Original Research Article

A study of total number of components and their utilization at blood bank: A three years study

Vishal Narote[1], Vikas Yedshikar[2*]

[1]Assistant Professor, [2]Associate Professor, Department of Pathology, SVNGMC, Shri Vasantrao Naik Government Medical College, Palaswadi, Waghapur Yavatmal, INDIA.
Email: vikasyedshikar@gmail.com

Abstract

Background: The goal of blood transfusion services is to provide safe, uninterrupted, and timely blood and blood components so that this valuable medicine is not wasted. **Aims and Objectives:** study of total number of components and their utilization at Blood bank. **Methodology:** This was a cross-sectional study carried out in the three year duration i.e. 2018 to 2020 at the Blood bank of attached to SVNGMC, Yavatmal, Maharashtra. Total Component in Separation and Total component issue such as PRC, FFP, PC were noted entered to excel sheet for the record purpose. The data was analyzed by Excel software for the windows 10**. Result:** In our study we have seen that In 2018 Total Component Separation PRC were 2314, FFP were 2314, PC were 725 where as Total component issue for PRC were 2314, FFP were 1054, PC were 590 . In 2019 Total Component Separation PRC were 2847, FFP were 2847, PC were 869 where as Total component issue for PRC were 2721, FFP were 1270, PC were 468 .In 2020 Total Component Separation PRC were 2353, FFP were 2353, PC were 738 where as Total component issue for PRC were 2340, FFP were 1248, PC were 314 **Conclusion:** In order to examine the blood utilization pattern in any institution, a periodic assessment and audit of blood component with respect to component in separation and component issued etc. usage is required.
Key words: PRC, FFP, PC.

[*]**Address for Correspondence:**
Dr Vikas Yedshikar, Associate Professor, Department of Pathology, SVNGMC, Shri Vasantrao Naik Government Medical College, Palaswadi, Waghapur, Yavatmal, INDIA.
Email: vikasyedshikar@gmail.com
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INTRODUCTION

The goal of blood transfusion services is to provide safe, uninterrupted, and timely blood and blood components so that this valuable medicine is not wasted.[1] Blood and its components have the potential to produce immunomodulation in the receiver, thus it must be transfused with caution.[2] Because there is no substitute for this important medicine, blood transfusions remain the mainstay of treatment in a variety of clinical diseases.[3] In order to examine the blood utilization pattern in any institution, a periodic review of blood component usage is required.[4] Nowadays, good clinical practice guidelines ensure that transfusion therapy is only given for well-established purposes, and that blood components rather than entire blood should be used.[5] With this background we have done study of total number of components and their utilization at Blood bank.

METHODOLOGY

This was a cross-sectional study carried out in the three-year duration i.e. 2018 to 2020 at the Blood bank of attached to SVNGMC, Yavatmal, Maharashtra. All the blood bags were collected with standard protocol from apparently health donors during the study period. All the blood bags were screened for the diseases like HIV, HBsAg, HCV, Malaria and VDRL as per the standard protocols of Blood donations those blood bags tested for any of the above disease were identified and such bags

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were discarded, Total Component in Separation and Total component issue such as PRC, FFP, PC were noted entered to excel sheet for the record purpose. The data was analyzed by Excel software for the windows 10

RESULT

Table 1: Total no of component and Utilization in 2018

Total Component Separation			Total component issue (2018)		
1	PRC	2314	1	PRC	2314
2	FFP	2314	2	FFP	1054
3	PC	725	3	PC	590

In 2018 Total Component Separation PRC were 2314, FFP were 2314, PC were 725 where as Total component issue for PRC were 2314, FFP were 1054, PC were 590

Table 2: Total no of component and Utilization in 2019

Total Component Separation			Total component issue (2019)		
1	PRC	2847	1	PRC	2721
2	FFP	2847	2	FFP	1270
3	PC	869	3	PC	468

In 2019 Total Component Separation PRC were 2847, FFP were 2847, PC were 869 where as Total component issue for PRC were 2721, FFP were 1270, PC were 468

Table 3: Total no of component and Utilization in 2020

Total Component Separation			Total component issue (2020)		
1	PRC	2353	1	PRC	2340
2	FFP	2353	2	FFP	1248
3	PC	738	3	PC	314

In 2020 Total Component Separation PRC were 2353, FFP were 2353, PC were 738 where as Total component issue for PRC were 2340, FFP were 1248, PC were 314

DISCUSSION

Because blood and its components are so important to human life, blood transfusion can be a life-saving procedure. Defective donor recruitment, inadequate stock management, and transportation are only a few of the causes that contribute to blood shortages. In many nations, the demand for blood outnumbers the supply. According to World Health Organization (WHO) figures, 87.5 percent of developing nations gather less than half of the blood required to meet their populations' transfusion needs [6]. Most of the limited blood supplies are needed for problems of pregnancy and childbirth, trauma, and severe anaemia in children, according to studies in underdeveloped countries [7–9]. Many factors contribute to blood product waste, including damaged bags, broken seals, expired units, units returned beyond 30 minutes, clotted blood, and other variables, the most important of which is a lack of basic information and awareness. If RBC units have been out of controlled temperature storage for more than 30 minutes, according to the "30-minute rule" and UK blood transfusion requirements, they should not be put back into storage for reissue.[10] This restriction is justified by the fact that once RBC units are removed from controlled temperature storage, the component warms up, increasing the danger of bacterial proliferation over time.[11,12] In our study we have seen that In 2018 Total Component Separation PRC were 2314, FFP were 2314, PC were 725 where as Total component issue for PRC were 2314, FFP were 1054, PC were 590 In 2019 Total Component Separation PRC were 2847, FFP were 2847, PC were 869 where as Total component issue for PRC were 2721, FFP were 1270, PC were 468 In 2020 Total Component Separation PRC were 2353, FFP were 2353, PC were 738 where as Total component issue for PRC were 2340, FFP were 1248, PC were 314 Where as Anjali Handa [13] *et al.* found There were total of 90237 transfusions which were carried out during the study period of 12 months. During the study period, 366 stored whole blood units, 55300 Packed RBC units, 19111 FFP units, 14298 Random Donor Platelet units, 1119 single donor platelets and 43 cryoprecipitate units were issued for use in patients admitted to our hospital.

CONCLUSION

In order to examine the blood utilization pattern in any institution, a periodic assessment and audit of blood component with respect to component in separation and component issued etc. usage is required.

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