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SPECTRUM OF DIFFERENT AGE GROUPS IN VOLUNTARY BLOOD DONATION CAMPS IN BLOOD BANK, RIMS, RANCHI, JHARKHAND

Medical Science

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ABSTRACT

OBJECTIVE:- The study was done to provide data on the most common age group among voluntary blood donors donating blood in various blood donation camps organized by RIMS, Ranchi.

MATERIALS AND METHODS USED:- This was a retrospective study done at BLOOD BANK, RIMS, Ranchi over a period of 3 years from January 2014 to December 2016.

The age criteria for voluntary donation was 18 years to 60 years and criteria for weight was 45 kg and above, with ≥12.5 gm hemoglobin/dl for collection of 350 ml blood[1].

Total 20,429 healthy voluntary blood donors participated in the study. Data was reported in simple numbers and percentage.

RESULT:- The study showed that donors of age group 18-27 years were the most common (11375) followed by 28-37 years (5285) followed by 38-47 years (2720) followed by 48-60 years (1049).

The number of blood donations received were affected by the institute or organizations which organized the blood donation camps.

CONCLUSION:- The study provides information on the trend of relatively common age groups doing voluntary blood donation in the region. Based on this study plans can be made on which group to target to achieve maximum voluntary donations and which group need more counseling to break their myths regarding blood donations.

KEYWORDS

INTRODUCTION:-

Blood banks organize blood donation camps throughout the country so that the blood requirements be fulfilled. Number of donations vary with factors like age groups of donors, seasons and institutes.

There is a significant variation in number of blood donations between various age groups. The younger population tends to be most participating group in the camps. If motivated adequately, the participation can be hoped to further increase. Also, the age group which participates lesser may show an increase in number if motivated and counselled well.

The National Blood Policy (2002) and Action Plan for Blood Safety (2003) were adopted by the Government of India[2]. Objective 4 of the Action Plan states "to launch intensive awareness programmes for donor information, education, motivation, recruitment and retention in order to ensure adequate availability of safe blood."

The safest blood donations are voluntary, non-remunerated blood donors from low-risk population. Still more than 45% of blood donations in India are replacement donations which are supposed to be associated with a much higher prevalence of transfusion transmitted infections like HIV, Hepatitis B, Hepatitis C, syphilis and malaria.[3]

Though total annual collection has shown an absolute increase from 4.4 million blood units in 2007-08 to 9.3 million units in 2012-13[4], the requirement has also increased, such that there still is a considerable deficit in the available blood units. A government data shows that the annual blood requirement in India is approximately 10-12 million units.

The first records of voluntary blood donation in India dates back to 1942 during the world war II[5]. Yet even after 75 years there was about 10% deficit in the available blood units in 2015-2016, an improvement from 17% shortage as reported in 2013-2014. The deficit varies from state to state.

There is no well- accepted substitute for human blood[6]. Oxygen therapeutics, even if widely available, would not eliminate the use of human blood, which performs various functions besides oxygen transport. No artificial oxygen carrier is approved for clinical use till date.

Blood is received only from human blood donors[7], either autogenic or allogenic, by their voluntary participation or as a replacement donor.

This dependence on human blood and the always increasing requirement of safe blood demands a bigger rise in number of voluntary blood donations so that the deficit be completed.

Studies shows that the most common reason for which people do not participate in voluntary blood donation is that they never thought of donating and also because they have certain myths regarding health issues related to blood donation.

Thus, the most effective way to ensure an increase in available blood units is by increasing awareness regarding the importance of blood donations and by clearing the misconceptions that is highly prevalent among people regarding health issues they will get after donating blood. They need to be counselled that blood donation is a very safe practice and that they can donate at regular intervals without being scared of any health issues post donation.

India has a huge burden of patients with thalassaemia major who not only require life sustaining regular transfusion support but are also challenged by alloimmunization to minor blood group antigens[8].

There are a few foundations like Think Foundation[9] and Sankalp India Foundation[10] that help patients with rare Bombay blood groups and thalassemia syndromes respectively. Similarly "Project Disha" from Sankalp India Foundation aims to identify the closest place where safe blood is available for a needy person.

