



A Cross Section Study On The Awareness, Knowledge And Attitude Of Blood Donation Among Voluntary Blood Donor During The COVID 19 Pandemic

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Abstract

Background: The Corona virus disease (COVID-19) pandemic caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), from the family Corona viridae. Blood Transfusion services shall cater patient needs and remain uninterrupted amidst the pandemic period. This study was done to assess the awareness, knowledge and attitude of the voluntary blood donors in regards to blood donation during COVID-19 pandemic.

Materials and Methods: This study is a cross-sectional study conducted for a duration of one year in a tertiary care hospital, Puducherry. A total of 150 voluntary blood donors were interviewed and observations were documented on a predesigned questionnaire.

Result: Totally 150 healthy voluntary blood donors were participated in this study. The most of the donors were between the age of 31 to 50 years. Male donors were more, when compared to the female donors. Around 60% of donors were previously donated. Most of the donors had awareness about the general information about COVID -19 pandemic. Information about COVID 19 infections were commonly received by the social media. Almost all the participants had concerned about getting infection with COVID-19 while donating blood during the pandemic.

Conclusion: Awareness and knowledge about COVID 19 infection to be given to the donors to remove the stigma to maintain the adequate blood supply during this pandemic. Blood transfusion services must adopt to follow the precautionary measures to minimize the risk of infection.

Keywords: COVID -19 pandemic, Blood Transfusion services, awareness, knowledge and attitude of the volunteer blood donors

Introduction

The Corona virus disease (COVID-19) pandemic caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), from the family Coronaviridae.⁽¹⁾ The disease was first identified in December 2019 in Wuhan, China, and later it spread globally.⁽²⁾ During March 2020 World Health Organization (WHO) declared it as a pandemic and described the outbreak as a public health emergency of International concern.⁽³⁾ In a pandemic situation

like COVID-19, Blood Transfusion Services (BTS) being an essential emergency service, should adequately maintain the blood supply.⁽⁴⁾ Blood Transfusion and replenishment of blood supply is essential for major surgeries, trauma, blood dyscrasias and expectant mothers.⁽⁵⁾ Blood Transfusion Services shall cater patient needs and remain uninterrupted amidst the pandemic period.⁽⁶⁾ However, during this pandemic outbreak and country lockdown, BTS faced numerous challenges to

maintain the sustainability in service provision. The various responsible factors to be concerned are stigma of being infected through hospital visits, lack of transport facilities and restrictions in conducting blood donation camps.⁽⁷⁾ This present study was done to assess the awareness, knowledge and attitude of the voluntary blood donors in regards to blood donation during COVID-19 pandemic.

Materials and Methods

This study is a cross-sectional study conducted for a duration of one year between June 2020 to May 2021 in a tertiary care hospital Puducherry, India. Study participants were voluntary blood donors who visited the blood bank. A total of 150 voluntary blood donors were interviewed and observations were documented on a predesigned questionnaire. A set of questions pertaining to awareness, knowledge and attitude of blood donation among volunteer blood donors during COVID 19 Pandemic. The questionnaire was designed, answers were collected from volunteer blood donors. Questionnaire regarding sociodemographic information's like age, gender, nationality, blood group, employment status and frequency of blood donation. Questionnaire regarding awareness, knowledge and attitude about Covid19; source of infection, modes of transmission, precautionary measures to follow during the pandemic outbreak. Perception about the blood donation during pandemic and safety measures followed in hospital and blood banks were collected and documented. All volunteer blood donors who consented for the study were included in this study.

Statistical Analysis

Data was collected and statistical analysis was performed using Microsoft Excel, Statistical Product and Service Solutions (SPSS) statistical package

Version 19. P-value was considered statistically significant if <0.05 . The appropriate graphs were made and percentage was calculated.

