Community Based Cross-Sectional Study Exploring The Beliefs Towards Voluntary Blood Donation In A Fully Literate District Of India

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Abstracts: Background**:** Voluntary non-remunerated blood donation is the key strategy to ensure availability of safe blood. India is facing shortage of 2.5 million units of blood annually and voluntary donation rate is only 50%. The present study was conducted in a fully literate district of India to assess the attitude and practice of blood donation and various associated beliefs. Methodology: This cross-sectional community based study was conducted in Cheranalloor Panchayat of Ernakulam. A total of 202 respondents selected using multi-stage sampling between 18 and 60 years of age were interviewed. Data was analyzed using computer. Results & Conclusion: 25.2% respondents ever donated blood which correlated with knowledge level (r=0.233) or attitude level (r=0.225). The major reasons for blood donation were for relatives (39.2%), in emergency for others (35.3%) and as voluntary donation (6.4%). Among non-willing, reasons cited for not willing to donate blood were ill health (46.9%), old age (25.8%) and fear of blood (16.6%). Attitude towards blood donation is low in this literate area. Proper information regarding blood donation needs to be conveyed to the community. [Lal P K NJIRM 2016; 7(3):107 - 110]

Key Words: Voluntary, Blood Donation, Practices, Beliefs, Literacy, India, Knowledge..

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Introduction: Blood transfusion is essential life saving strategy [1]. In many situations, blood transfusion is either not available or not safe which has a particular impact on women with pregnancy complications, trauma victims and children with severe life-threatening anaemia [2].

Ensuring a safe source and ethical supply of blood and blood products and rational clinical use of blood are important public health responsibilities of every national government [3]. The safest blood is obtained from voluntary, non remunerated blood donation (VNRD) from low risk population [4, 5]. As more countries achieve the goal of 100% reliance on VNRD, the percentage (50%) in our country is far behind the target [6, 7, 8]. Even with 160 licensed blood banks in Kerala, the volume of blood donated is not sufficient to meet the requirement [9]. VNRD rate was 59% in April 2007 [10].

VNRD is a behavioural phenomenon determined by complex interaction of motivations, beliefs, prior experiences and group practices [11]. One community based study conducted in Sikkim found that attitude towards VNRD was positive in 46% and education played important role (Odds ratio= 1.54, p<0.001) in ensuring voluntary blood donation [12, 13]. Studies conducted in Urban Iran found that there was a direct relationship between knowledge and performance (P= 0.000) [14] and education levels had significant correlation with attitude towards blood donation in high school student (p=0.02) [15].

Ernakulam has been declared as first fully literate district of India with literacy rate of 93.4 % [16, 17]. Still, reports show that the VNRD rate is low here (<50%) [18]. Studies have not been conducted to find factors other than education in determining the donation behaviour. Exploring beliefs behind positive or negative attitudes will provide understanding which can be applicable in any area with similar setting and will help in prioritizing appropriate steps to promote VNRD.

The proposed null hypothesis is that in this literate population, percentage of persons having positive attitude towards VNRD is not different from population with lower literacy.

Material and Methods: The present community based cross sectional study was carried during June- July 2010. The population covered was of Cheranalloor Panchayat, Ernakulam district of India. Inclusion criteria was age range between 18 and 60 years as per recommended age for blood donation. Temporary visit to the place was criteria for exclusion to have a representative sample of the area.

Sampling: Based on prevalence found in Sikkim Study and considering relative precision of 15%, a sample of 202 respondents was interviewed. Multi-stage

sampling strategy was adopted. Out of 16 wards in Cheranalloor Panchayat, three wards were selected for the study by simple random sampling. Households were selected by systematic random method from each ward after applying PPS. In each house, one person fulfilling selection criteria and willing to participate was selected by lottery method.

