



Profile of Transfusion Recipients in A Tertiary Care Centre in Chennai

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ABSTRACT

RESEARCH QUESTION: Is Blood transfusion, an important requisite for patients undergoing surgical intervention?

BACKGROUND: According to World Health Organization (WHO) study and data around the world regarding blood safety, about 80% of world's population does not have access to safe blood (Global Data Base).

MATERIALS AND METHODS: A record based retrospective descriptive study was carried out based on the Blood Transfusions carried out in ACS MEDICAL COLLEGE AND HOSPITAL during the period of January 2015 to December 2015 to know the profile of blood transfusion taking place in patients who gets admitted in ACS medical college and hospital. The datas were collected from the records available in the blood bank after getting assent from the institution. The datas were entered in MS Excel sheet and analysed using SPSS Software.

RESULTS: Totally 199 study participants were included in our study, among the partakers 64.3% were females. Of the partakers, 46.2% (92) were less than 40 years and 52.8% (107) were above 40 years. Surgical reasons for transfusion were 1.94 times more common among males when compared to females and this association was found to be statistically significant ($p = 0.03$).

CONCLUSION: There were more female recipients and more recipients in the younger age group (< 40 years). Surgical reason for transfusion were significantly more common among males.

KEYWORDS : Blood transfusion, Blood groups and Blood products .

INTRODUCTION

Blood transfusion is an important part of day to day clinical practice. Blood and blood products provide unique and life saving therapeutic benefits to patients.[1] Blood transfusion has the potential to save millions of lives each year. The risks of transfusion include the transmission of viral infections, bacterial contamination of blood components, haemolytic reactions, transfusion-related acute lung injury, and transfusion-associated graft-versus host disease.(2)

The WHO Blood safety initiative has provided guidelines to ensure the quality of safety of blood and blood products. The discovery of transfusion-transmissible infections (TTIs) has heralded a new era in blood transfusion practice worldwide with emphasis on two fundamental objectives, safety and protection of human life.(3) Safe blood is a universal right, which means that blood which will not cause any harm to the recipient and that has been fully screened and is not contaminated by any blood borne diseases such as HIV, Hepatitis, malaria and syphilis. Unsafe blood remains a major threat for the global spread of TTIs (4). Ten patient received single unit of packed red cells. Single unit transfusions raise the haemoglobin by 1 g/dL only, which is therapeutically insignificant. Therefore, according to World Health Organization's strategy for promoting and practicing rational use of blood and blood products the use of a single unit of blood therefore is strongly discouraged(5)

According to World Health Organization (WHO) study and data around the world regarding blood safety, about 80% of world's popu-

lation does not have access to safe blood

(Global Data Base). Despite limited resources, rapid spread of HIV/AIDS and other TTIs,

transfusion of safe blood and blood component has to be ensured to reduce morbidity and

mortality(6). The patient's haemoglobin (Hb) value, although important, should not be the sole deciding factor in the decision to transfuse blood. This decision should be supported by the need to relieve clinical signs and symptoms and to prevent significant morbidity or mortality. Transfusion of blood and products should be undertaken only to treat a condition that would lead to significant morbidity or mortality and that cannot be prevented or managed effectively by other means.

MATERIALS AND METHODS

A record based analytical cross sectional study was carried out in the Blood Transfusion of all Departments of ACS Medical College And Hospital during the period of January 2015 to December 2015 to determine the prevalence of blood transfusion in ACS medical college and hospital. It is a medical record based Cross-sectional study, with both descriptive and analytical components. The descriptive component was used to find the profile of blood transfusion among the people who need surgical and medical intervention. The analytical component was used to find the association between age and gender with the reason for transfusion. The study was conducted in ACS

Medical College And Hospital Blood Bank. The population involves both men and women of all age groups. The data was collected over a period of 12 months after getting assent from the institution. The data was entered in MS Excel sheet and analysed using SPSS Software.

INCLUSION CRITERIA: Patients who were admitted in ACS Medical college and hospital and underwent blood transfusion.

RESULTS

A record based cross sectional study was undertaken to estimate the prevalence of blood transfusion in ACS medical college and hospital. The study was done among both male and female population (199) who received blood and blood products from ACS Medical College And Hospital ,Thiruvallur district.

TABLE 1: SOCIODEMOGRAPHIC PROFILE OF THE SUBJECTS

VARIABLE	CLASSIFICATION OF THE VARIABLE	NUMBER	PERCENTAGE
GENDER	Male	71	35.7
	Female	128	64.3
AGE	≤ 40 years	92	46.2
	> 40 years	107	52.8

Among 199 participants 35.7 were male and 64.3 were female, Of the study subject, 46.2 were less than 40 years and 52.8 were above 40 years.

