic profile of blood transfusion recipients of a tertiary care hospital.

In the present study, a total of 200 patients were enrolled. Mean age of the patients was found to be 45.8 years. 42 percent of the patients belonged to the age group of 30 to 50 years. 33.5 percent of the patients belonged to the age group of more than 50 years. 62 percent of the patients were males while the remaining 38 percent were females. In 22.5 percent of the patients, A+ blood group was transfused, while in 21 percent of the patients, O+ blood group was transfused in 21 percent of the patients. In 20.5 percent and 11 percent of the patients B+ and AB+ blood group was transfused respectively. In 4 percent of the patients, O- blood group was transfused. Okoroiwu HU et al described the demographic characteristics of the transfusion recipients and pattern of blood and blood product utilization. Blood bank registers of University of Calabar Teaching Hospital (UCTH) Calabar were analysed for a 12 month period. Number of blood units requested, number of units issued, Cross-match to transfusion ratio (C/T), age, gender, blood group, blood components received, patients ward and clinical diagnosis were computed. Diagnoses were grouped into broad categories according to the disease headings of International Classification of Diseases (ICD-10). Majority of the 2336 transfusion recipients studied were females (69.09%) and are in the reproductive age group; 15–49 years (75.23%). The median age of the recipients

was 35 years (range, 0–89). Most of the recipients (n = 1636; 70.04%) received whole blood transfusion. Majority (94.46%) of the cross-matched units were issued giving C/T ratio of 1.06. The common blood group type was O Rhesus positive (62.63%). Obstetrics and Gynecology had the highest blood requisition (41.40%). The majority of the patients were diagnosed with conditions related to pregnancy and childbirth (38.70%), conditions originating in prenatal period (14.38%). The age range of 25–54 years had the highest blood transfusion requests (n = 501; 51.07%), of these, females were majority. Their study recorded mostly young patients who received mostly whole blood. Most of the patients in the reproductive age group received transfusion for pregnancy and child-birth related cases.⁹

In the present study, red blood cell units were transfused in 26 percent of the patients, while whole blood was transfused in 27 percent of the patients. Fresh frozen plasma and platelets were transfused in 24.5 and 22.5 percent of the patients respectively. While correlating the type of blood group and gender-wise distribution, non-significant results were obtained. Mafirakureva N et al described the demographic characteristics of blood transfusion recipients and patterns of blood and blood component use. Data on the characteristics of the blood transfusion recipients (age, sex, blood group), blood components received (type, quantity), discharge diagnoses and outcomes following transfusion (discharge status, duration of stay in hospital), were retrospectively collected from four major hospitals for the period from January 1, 2012 to December 31, 2012. Diagnoses were grouped into broad categories according to the disease headings of the International Classification of Diseases (ICD-10). Surgical procedures were grouped into broad categories according to organ system using ICD-9. Most of the 1,793 transfusion recipients studied were female (63.2%) and in the reproductive age group, i.e. 15–49 years (65.3%). The median age of the recipients was 33 years (range, 0–93). The majority of these recipients (n=1,642; 91.6%) received a red blood cell transfusion. The majority of the patients were diagnosed with conditions related to pregnancy and childbirth (22.3%), and diseases of blood and blood-forming organs (17.7%). The median time spent in hospital was 8 days (range, 0–214) and in-hospital

mortality was 15.4%. Their sample of blood transfusion recipients were fairly young and most of them received red blood cell transfusions.¹⁰

CONCLUSION

From the above results, the authors conclude that A+ and O+ blood group are the most common type of blood group to be transfused with significantly more common in males. However; further studies are recommended.

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