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RESEARCH ARTICLE

KNOWLEDGE, ATTITUDE, AND PRACTICE OF VOLUNTARY BLOOD DONATION AMONG MEDICAL STUDENTS OF PDU MEDICAL COLLEGE RAJKOT

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ABSTRACT

Background: In spite of extensive promising research, a true substitute for blood and blood components may not be available for many years (1).Therefore; blood donation by humans will continue to be the major source for blood and blood components the attitude, beliefs, and level of knowledge associated with blood donation may affect the disposition of potential donors to blood donation. Health workers are expected to have a good knowledge of blood usage, to be aware of the increasing demand and scarcity of the products, and are thus expected to donate as well as encourage voluntary blood donation among the public

Materials and Methods: This was a cross-sectional descriptive study carried in February 2014 at PDU Medical College Rajkot. Pretested questionnaires were used to assess their knowledge, attitude, and practice of voluntary blood donation. A total of 150 students were recruited from the 2 year, Prefinal and final year MBBS by quota sampling to participate in the study

Result Knowledge of Blood Transfusion: A total of 128 (85.3%) respondents expressed good knowledge of the common blood group types, and 144 (96%) knew their own blood groups.

Attitude towards Blood Donation: A 145(96.6%) respondents said blood donation was good. Voluntary donation was accepted as the best source of blood donors by 120 (80 %), replacement donors by 20 (13.3%), remunerated by 10 (6.6%). Fifty (33.3%) said blood donation may have adverse consequences.

Practice of Blood Donation: Thirty-six (24 %) have donated in the past. Only 5 (3.3%) were regular blood donors. Only 20 (13.3 %) are voluntary, and 16 (10.6%) donated to a friend or relative in need of blood

Conclusion: In conclusion medical students are reasonably informed and have positive perception towards blood donation; however, only few of them have donated and are positively disposed to donate blood. There is a need for active education program to encourage all and if this happens adequate and safe blood from this group will be guaranteed.

INTRODUCTION

In spite of extensive promising research, a true substitute for blood and blood components may not be available for many years (Lowe and Ferguson 2003). Therefore; blood donation by humans will continue to be the major source for blood and blood components. Donated blood can be life saving for individuals who have lost large volumes of blood from serious accidents, obstetric and gynecological hemorrhages, or surgery and stem cell transplant patients as well as for individuals who have symptomatic anemia from medical or hematologic conditions for cancers. Therefore, blood is an important concern to the society. The use of these life saving products may be complicated by infectious and immunological diseases some of which could be life threatening. Blood banks are obligated to provide adequate and safe blood to the community.

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Generally, donors are classified into the following categories: voluntary, family replacement remunerated or paid donors, and autologous donor. The safest donors are found among people who donate their blood voluntarily purely out of altruism and are self-aware of their unsuitability to serve as blood donors where there might be a slightest risk of causing health damage for blood recipients (Buyx 2009; http://www.who.int). The risk of transfusion transmissible diseases is highest with the use of blood procured from remunerated donors (Enosolease *et al.,* 2004; Nwogoh *et al.,* 2011; Eastlund 1998; Van der Poel *et al.,* 2002; Ejele 2005; Glynn 2001). A person in need for money is more likely to conceal his/her true state of health. Monetary remuneration, which is often offered as a donor motivating tool, might be highly appealing for people who live in desperate straits. In developing countries like India, there is a dependency on family replacement and remunerated donors (Nwogoh *et al.,* 2011; Jeremiah and Koate 2010; Emeribe *et al.,* 1993). The World Health Organization advocates that member states should establish national blood transfusion

services that will operate On the basis of voluntary, nonremunerable blood donation (The Melbourne declaration on 100% voluntary non-remunerated donation of blood and blood components 2009). Despite this, very little progress has been made in the direction of providing sufficient blood for our teaming population.The attitude, beliefs, and level of knowledge associated with blood donation may affect the disposition of potential donors to blood donation. Health workers are expected to have a good knowledge of blood usage, to be aware of the increasing demand and scarcity of the products, and are thus expected to donate as well as encourage voluntary blood donation among the public.

Study objectives

The objectives of this study were to assess the knowledge, attitude and, practice of voluntary blood donation among medical students, to identify and recruit potential voluntary blood donors and to determine the association between blood donation, gender, category of students, and level of education of the students.

MATERIALS AND METHODS

This was a cross-sectional descriptive study carried in February 2014 at PDU Medical College Rajkot. The centre operates a hospital-based blood banking system. The hospital has over 500 students in various departments. The students are categorized based on their academic qualifications. Pretested questionnaires were used to assess their knowledge, attitude, and practice of voluntary blood donation. A total of 150 students were recruited from the 2 year, Prefinal and final year MBBS by quota sampling to participate in the study.

RESULTS

Demographic Parameters

A total of 150 students responded to the questionnaire. The age range of the respondents was between18 to 24 years.

