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## BASIC KNOWLEDGE, ATTITUDE, MOTIVATIONS AND BARRIERS TOWARD BLOOD DONATION AMONG FEMALE STUDENTS AT PRINCE NORA UNIVERSITY

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### ABSTRACT

Blood donation is required for providing blood and blood products for saving others' lives. Patients might require blood due to sever blood diseases, traffic accidents, routine surgeries or other serious clinical cases. All over the world the demand for blood increases, while the blood donation and blood storage showed a significant decrease during the last years. Several factors have been reported in different researches that influenced the decision of blood donation. In Saudi Arabia, low number of blood donation among Saudi's, were reported as a result of poor knowledge and unfavorable attitude to donation. Thus, increasing the level of basic knowledge through educational programs and campaigning are necessary to improve public attitude toward blood donation. The aim of this study was to assess the basic knowledge and attitude of Prince Nora university female students regarding blood donation, along with motivational factors and barriers affecting blood donation. The result of this study showed that 40% of participants were aware of the required extracted volume of blood donation. Only 23% were known of the age of blood donors. Most of the students were acknowledged of the minimum weight for individuals who donated blood. About the frequency of blood donation and minimum duration between consecutive donations the result also showed students' positive attitude toward blood donation. They were willing to donate blood for their friends, family member or even to an unknown person who needs blood. Saving others' life was the most common motivation behind blood donation in this study followed by humanitarian reasons. Regarding the barriers related to blood donation among students distance from blood collection point was the most common cause for non-donation followed with never thinking about blood donation. This study suggested that organizing campaigning will aids to keep the issue of blood donation alive in the minds of the general community, eliminate specific misbeliefs and strengthen motivational pictures.

### KEYWORDS

Blood donation, Knowledge, Attitude, Motivations and Barriers.

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### INTRODUCTON

Blood donation is required for providing blood and blood products for saving others' lives. Patients might require blood due to sever blood diseases, traffic accidents, routine surgeries or other serious clinical case<sup>1</sup>. All over the world from developed and developing countries the demand for blood increases, while the blood donation and blood storage showed a significant decrease during the

last years<sup>2</sup>. It has been found that blood donation was dropped with 27% between 1977 and 1994 in Australia<sup>3</sup>. Similarly, Wallace and colleagues reported a reduction on whole blood donation in the United State of America with more than 9% during 5 years<sup>4</sup>. On the other hand, a spectacular increase in the demand for blood transfusions in United State of America has increased from 1.1 million in 1997 against 2.7 million in 2007. The National Health Service predicted a 29% increase in demand for blood products between 2004 and 2029 especially among elderly<sup>5</sup>.

Three main types of blood donors presented including; replacement, voluntary and paid donors. Replacements are commonly friends or family members who donate blood for a specific person in an emergency. About half of the donated blood in high income countries are provided from either replacement or paid donors. In Saudi Arabia, it has been reported that, the majority of the blood is collected from replacement donors<sup>6</sup>. Volunteer blood donors who, give blood without payment are interviewed and their blood investigated for the presence of infectious viruses like HIV before donation<sup>7</sup>.

A number of several factors have been reported in different researches that influenced the decision of blood donation including social behavior, community pressure, and replacement<sup>8-10</sup>. In Saudi Arabia, low number of blood donation among Saudi's, were reported as a result of poor knowledge and unfavorable attitude to donation<sup>11</sup>. Thus, increasing the level of basic knowledge through educational programs and campaigning are necessary to improve public attitude toward blood donation process and increase blood donor recruitment<sup>11</sup>. In 2014, a study performed in India showed that the knowledge level regarding blood donation was lower among non-donors when compared with donors. Within the same study they found higher frequency of false beliefs among non-donors individuals. Moreover, a cross sectional study was performed in Saudi Arabia showed low level of basic knowledge regarding the blood donation between non-donors<sup>6</sup>. Another, study in England showed the majority of study participants believe that blood transfusions were only needed in surgery and emergency situations<sup>5</sup>.