Informed consent was taken and confidentiality was ensured. The data collection was based on personal interview with the respondents using semi-structured pre-tested questionnaire containing open and closed ended questions. The questions included socio-demographic details, knowledge regarding blood donation, attitude and personal beliefs towards the same and details of blood donation practices. The knowledge section comprised of seven questions with total scoring range of 0 to +8. The attitude section consisted of three questions with total scoring range of 0 to +3. Practice section included eight questions regarding no. of donations, place, cause, problems faced etc.

The data was coded and entered in Microsoft Excel 2007, cleaned and analyzed by using SPSS version 11.0. Spearman's Rank correlation co-efficient was used to find correlation between knowledge and attitude and Wilcoxon rank sum test was used to find association between different groups.

Results & Discussion: Background Profile of respondents- In this study, 202 respondents (95 males and 107 females) were interviewed. The mean age of the respondents was 41.8+-11.8 years. The sample studied was almost literate (99.0%) and consisted of 46.5% Hindus and 47.5% Christians which is almost same as that for the city. 86.6% were married. Median per capita income was 1062.50 Rs. per month. Average family size was 4.10 ± 1.12. Per capita monthly income was found to be Rs. 2,692.

Blood donation attitude and practice - 63.4% of the respondents said that they would donate blood voluntarily without any compensation (95% CI, 56.9-69.9%). The attitude of respondents is better than as seen in other studies [12]. Mean attitude score was 2.27± 0.88. The correlation between knowledge and attitude of respondents was significant at 01% level (r= 0.309).

51 (25.2% of population) have ever donated blood (95% CI, 19.2-31.1%). In the study conducted by Sobha & Babu [19] in blood bank of GMC, Mandya,Karnataka, it was observed that there were 98.2% males and 49.4% donors were aged below 25 years. Madan et al [20] in their study conducted in a tertiary care hospital of Srinagar found typical donor to be a young, educated, married rural male in the third decade of life, belonging to the lower socioeconomic status and donating blood for a close relative. Unnikrishnan et al [21] also found similar profile among blood donors. In the present study, the mean age of respondents who have ever donated blood was found to be 42.8 ± 11.5 years. The reason for this higher age may be presence of donor clubs in that area. Males constituted 86.3% of donors. Even with high proportion of literate females, the gender predisposition was statistically significant (p=0.00) which may be due to cultural factors. In the present study, the common occupations were professional (31.4%), business (17.6% and skilled work (17.6%). Unnikrishnan et al [21] found the same as students (28.01%), businessmen (18.61%), the service sector (17.28%) and professionals (9.12%).

Overall, no. of donations correlated with knowledge level (r=0.233 at 01% level) or attitude level (r=0.225 at 01% level). But, among the donors, no. of donations did not correlate with knowledge level (r= 0.200) or attitude level (r= 0.028). This means that knowledge and attitude are helpful in breaking the initial barrier. Then, other factors determine chances of donation. Shenga et al [12] in Sikkim and Wiwanitkit [22] in Thailand observed that that education gives birth to an ocean of difference between the positive attitudes of the general mass towards voluntary blood donation, in true life practice.

Median no. of donations was 3. No. of donations was associated sex (p=0.000), social class (p=0.02, X^2=11.11), with but not with age (r=0.06), education (p=0.06, X^2= 11.84), marital status (p=0.584), religion (p=0.118). Among donors, no. of donations was associated sex (p=0.005), marital status (p=0.010), with but not with age (r=0.228), education (p=0.610, X^2= 2.69), social class (p=0.358, X^2=4.37), religion (p=0.244).

The major reasons for blood donation were for relatives (20, 39.2%), in emergency for others (18, 35.3%) and as voluntary donation (13, 6.4%). Thus, in our study, 6.4% of the population (25.5% of donations)

has ever practiced voluntary blood donation. Sobha & Babu [19] found that voluntary blood donors constituted 63.7% of donors. Madan et al [20] found 2.6% of the donations to be purely voluntary. Unnikrishnan et al [21] found the same to be 22.80% which is similar to the present study.