Knowledge of Blood Transfusion

A total of 128 (85.3%) respondents expressed good knowledge of the common blood group types, and 144 (96%) knew their own blood groups. The blood groups of respondent were A Rhesus (Rh) positive (23) (15.3%), AB Rh positive (3) (2%), O Rh positive (15) (10%), O Rh negative (6) (4%), and B Rh positive (103) (68.6%). Most respondents (144) (96%) were aware of the risk of transmission of infection by transfusion. One hundred and twenty (80%) stated that the minimum interval between donations is 3 months, 20 (13.3%) said 6 months, and 10 (6.6%) said that they had no knowledge of this. The majority of the respondents had a good knowledge on who should and who should not donate blood. However, 5 (3.3%) of the respondents said vulnerable group (sex workers, intravenous drug users) should donate blood. Only 40 (26.6%) knew the correct volume of blood collected in the blood donation process. Similarly, 50 (33.3%) knew that the blood donation process lasts less than 20 minutes.

Attitude towards Blood Donation

A 145(96.6%) respondents said blood donation was good. Voluntary donation was accepted as the best source of blood donors by 120 (80 %), replacement donors by 20 (13.3%), remunerated by 10 (6.6%). Fifty (33.3%) said blood donation may have adverse consequences. Twenty (13.3%) said a donor can contract infection, 99 (66%) said the donor may experience temporary weakness, and 10 (6.6%) said the donor may fall sick. One hundred and forty-six (97.3%) feels that patient relatives should be asked to donate, and 149 respondents have asked relatives in the past to donate blood.

Practice of Blood Donation

Thirty-six (24 %) have donated in the past. Only 5 (3.3%) were regular blood donors. Only 20 (13.3 %) are voluntary, and 16 (10.6%) donated to a friend or relative in need of blood. The reasons for no donation by those who have not donated include nobody approached them for donation , unfit to donate, need to donate for a friend or relative in future, fear of needle , fear of knowing their viral status, the donated blood may be sold. Sixty-seven (46%) respondents accepted to be invited to donate blood. There was a significant association between male gender and blood donation. The level of education and category of staff have no significant association with the practice of blood donation.

DISCUSSION

The over dependence on family replacement and remunerated donors to meet the increasing demand for blood and blood products poses serious danger to potential recipient. Settings like ours which is still dependent on serological screening test for detection of transfusion transmissible infections in potential donors; who do not use pathogen nucleic acid detection technique; who do not practice pathogen inactivation; who do not irradiate blood products are more at risk. Hence, there is need to improve the recruitment and retention of voluntary-donor population to ensure a reasonably safe blood transfusion practice. There are lots of publications assessing the knowledge, attitude, and practice of voluntary blood donation; however, very few studies have been published which assess the same on the medical students in our environment and globally. This study has shown as expected that medical students have a good knowledge of blood groups, possible transfusion transmissible infection, and the appropriate donor population but on the contrary exhibited a poor knowledge of the blood donation process. The study also revealed a positive attitude of the students towards blood donation, but there was a serious contradiction in the practice of voluntary blood donation. Though all study participants are within the age range of potential donors, only thirty-six (24 %) have donated in the past, only 5 (3.3%) were regular donors, only 20 (13.3 %) are voluntary, and 16 (10.6%) donated to a friend or relative in need of blood. This is a far cry based on the knowledge and attitude displayed in this study and their experience of the increased demand for blood in the hospital. A total of Sixty-seven (46%) of the participants accepted to be invited in the future for voluntary donation. This reflects the absence of commitment to their acceptance. Thus, there is a serious

disparity in their knowledge, attitude, and practice. In a similar study we recorded that 41.4% blood donation was by physicians, with 39.6% being regular donors and 53.4% of these were voluntary (Nwogoh *et al.*, 2012). Study by Mullah et al. assessing the knowledge and perception of healthcare support staffs of a tertiary healthcare facility in Gujarat revealed a poor knowledge of donor eligibility among the staffs, 91% of them perceive blood donation as unsafe, and about 39% of them have donated blood (Mullah *et al.*, 2013). In a similar study in Iran, Reza *et al.* (2009) assessed the knowledge of 122 healthcare workers and found that 51.6% (just above average) have acceptable knowledge on proper methods of blood and components transfusion (Reza *et al.*, 2009).Variation in knowledge of blood donation and transfusion processes may be attributable to the degree of enlightenment program available and the degree of involvement of staffs in blood and blood products management. The major reason given by those who had never donated was that no one approached them to donate. This highlights the need for serious sensitization and education to all and sundry through the mass media to encourage the populace to approach the blood bank for a blood donation exercise. This study found a significant association between blood donation and sex. Males in our society are more likely to donate blood than females. This is quite understandable since women within the donor age range usually may have one factor or another interfering with their chances of being suitable to donate. Factors such as their frequent menstrual cycles, pregnancy, and lactation may prevent them from donation.

Conclusion

In conclusion medical students are reasonably informed and have positive perception towards blood donation; however, only few of them have donated and are positively disposed to donate blood. There is a need for active education program to encourage all and if this happens adequate and safe blood from this group will be guaranteed.

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