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Research Article

Socio-Demographic Factors Influencing Voluntary Blood Donation in General Population of Islamabad, Pakistan

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Abstract

Background: Most countries specially the developing ones are facing acute shortage of voluntary blood donors. A variety of factors seem to influence the behavior of people towards unpaid voluntary blood donation. The objectives of the study were to compare the sociodemographic factors between donors and non donors, to identify the factors behind motivation to donate blood and to determine the misconception associated with blood donation.

Methodology: This was a cross sectional survey conducted on general population of Islamabad selected through non probability quota sampling. Sample size was 384 calculated by Open Epi size calculator with 95% confidence interval. Data was collected by structured questionnaire both in English and Urdu and analyzed by SPSS version 23.

Results: Out of 384 study participant 67.2% were male and 32.8% were female with mean age of 31.21 ± 11.56. Study results showed that 62.9% were non donors and out of donors majority gave and received blood either from family members or friends/relative. A significant difference was observed in history of blood donations for age (p=0.087), gender (p=0.0001), area of residence (p=0.0001), educational level (p=0.0001) and income of the family (p=0.0001). Motivational factors behind donation were to help family or friend (74.5%) and spiritual satisfaction (54.7%) Regarding misconceptions, 47.9% respondents had some unknown fear, 32.8% were never asked, 32.6% had family constraints and 32.3% feared weakness after donation.

Conclusion: In our society the practice of unpaid blood donation is extremely poor. Various socio demographic factors influence the behavior of people towards voluntary donation. Identifying these factors which motivate a person to donate blood or create misconceptions is the need of today because of ever increasing demand of blood in blood banks. Policies should be developed to inspire and educate the non-donors to donate blood on regular basis.

Keywords: Donation; Misconception; Motivation; Socio demographic; Voluntary

Introduction

Blood donation has significant role in saving lives. Due to ever increasing transfusion needs, the blood centers are facing rise in the demand of the blood along with assurance of quality of donated blood [1]. This problem can only be solved through donations by voluntary, unpaid sources. WHO policy is to achieve 100% non-paid donations by the year 2020 [2]. According to the World Health Organization (WHO) blood donation rate of high-income countries is 9 times higher than middle and low-income countries as out of 112.5 million blood donations per year, 50% came from high income countries [3].

Today, only 62 countries get close to 100% of their national blood supplies from voluntary unpaid blood donations, with 34 countries still dependent on family donors and even paid donors for more than 75% of their blood supply. Situation in Pakistan is not very encouraging. Although 70% population is under 30 years of age, voluntary blood donation comes from only 10% [4]. Although the trend of voluntary blood donation's has increased considerably in last decade but many previous reports have shown that people have insufficient knowledge, diverse attitude and many misconceptions about the blood donation [5]. Increase in the level of awareness and positive attitude towards blood donation is the highest priority of all blood transfusion centers.

Recruitment and retention of donors to sustain and increase the donor base are critical for blood banks [6]. The initial step for achieving this goal is to perform comprehensive studies measuring the current situation of awareness, knowledge, beliefs, and both positive and negative attitudes of the population towards blood donation [7] thus assisting the blood donation centers to develop their future policies to motivate people to donate blood on a regular basis. The purpose of the current study was to compare the socio-demographic characteristics between the donors and non-donors, to find out the factors behind motivation, misconception and fears related with voluntary blood donation among people residing in different areas of Islamabad.

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Methodology

It was a cross sectional survey carried out on general population of Islamabad from May to August 2019. Sample Size was 384 calculated by Open epi sample size calculator [8]. Samples were selected by non-probability convenient sampling. People from age group 18-65 from both genders were included in study, whereas person with history of any blood disorder or blood borne infections, having patients with blood disorders in their family, and intra venous drug use were excluded from the study. Ethical approval was taken from IRB of Islamabad Medical and Dental College. Informed written consent was taken from study participants. Privacy and Confidentiality of the study participant was ensured by allocating the code to study participant. Data was collected by a team of medical students through a pretested structured questionnaire both in English and Urdu constructed after literature search [9,10]. The response rate was 92%. The questionnaire contained sections on socio demographic profile, knowledge and practices about voluntary blood donation, motivational factors and fear or misconception. Data of categorical variables were presented in frequency/percentages and their association was checked by Chi-square test with significance level of p values less than 0.05.