Generally, positive attitude towards blood donation and blood donation practice was reported in many studies<sup>12,5,13,14</sup>. A recent study in Northwest Ethiopia showed that 90% of study participants had a future plan to donate blood voluntarily. They also showed positive attitude regarding blood donation among the majority (80%) of the undergraduate health sciences students (Enawgaw, *et al*, 2019). Moreover, study conducted in India, presented positive attitude in 85% of study participant toward donating blood (Bha Rat Waj, *et al*, 2012). In addition, in England a study presented individuals grateful feelings towards the donor (Joshi, and Meakin, 2017). Many factors associated with attitude toward blood donation. Such of these factors; educational level, age, occupation, residence and marital status. However, some other factors were non-significantly associated such as individuals gender (Enawgaw, Yalew and Shiferaw, 2019).

Major reasons for having not donated blood were reported in several studies including; time commitment, transportation complexity, long density to donation location and short break from work<sup>7</sup>. Weakness after donation as a harmful effect on the body was also reported among persons who wouldn't donate blood. Dubey and colleagues, reported another common reason of non-donation between males and females as they never got a chance to donate (40.75%), followed by their believes that it could be harmful to their health (22.75%)<sup>8</sup>.

Motivational factors were mentioned in several studies. Among Iranian population it has been reported that donation gives a sensation of altruism, where almost all participants (96%) agreed that donation is altruistic<sup>12</sup>. Another research stated personal benefit and financial rewards as motivating factors to their donor populations. Moreover, it has been considered that personal positive experiences associated with donation one of the motivational factor<sup>15</sup>.

The aim of this study was to assess the basic knowledge and attitude of Prince Nora university female students regarding blood donation, along with motivational factors and barriers affecting blood donation.

## METHODS

This cross-sectional study was performed between April 2020 to June 2020 at Prince Nora University (PNU). Random female students from medical and non-medical field were participated in this study. University students aged between 17-25 years were included in the study. Data were collected via pre-tested close-ended online questionnaire. Questions were asked to assess their basic knowledge regarding blood donation requirements and practices, their motivations for being donors and barriers which discourage them from donating the blood.

Data analysis: All responses to the questionnaire were assessed and transfer to excel. The data was analysed statistically using SPSS version 16.

## RESULTS AND DISCUSSION

One hundred and five female students from medical and non-medical field were participated and completed the online questionnaire of this study. The first part of the questionnaire was about the socio-demographic data of participants' nationality, age, academic year and department, which showed non-significant differences between the 105 participants. All participants were Saudi female and the majority were between the ages of 22 and 25 (n=50, 56.2%). About half of the participants were students at medicine and medical colleges (n=44, 49.4%).

This study showed that 40% (n=42) of participants were aware of the required extracted volume of blood donation, while the majority 60% (n=63) were not aware of that <500ml of blood is required in each donation (Table No.1). Only 23% (n=24) were known of the age of blood donors. Most of the students were acknowledged of the minimum weight for individuals who donated blood. About the frequency of blood donation and minimum duration between consecutive donations, 68% (n=71) selected the correct answer which is 3 months (Table No.1). The result of this study also showed that 97% (n=92) have known of that laboratory screening for HIV, hepatitis B and hepatitis C is essential and should be performed before blood transfusion. Participants answered with "yes" when they asked if blood donation required before surgery for surgical procedures? and

if blood donation is required for emergencies? with 91% (n=87) and 95% (n=100) respectively (Table No.1). In this study students were asked if blood donation might cause changes of physical strength or anybody weakness and the majority 61% (n=64) were answered with no. Moreover, 72% (n=76) were aware of that donating blood is not harmful neither painful. Positive attitude was reported in this study from the majority of students. They were willing to donate blood for their friends, family member or even to an unknown person who needs blood (Table No.1).

Saving others' life was the most common motivation behind blood donation in this study 50.5% (n=53) followed by humanitarian reasons 45.7% (n=48) (Table No.2). Some other motivation factors were also mentioned by students such as; personal request and religious reasons. Regarding the barriers related to blood donation among students distance from blood collection point 19% (n=20) was the most common cause for non donation followed with never thinking about blood donation 18% (n=19) (Table No.3). Sixteen (15.2%) students were concern about sterilization and with the same percentage of students were lacking time, thus they wouldn't donate blood (Table No.3).