Result

Totally 150 healthy voluntary blood donors participated in this study. The age distribution among the voluntary blood donors were estimated. Out of 150 donors, 89(59.4%) donors were under the category of 31 to 50 years age group, 37(24.6%) donors under the category of 51 to 65 years age group, 24(16%) donors under 17 to 30 years age group. The maximum donors falls under the age group 31 to 50 years age. The gender distribution among the voluntary blood donors were 98(65.4%) males and the remaining 52(34.6%) were females. maximum number of blood donations, observed was male, when compared to female during this Covid19 pandemic. The most common blood group among the donors were O+ve, Out of 150 donors, 48(32%) donors were O+ve. The least common blood group was O-ve. Out of 150 donors 3(2%) of donors were O-ve. Occupation status of the donors were evaluated. Most of the donors were educated and employed. Donors working in private sector 52% (78/150) , donors working under government sector 37.4%(56/150). Around 10.6% falls under unemployed category, among them, most of them were students. Majority of them were educated, employed and were working in a private sector. The donors donation status were also estimated in this present study. Out of 98 male donors 68 donors donated more than one time. Among the 52 female donors, 49 donors donated blood more than once. Most of the donors donated blood previously. Socio-Demographic characteristics of the voluntary blood donor is shown in Table1

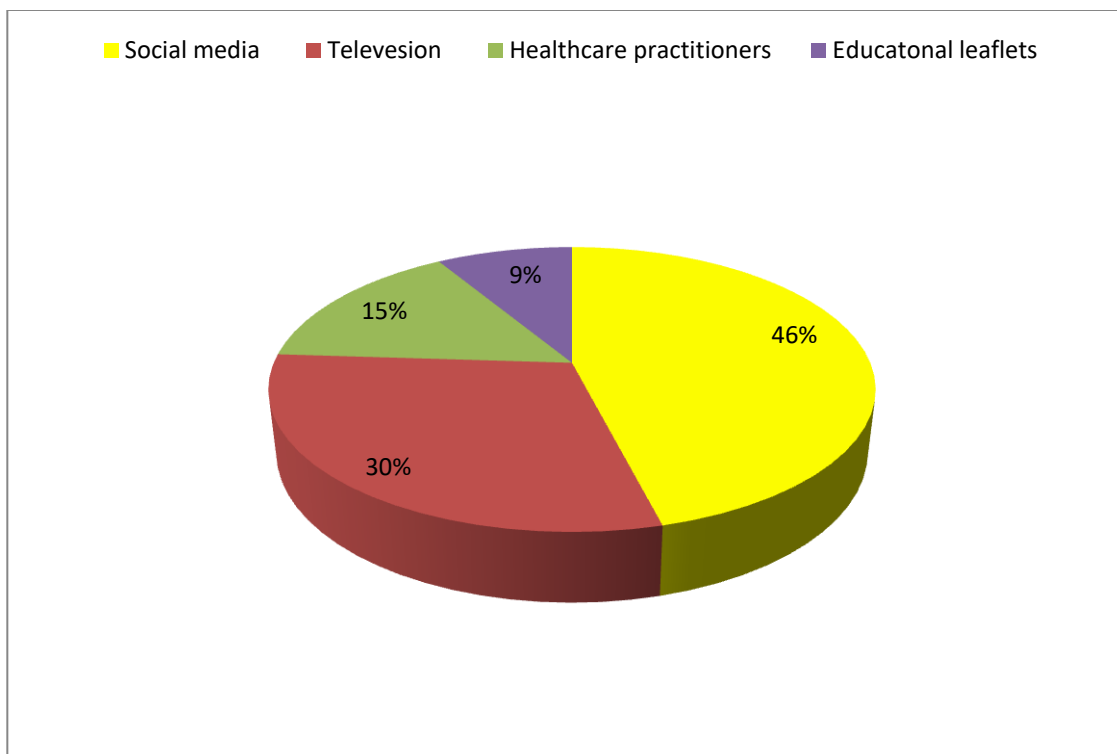
Table1: Socio-Demographic characteristics of the voluntary blood donor

| | | |
|-------------|----------|------------|
| Age | 17-30yrs | 24 (16%) |
| | 31-50yrs | 89 (59.4%) |
| | 51-65yrs | 37 (24.6%) |
| Gender | Male | 98(65.4%) |
| | Female | 52(34.6%) |
| Blood group | O+ | 48(32%) |

| | | |
|-------------|---------------------|-----------|
| | O- | 3(2%) |
| | A+ | 34(22.6%) |
| | A- | 5(3.4%) |
| | B+ | 21(14%) |
| | B- | 4(2.8%) |
| | AB+ | 31(20.6%) |
| | AB- | 4(2.6%) |
| Occupation | Government employee | 56(37.4%) |
| | Private employee | 78(52%) |
| | Unemployed | 16(10.6%) |
| Nationality | Indian | 150(100%) |
| | Others | - |
| Donor | Fresher | 33(22%) |
| | Previously donated | 117(78%) |