TABLE 2: HEMODYNAMIC PROFILE OF THE SUBJECTS

VARIABLE	CLASSIFICATION OF VARIABLE	NUMBER	PERCENTAGE	95 % C.I
BLOOD GROUP	A – positive	38	19.1	13.64 – 24.56
	A – negative	13	6.5	3.07 – 9.93
	B – positive	62	31.2	24.76 – 37.64
	B – negative	13	6.5	3.07 – 9.93
	AB – positive	23	11.6	7.15 – 16.05
	AB – negative	5	2.5	0.33 – 4.67
	O – positive	30	15.1	10.13 – 20.07
	O – negative	15	7.5	3.84 – 11.16
PRIME REASON FOR TRANSFUSION	Medical reasons	106	53.2	46.27 – 60.13
	Surgical reasons	70	35.2	28.56 – 41.84
	Obstetric reasons	23	11.6	7.15 – 16.05
TYPE OF PRODUCT USED	Whole blood	147	73.9	67.8 – 80
	Packed cells	51	25.6	19.54 – 31.66
	Fresh frozen plasma	1	0.5	NA
HISTORY OF PREVIOUS TRANSFUSIONS	Yes	19	9.5	5.43 – 13.57
	No	180	90.5	86.43 – 94.57

TABLE - 2. shows that B positive with 31.2 % are commonly used more in number of 62 than A positive 19.1% , A negative 6.5% , B negative 6.5% AB positive 11.6% AB negative 2.5% O positive 15.1% and O negative 7.5

The reason for transfusion is more in the medical conditions with 53.2% compared to surgical reasons of 35.2% and obstetric reason of 11.6%. The type of product used is whole blood of 73.9% , packed cells of 25.6%, fresh frozen plasma with 0.5%. In the study population of 199, history of previous transfusions is 9.5% and no history of previous transfusion is 90.5%

FIGURE 1: BLOOD GROUP PROFILE OF SUBJECTS THAT RECEIVED TRANSFUSION

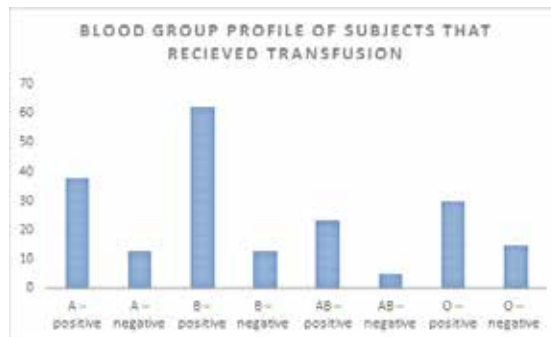


TABLE 3: ASSOCIATION BETWEEN AGE & GENDER WITH THE REASON FOR TRANSFUSION

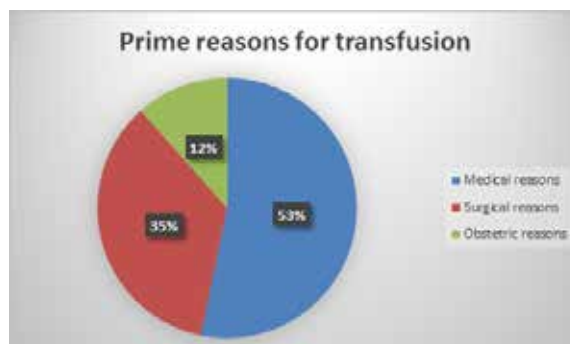
Variable	Classification of variable (number of people in the group out of 199)	Number of transfusions for surgical reasons (out of 70)	Odds ratio (95% C.I. Of odds ratio)	Chi – square value	P – value
Age	> 40 years (107)	41	1.35 (0.75 – 2.43)	1.00	0.32
	≤ 40 years (92)	29	1.00		
Gender	Male (71)	32	1.94 (1.06 – 3.55)	4.72	0.03*
	Female (128)	38	1.00		

(* - statistically significant)

TABLE - 3

The association between surgical reasons for transfusion and the socio – demographic factors were studied and it was seen that surgical reasons for transfusion were 1.35 times more common in the > 40 years age group when compared to the ≤ 40 years , however this association was not statistically significant (p value = 0.32). Surgical reasons for transfusion were 1.94 times more common among males when compared to females and this association was found to be statistically significant (p=0.03) . details can be seen in table 3.

FIGURE 2: PRIME REASONS FOR TRANSFUSION



DISCUSSION

A record based cross – sectional study was done in A.C.S Medical College. Medical records from the blood bank for a period of 12 months were reviewed. There were more female recipients of blood and blood products (64.3%) when compared to males (35.7%) this could be because of the reason that the biggest need for transfusion is anaemia and also that more women are affected with it as compared to men⁷. According to National family health survey 3 (NFHS 3) more than half the women are anaemic (55%), With the onset of menstruation and associated blood loss there is a further rise in prevalence and severity of anaemia⁷. The commonest blood group that received transfusion was B positive followed by A positive and O positive this is in contrast with the fact that the commonest blood group in India is O- Positive . Blood group O was the commonest (38.75%) in a study conducted in south India⁸ . The biggest need for transfusion was because of medical reasons (53.2%), followed by surgical reasons (35.2%) and obstetric reasons (11.6%) and the most common blood product used was whole blood, followed by packed cells. It was also seen that surgical reasons for blood transfusion were more common among men when compared to women and this association was also statistically significant ($p = 0.03$), this could be because of the reason that women generally have transfusions for medical reasons and men generally do not have transfusions for medical reasons. Further comparisons could not be made.

CONCLUSION:

The outcomes of our study reveals that females and males underwent blood transfusion at higher prevalence for medical and surgical aspects respectively. Initiatives to explore the factors of blood transfusion should be identified and awareness among the general population must be created.

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