Results

Out of 384 study participant 258 (67.2%) were male and 126 (32.8%) were female with mean age of 31.21 ± 11.56. People residing in urban, rural and slum areas were 41.9% (161), 22.9% (88) and 35.2% (135) respectively. Study participants were categorized according to their educational level as illiterate 12.8% (49), undergraduate 31.7% (122) and graduate/postgraduate 55.5% (213). With reference to economic status 50% (192) had per month family income of 25000 or more.

Regarding knowledge, 46.9% respondents didn't know their blood groups however most of the donors (71.6%) knew that they should get their blood screened before donation. Out of all participants, majority (62.9%) were non donors. Study results showed that practice of unpaid voluntary donation was very limited as maximum donors and recipients gave and received blood either from family members or friends/relatives as shown in Figure 1.

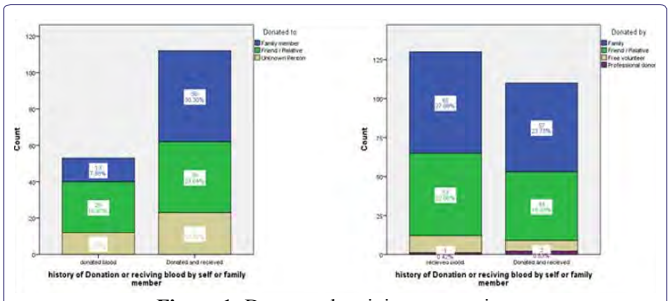

Figure 1: Donor and recipient categories.

A significant difference was observed in history of blood donations for gender, area of residence, educational level and income of the family by cross tabulation at significance level of p-value <0.05 (Table 1).

Main motivational factors behind donation were to help family or friend (74.5%) and spiritual satisfaction (54.7%) (Figure 2). There was significant relation of residential area with motivational factors to donate blood; people belonging to urban and rural areas donate blood to help family and friends and for spiritual satisfaction (p= 0.000) whereas residents of slum areas were motivated due to personal history of receiving blood, participation in blood donation campaign and getting free blood grouping or screening (p= 0.001). Educational level was significantly related with reason of blood donation; illiterate & undergraduate was associated with personal history of receiving blood in past (p= 0.009) whereas for graduate & postgraduate main reason was to help family member (p= 0.000).

History of blood donation	N=384			
Variables	**Yes n (%)**	**No n (%)**	**p-value**	**Unadjusted Odds Ratio (95% CI)**
Age				
30 and below	105 (43.4%)	137 (56.6%)	0.087	1.4 (0.947-2.235)
Above 30	49 (34.5%)	93 (65.5%)		
Gender				
Male	132 (51.2%)	126 (48.8%)	0	4.9 (2.942-8.336)
Female	22 (17.5%)	104 (82.5%)		
Residence				
Urban	82 (50.9%)	79 (49.1%)	0	2.17 (1.434-3.305)
Rural and Slum	72 (32.3%)	151 (67.7%)		
Education				
Upto Matric	44 (25.7%)	127 (74.3%)	0	3.2 (1.832-4.207)
Graduates and Postgraduates	110 (51.6%)	103 (48.4%)		
Income				3.5 (1.754-4.607)
Less than 25,000	59 (30.7%)	133 (69.3%)	0	
25,000 and above	95 (49.5%)	97 (50.5%)		

Table 1: Association of socio demographic factors with history of blood donations.

*significant p-value <0.05

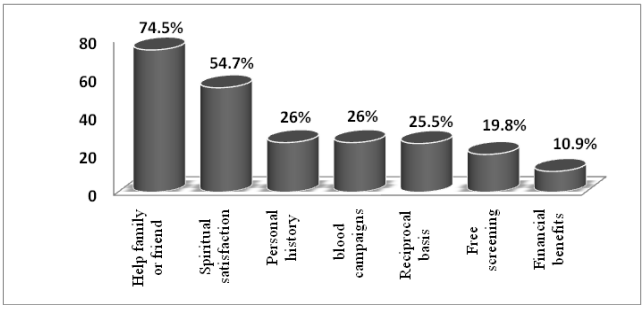

Figure 2: Motivations behind blood donations expressed as percentages.