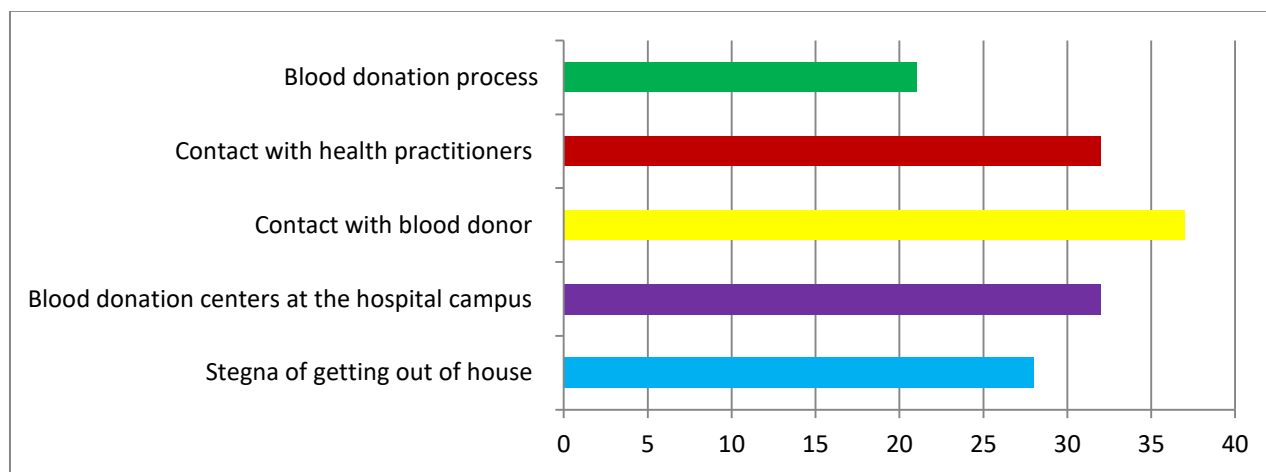
Present study observed that many of the participants had awareness about the general information about COVID -19 pandemic, about the causative virus, transmission of virus and about the safety measures to be followed. The information about COVID 19 infections were received by various forms like television, radio, social media, newspaper, through health care professionals, educational leaflets and through family members and friends. Among them, the most common mode of information received through social media 46%, through television 30%, 15 % through healthcare practitioners and 9% through educational leaflets. General information received about COVID 19 pandemic among the voluntary blood donor. Fig 1

Fig:1 General Information received about COVID 19 pandemic among the voluntary blood



The most striking feature of our observation was that, most of the participants had concerned about getting infection with COVID-19, while donating blood during the pandemic. Various concerned factors were listed out by the donors like some of the donors were worried about their contact with other blood donors 24.6% (37/150). Yet another group was concerned about their close contact with healthcare practitioners, it was around 21.3% (32/150). Few of them were concerned about the visit to blood bank which are located within hospital campus 21.3% (32/150). Some were worried about leaving the house 18.6% (28/150) and around 14% (21/150) had concerns about the entire blood donation process. Participants had concerns about getting infection with COVID-19 Fig: 2

Fig: 2 Participant had concerned about getting infection with COVID-19



Suggestions regarding preventive measures which needs to be adopted during the pandemic situation were, donate blood in a mobile unit close to the donor's door step. Some participants preferred that

the blood donation campaigns outside the hospitals campus. Few participants insisted blood donation campaigns in open spaces, utilizing appointment systems at donation centres to reduce the crowd to

minimize the risk of transmission of COVID-19. Most of the participants were satisfied with the current precautionary measures like using of masks, personal protection equipments(PPE), hand sanitization, social distancing and awareness leaflets in and around blood bank. Which have been put in place to reduce the risk of COVID-19 cross infection during blood donation. The precautionary measures followed in the blood bank during blood donation process encouraged the donors to come forward for blood donation process.