## Discussion

Regardless high demand for blood and blood products, blood donation and blood storage showed a significant decrease during the last years<sup>2</sup>. According to the health service, a 29% predicted increase in demand for blood products between 2004 and 2029 specially among elderly<sup>5</sup>. Thus, in all over the world increasing the level of blood donation and encouraging population to motivate voluntary blood donation is essential. Community's awareness and level of basic knowledge regarding blood donation play an important role on individuals believes and attitude toward donation<sup>16,17</sup>.

This study showed that 40% (n=42) of medical and non-medical participants were aware of the required extracted volume of blood donation, while the majority 60% (n=63) were not aware of that <500ml of blood is required in each donation. In this study 40% (n=42) of students were of the opinion that only a person from 17 to 35-years old can donate blood. Where the fact is no upper age

limit exists for blood donation. Similar to our result, Alam and Masalmeh, showed that the majority of their study participants in Saudi Arabia including donors and non donors were thought that person can donate blood between the ages of 17-45-years<sup>6</sup>. The result also found that most of the students were aware of the minimum weight for individuals who donated blood. Regarding to the frequency of blood donation more than 65% of study participants selected the correct answer, which is 3 months. Similarly, another study done among Saudi's population showed that 88% of donors were aware of the minimum duration between consecutive donations<sup>6</sup>. In Ethiopia, a study found 82% of health sciences students were known of that blood donation is not harmful to donor<sup>13</sup>. In this study, 72% of medical and non-medical students were aware of that donating blood is not harmful neither painful.

In Jordan, a study revealed that the main motivation factors for blood donation was helping others and saving their lives even those unknown with 61%<sup>18</sup>. This was similar to our finding which showed saving others' life was the most common motivation behind blood donation. The current study mentioned some barriers related to blood donation and the majority of participant reported the distance from blood collection point 19% followed with never thinking about blood donation with 18%. On the other hand, Baseer *et al* found that sterilization concerns was the main barriers to blood donation<sup>1</sup>.

**Table No.1: Knowledge and attitude regarding blood donation**

S.No	Questions	Correct answer %	Number of correct answer
1	Volume of blood/donation	40	42
2	Minimum Age for donating blood	22.9	24
3	Minimum weight for donating blood	57.1	60
4	Minimum duration between consecutive donations	67.6	71
5	Prior blood screening for HIV, Hepatitis B and C before transfusion	92.4	97
6	Need of blood before surgery for surgical procedures	86.7	91
7	Blood donation may result in change of physical strength	61	64
8	Donating blood can be harmful or painful	72.4	76
		Yes %	Yes number
9	Willing to donate blood to friend or family member	95	100
10	Willing to donate blood to any person who requires blood	95	100

**Table No.2: Motivation behind blood donation**

S.No	Motivation for Blood donation	Yes % (number)
1	Humanitarian Reasons	45.7% (48)
2	Personal Request	1.9% (2)
3	Money/gift	0% (0)
4	Certificate	0% (0)
5	Religious reasons	1.9% (2)
6	Saving life	50.5% (53)

**Table No.3: Barriers related to blood donation**

S.No	Barriers related to blood donation	Yes % (number)
1	Fear of procedure	9.5% (10)
2	Lack of knowledge about collection points	13.3% (14)
3	Distance from blood collection point	19% (20)
4	Lack of time	15.2 % (16)
5	Sterilization concerns	15.2 % (16)
6	Did not think of donating blood	18.1% (19)
7	Fear of the sight of blood	0% (0)
8	Fear of the needle prick	9.5% (10)

### CONCLUSION

Increasing community awareness and basic knowledge regarding blood donation is very important strategy to improve donor retention and to provide a pleasant donation experience. Thus this study suggested that organizing campaigning will aids to keep the issue of blood donation alive in the minds of the general community as well as to eliminate specific misbeliefs and strengthen motivational pictures.

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### CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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