Regarding misconceptions and fears associated with blood donation, most of the participants had some unknown fear (47.9%) (Figure 3). A strong association of various misconceptions and fears was observed with sociodemographic factors such as gender, area, education and income. In contrast to males, females had more fear of blood sight/needle prick (p=0.001), sterility (p=0.037), permanent weakness/anemia (p=0.003) and gaining weight (p=0.032).

As compared to urban and rural areas, respondents living in slum areas had more socio-cultural obligations (p=0.001) and misconception of being medically unfit (p=0.000) with additional fear of contracting infections (p=0.009), infertility (p=0.002), gaining weight (p=0.000), permanent weakness/anemia (p=0.001), blood sight/

needle prick (p=0.008), losing too much blood (p=0.021) unknown factors (p=0.000). A significant association of illiteracy and low educational standards was observed with fears of permanent weakness/anemia (p= 0.000), effect on physical health (p= 0.000), being unfit for donation, medically unfit (p= 0.000), not having enough blood (p=0.017) contracting infections (p=0.015) infertility (p=0.008) weight gain (p=0.002). Furthermore low income standards were associated with being medically unfit (p=0.001) unknown fear (p=0.003), permanent weakness/anemia (p=0.000), not having enough blood (p= 0.005), socio cultural obligations (p=0.000) and fear of contracting infection (p=0.005).

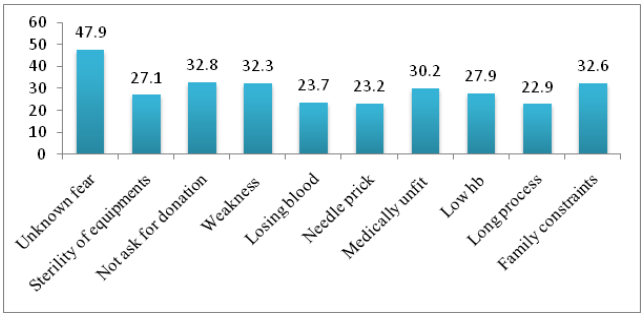

Figure 3: Misconceptions and Fears associated with Blood Donations in non-donors (no 242).

Discussion

The present study conducted on the general population revealed that trend of voluntary unpaid blood donation is almost nonexistent as majority of donors and recipients were either the family members or the friends. The inclination towards donation was significantly less in females as compared to males. Similarly the place of residence, level of education and economic status of the family had strong impact on donation practices. The results of the current study are comparable with others national and international studies as a study conducted in South East Botswana reported that out of all participants only 27.1% had donated blood in the past while only 9.6% were regular donors and out of donor's majority belonged to secondary and tertiary level of education [11]. Same results had been shown by studies conducted in Karachi and Malaysia where there was no previous history of blood donation in majority of the participants and out of the donors most were the males [12,13]. Similarly in India a significant association of blood donation was observed with gender (p=0.000) and socioeconomic class (p=0.016) [14]. Another interesting finding of the study that people residing in urban areas were more likely to donate blood was also comparable with a study conducted in North India where maximum blood donors resided in urban areas (75%) [15]. The findings of present study that less than half of the respondents were not aware about their blood groups were found similar with another Indian study where only 46% participants had high knowledge score [16].

The results of our study showed that spiritual satisfaction and helping the friend or family were the main motivational factors for donation. The results are comparable with cross sectional surveys conducted in China and India where main purpose of donation was to help the needy ones [17,18]. A Tanzanian study revealed that major factors inclining the university students for donation were voluntarism and opportunity of HIV screening [19].

According to our study people have socio-cultural obligation with additional fears of weakness, anemia, contracting infection, infertility, not having enough blood and sometimes even unknown fears associated with voluntary blood donation. Similar reasons were observed by Jordanian study where people were found to be afraid of health issues, blood borne infections with additional family limitations [20]. A Bangladesh is study also revealed that some unknown fear and lengthy process were the basic limitation while 40% respondents were never asked for donation [21].

Conclusion

In our society the practice of voluntary blood donation is extremely poor. People have to refer to their family members or friends at the time of need. Various socio demographic factors influence the behavior of blood donors including gender, residence, education and economic status. Identifying these factors which motivate a person to donate blood or create misconceptions is the need of today because of ever increasing demand of blood in blood banks. Policies should be developed to inspire and educate then on donors to donate blood on regular basis.

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