Discussion:

The present study helps us to understand the awareness, knowledge and attitudes of voluntary blood donation during the Covid 19 pandemic situation, which allows for better planning of the resources, helps in avoiding shortage of blood. In the present study it was observed that most common age group of blood donation during pandemic was around 31 – 50 years, which was around 89(59.3%). Similar findings were also observed in the study conducted by saud almalki et al who observed 58% of the voluntary blood donation were between the age of 31 to 50 years.⁽⁸⁾ The present study showed highest responses were observed among male donors which was around 98(65.3%). World health organization (WHO) assessment done on October 10, 2021 reported majority of donors were male.⁽⁹⁾ In the present study most of the donors were educated and were working in private sector. We also observed low levels of knowledge have been attributed to the low levels of education. It is essential to provide intensive education to the community regarding the covid 19 pandemic.

In the present study most of the donors were aware of their blood group unlike other studies. The most commonly reported blood group among participants were O+ve 48(32%), which is also shared by 37 % of the world's population. This observation was proved in other study conducted by Barun Mahat et al, who observed that Blood group O with Rh positive was the most common blood group was present in 96.6%.⁽¹⁰⁾ The present study revealed that most of the voluntary blood donors received the information through social media, television, radio and educational leaflets. A study conducted by Ahmed samir A et al⁽¹¹⁾ stated that around 66.9% of the donors received awareness and knowledge

through social media. Similar studies also stated that, the major source of misinformation is social media, and more measures should be taken to ensure the information that is shared on social media.⁽¹²⁾

The present study reported that donors willingness to donate blood has significantly decreased during the covid 19 Pandemic situation. Various strategical measures needs to be taken to educate the people regarding the need for blood donation and the significant role played by the donor in saving the lives of others during pandemic. Also highlight the frequency of blood transfusion. In the present study as expected many participants were concerned about being infected during the blood donation process. The most common reasons were getting infection from other donors. Study conducted by Bayeh Abera et all⁽¹³⁾ stated that majority had favourable attitude towards blood transfusion it was around 78.6% amidst the covid 19pandemic. The most common concern was getting infected from other donors in the donation area. Most of the studies showed that donors who had no information on the safety of blood donation choose to stay away from donation centers, and those may be encouraged to present to donation centres through reassurance and emphasis on safety measures implemented there The present study revealed the general knowledge awareness and attitude of the voluntary blood donors who participated in the blood donation process amidst the COVID-19 pandemic. Attitude of the participants towards blood donation was mostly positive. A study conducted by Marloes LC et al⁽¹⁴⁾ showed that there was increased in new donor registration, despite the associated increased risks during the COVID 19 pandemic. Many participants in this study (65 %) felt that the best way to donate blood during a pandemic would be within a blood donation mobile vehicle close to donor's residence. This option is expected to be attractive to donors to minimize their worry about coming in contact with many other donors or coming to the hospital, but definitely raises many financial and logistical challenges for collection centers.

Conclusion

In this cross sectional study, participants had high interests in donating blood with many of them being repeat donors. Knowledge about COVID-19 and its transmission methods was adequate. Many donors indicated fear of donating blood, secondary to concerns of contracting the infection.

A number of solutions were presented and agreed upon by various percentages of donors, including utilization of blood donation mobile centers and establishing collection centers out of hospital buildings.

Building and maintaining trust between donors and collection centers is essential to maintain an adequate and safe blood supply. This requires adoption of international recommendations and guidelines for infection control and maintenance of a safe and sufficient supply of blood during pandemics. Workers in blood collection centers must receive continuous education and up to date accurate information about the status of the pandemic, which will allow them to perform their roles safely and raise awareness among potential donors about safety of blood donation. Blood collection centers are encouraged to communicate with donors regarding the efforts put in place to minimize the risk to donors and staff. Collaboration among collection centers and sharing experiences and learned lessons is expected to help plan and manage current and future crisis affecting the blood supply

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Ethical Clearance: Institutional Ethics Committee approval was obtained

Informed Consent: The patient was informed and taken written consent was obtained before the initiation of the study.

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