An increase in voluntary blood donation has also decreased the HIV sero-reactivity in donors from 1.2% to 0.2%.[11]

MATERIALS AND METHODS:-

CENTRE OF STUDY:- The study was conducted at RIMS, Ranchi, the largest blood bank of Jharkhand.

SUBJECTS:- Total number of healthy donors participating in donation was 20429. Replacement donations at the blood bank were excluded from the study.

Age and weight criteria for blood donation was as follows:-

- For age:- 18 years to 60 years
- For weight:- 45 kg and above; for 350 ml blood collection and 50 kg and above for 450 ml

COLLECTION:- After proper history taking and counseling the blood donations were received. Approximately 350 ml (9 ml/kg body weight) of blood was collected from each eligible donor and duly filled donor forms were kept for the record.

DETERMINATION OF AGE-SEX FREQUENCY:- Using the donor forms the donors were segregated into various age-sex groups and the result given in simple numbers and percentages.

RESULTS:-

A total of 20,429 voluntary blood donations were received over a period of 3 years. Replacement donations were excluded from the study.

The age-sex frequency in individual years was as follows-

2014

In 2014, total 5261 voluntary donations were received. Out of this 4634 were male donors and 621 were female. Donors of age group 18 to 27 years were most common, followed by 28 to 37 years, followed by 38 to 47 years, followed by 48 to 60 years.

Table Number 1. Age-wise percentage of donors in year 2014

AGE GROUP	No. OF DONATIONS	PERCENTAGE	MALE DONORS	FEMALE DONORS
18-27 years	2996	56.94%	48.35%	8.59%
28-37 years	1284	24.40%	22.69%	1.71%
38-47 years	705	13.40%	12.26%	1.14%
48-60 years	276	5.26%	4.79%	0.47%
TOTAL	**5261**		**4634**	**621**

2015

In 2015, total 7137 voluntary donations were received. Out of this 5771 were male donors and 1366 were female. Donors of age group 18 to 27 years were most common, followed by 28 to 37 years, followed by 38 to 47 years, followed by 48 to 60 years.

Table Number 2. Age-wise percentage of donors in year 2015

AGE GROUP	No. OF DONATIONS	PERCENTAGE	MALE DONORS	FEMALE DONORS
18-27 years	3831	53.67%	42.28%	11.39%
28-37 years	1917	26.86%	25.54%	1.32%
38-47 years	1001	14.02%	13.00%	1.02%
48-60 years	388	5.45%	4.84%	0.61%
TOTAL	**7137**		**5771**	**1366**

2016

In 2017, total 8031 voluntary donations were received. Out of this 7470 were male donors and 561 were female. Donors of age group 18 to 27 years were most common, followed by 28 to 37 years, followed by 38 to 47 years, followed by 48 to 60 years.

Table Number 3. Age-wise percentage of donors in year 2016

AGE GROUP	No. OF DONATIONS	PERCENTAGE	MALE DONORS	FEMALE DONORS
18-27 years	4548	56.63%	50.89%	5.74%
28-37 years	2084	25.94%	25.23%	0.71%
38-47 years	1014	12.62%	12.20%	0.42%
48-60 years	385	4.81%	4.70%	0.11%
TOTAL	**8031**		**7470**	**561**

Average percentage of different age group of blood donors from year 2014 to 2016 is as follows:-

Table Number 4. Age-wise percentage of donors in year 2014-2016

AGE GROUP	No. OF DONATIONS	PERCENTAGE	MALE DONORS	FEMALE DONORS
18-27 years	11375	55.68%	47.25%	8.43%
28-37 years	5285	25.87%	24.69%	1.18%
38-47 years	2720	13.31%	12.49%	0.82%
48-60 years	1049	5.14%	4.75%	0.39%
TOTAL	**20429**		**18218**	**2211**

CONCLUSION:-

Number of voluntary blood donations in India has increased in successive years but the requirement has also increased, such that there is still a considerable gap between the requirement and the available units.

To fulfill this gap awareness and counseling is the best step that can be taken. Counseling will further encourage the younger population for regular donation and also help other age groups to know the benefits of blood donation and break their myths regarding blood donation. A targeted approach towards various age groups will help spread the awareness and increase voluntary donations.

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