Table 1: showing association of factors with donation status

Factor	Ever donated (n=51)	Never donated (n=151)	Total	Significance
Age (Mean ± SD)	41.48 ± 11.93	42.76 ± 11.49	41.81 ± 11.80	p= 0.497
Sex				X^2= 42.18
-Male	44 (46.3%)	51 (53.7%)	95 (100.0%)	p= 0.000
-Female	7 (6.5%)	100 (93.5%)	107 (100.0%)	
Social Class				X^2= 10.81
-I	12 (42.9%)	16 (57.1%)	28 (100.0%)	p= 0.029
-II	16 (34.8%)	30 (65.2%)	46 (100.0%)	
-III	7 (15.6%)	38 (84.4%)	45 (100.0%)	
-IV	8 (21.6%)	29 (78.4%)	37 (100.0%)	
-V	8 (17.4%)	38 (82.6%)	46 (100.0%)	
Education				
-Illiterate	0 (0.0%)	2 (100.0%)	2 (100.0%)	X^2= 10.905
-Primary	0 (0.0%)	3 (100.0%)	3 (100.0%)	p= 0.091
-Middle	9 (22.0%)	32 (78.0%)	41 (100.0%)	
-High School	13 (21.0%)	49 (79.0%)	62 (100.0%)	
-Higher Sec	5 (19.2%)	21 (80.8%)	26 (100.0%)	
-Graduate	11 (26.8%)	30 (73.2%)	41 (100.0%)	
-Professional	13 (48.1%)	14 (51.9%)	27 (100.0%)	
Marital Status				X^2= 1.08
-Married	42 (24.0%)	133 (76.0%)	175 (100.0%)	p= 0.299
-Unmarried	9 (33.3%)	18 (66.7)	27 (100.0%)	
Religion				X^2= 3.882
-Christian	25 (26.0%)	71 (74.0%)	96 (100.0%)	p= 0.275
-Hindu	21 (22.3%)	73 (77.7%)	94 (100.0%)	
-Muslim	4 (36.4%)	7 (63.6%)	11 (100.0%)	
-Not told	1 (100.0%)	0 (0.0%)	1 (100.0%)	
Knowledge score (Mean ± SD)	3.78 ± 1.93	2.79 ± 1.72	3.04 ± 1.82	p= 0.002
Attitude score (Mean ± SD)	2.61 ± 0.69	2.16 ± 0.91	2.27± 0.88	p=0.001

Beliefs towards blood donation - 198 respondents (98.0%) were aware about blood donation. 73 (36.1%) respondents knew about this from friends and relatives. 68 (33.7%) respondents knew the minimum age of donation. The minimum perceived interval between two donations was known correctly to only 32 (15.8%) and 50 (24.8%) thought it to be 6 months or more. The respondents considered amount of blood drawn in terms of ml, liter and no. of bottles and it ranged from 75 ml to 1 Lt. HIV (70, 34.6%), diabetes (35, 17.3%) and jaundice (32, 15.8%) were considered to be major contraindications for blood donation. Those willing to donate blood considered to do the same in emergency (100, 75.8%), for relatives (18, 13.6%) and for poor people (13, 9.8%) and as social service (01, 0.1%). Hence, the true VNRD can be considered to be 100 out of 202 (49.5%, 95% CI- 42.6% to 56.4%). 195 (96.9%) did not want any compensation.

Among non-willing, reasons cited for not willing to donate blood were ill health (31, 46.9%), old age (17, 25.8%, mean age in this group-55 yrs.) and fear of blood (11, 16.6%). Four persons did not know anything about blood donation. 132 (65.3%) said that there is no effect of blood donation on health while 66 (32.7%) thought so. Four did not know about it. 152 (75.2%) wanted to know more about blood donation.

Conclusion: : It is necessary that people realize that blood donation is their responsibility. Attitude towards blood donation is low in this literate area. Proper information regarding blood donation needs to be conveyed to the community.

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