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RESEARCH ARTICLE

ATTITUDE, PRACTICE AND BARRIERS TOWARDS VOLUNTARY BLOOD DONATION AMONG HEALTH CARE PROFESSIONALS AND NON HEALTHCARE PROFESSIONALS OF SIKKIM MANIPAL UNIVERSITY

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ABSTRACT

Donation of blood is of utmost importance in the science of surgical, medicine so it is purely obligatory on the part of every citizen who is not suffering from ill conditions to donate blood. The primary purpose of this study was to explore the attitude, practice and barriers towards voluntary blood donation among health care and non health care professionals of Sikkim Manipal University. The objectives of the study are to: assess the attitude and practice of health care professionals and non-health care professionals towards voluntary blood donation, determine the association between attitude and practice of health care professionals, non-health care professionals and selected demographic variables, determine the co-relation between attitude and practice of voluntary blood donation among health care professionals and non-health care professionals, identify the barriers towards voluntary blood donation among health care professionals and non-health care professionals. A non experimental descriptive survey research design was adopted for this purpose, a total of 200 samples, 100 each from healthcare and non- health care professional were selected from Sikkim Manipal Institute of Technology, Majhitar and Central Referral Hospital, Tadong, Sikkim respectively by using non-probability convenient sampling technique. The tools consist of structured questionnaire for practice and barriers and 4 points likert scale for attitude which were validated by a total of 5 experts and reliability was ensured. The demographic characteristics for health care professionals were the majority 78% of the sample belonged to the age group of 22-31years, 61% were female, 63% were unmarried, 68% had monthly income below 30000, 94% did not have any chronic illness. In non- health care professionals' majority 46% belonged to the age group of 22-31years, 70% were male, 64% were married, 70% had monthly income between 31000-60000, 94% did not have any chronic illness. Finding of practice on voluntary blood donation among healthcare professionals showed that the 63% had poor practice whereas among non- healthcare professionals 59% had poor practice. The attitude of health care professionals showed that 50% of the participants had favorable attitude whereas among non-health professionals 56% had favorable attitude. 48 healthcare professional were non-donors and 54 of non – health care professional were also a non-donors. The barriers towards voluntary blood donation among non-donors of health care professionals were 35.4% physically unfit, 33.3% did not have adequate knowledge regarding blood donation, 18.7% had fear of becoming weak after blood donation and among non- health care professionals 38.23% mentioned that they were never asked to donate blood, 28.43% were due to lack of time and 27.45% were physically unfit to donate blood.

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INTRODUCTION

Blood is a vital component of life and blood donation is necessary to maintain adequate supply of blood to patients who are suffering from any kinds of disease or trauma, which requires them to have blood transfusion.

Therefore people contribute their help through blood donation. Globally, more than 70 countries have a blood donation rate of less than 1% (10 donations per 1000 population). According to WHO, in African region, blood requirements was estimated at about 8 million units 2006 but only 3.2 million units was collected.

South- East Asia accounts for about 25% of the world's population, but collects only 9% of the world's blood supply 7 million units a year compared with an estimated requirement for total of 15 million units (WHO reports, 2006). Voluntary blood donors are the cornerstone of a safe and adequate supply of blood. The safest blood donors are voluntary, non – remunerated blood donors from low risk population. Blood donation is one of the most significant contributions that a person can make towards the society. Donated blood can be life saving for individuals with large amount of blood loss due to natural and manmade disaster, accidents, surgeries, hematological disorders, malignancies etc (Annual Report 2010-2011). According to World Health Organization, it is estimated that anemia contributes to 20% of all maternal deaths and according to Global Road Safety Report 2015, India accounts for an estimated 207,551 deaths because of road accidents which signifies the requirement of large amount of blood in the hospitals and clinics. Unavailability of blood may cost lives. Hence, importance of blood donation is tremendous. This is the greatest gift one can give to fellow human being.

According to Indian Red Cross Society, only 88 million units of blood are collected annually while the need is for 150 million units for 6,910 million world population⁵ and according to NACO, 2011; every two seconds someone needs blood and in India during 2010-2011, 10 million units of safe blood required for transfusion services, out of which only 8.01 million units were collected (Towards 100% Voluntary Blood Donation: A Global Framework for Action). Sikkim is a state situated in northeast India having a population of 6, 10,577(as per census of 2011) with only three blood donation centers. So there should be availability for sufficient blood to cater to every individual's safety. But inadequacy of sufficient blood unit is a problem in Sikkim (Javadzadeh, 2006). There should be enough blood units in a blood bank available for everybody's requirement. But non-availability of sufficient blood units is a problem in Sikkim. The hospitals rely on the relatives of a patient to donate the necessary blood, as there are not enough voluntary blood donations to help the needy patients. The blood is donated maximum on the replacement basis. Blood banks keep their pressure on doctors, nurses and the relatives of the patient and urge them to send replacement donors to maintain their stock. The voluntary blood donation system in the state of Sikkim is only 15 % (Manikandan, 2013). A study on behavior disparities towards blood donation was conducted in Sikkim among general population. Out of 300 respondents, 38 respondents (12.7%) had donated blood while 262 respondents (87.3%) had never donated blood (Agravat Amit, 2014). The objectives of the study are to assess the attitude and practice of health care professionals and non-health care professionals towards voluntary blood donation, determine the association between attitude and practice of health care professionals, non-health care professionals and selected demographic variables, determine the co-relation between attitude and practice of voluntary blood donation among health care professionals and non-health care professionals. identify the barriers towards voluntary blood donation among health care professionals and non-health care professionals. The hypothesis was tested at the 0.05 level of significance.

H₁: There is a significant association between attitude and practice among health care professionals and non-health care professionals

H₂: There is a significant association between attitude, practice and barriers with the selected demographic variables.

MATERIALS AND METHODS

The tool was given for validation to 5 experts i.e., Department of Pathology, Department of Medicine and Medical-Surgical Nursing of Sikkim Manipal Institute of Medical Science, Sikkim Manipal University. Reliability of the tool for attitude was established by using Cronbach's alpha method ($r=0.98$) and the reliability of the tool for practice and barrier was established by intra-rater reliability ($r=0.85$)

RESULTS

The data given in Table 1. indicates that among 100 health care professionals 78% belongs to the age group of 22-31 years, 12% belong to the age group of 32-41 years, 7% belong to the age group of 42-51 years, 3% belong to the age group of 52-61 years, 61% were female and 39% were male, 63% were unmarried and 37% were married, 73% were resident of Sikkim and 27% were non-resident of Sikkim, 66% were Hindu, 22% were buddhist, 10% were Christian and 2% were muslim, 68% had monthly income $\leq 30,000$, 18% had 31,000 to 60,000, 13% had 61,000_90,000 and 1% had monthly income of $\geq 91,000$, 73% had 1-5 years of working experience, 16% had 6-10 years of experience, 2% had 11-15 years of experience and 9% had ≥ 16 years of experience, 94% did not have any chronic illness and 6% were having chronic illness, 98% were aware of their blood group and 2% were unaware of their blood group.

The data given in Table.2 indicates among 100 non healthcare professionals 46% belongs to the age group of 22-31 years, 42% belong to the age group of 32-41 years of age group, 10% belong to the age group of 42-51 years, and 2% belong to the age group of 52-61 years, 70% were male and 30% were female, 64% were married and 36% were unmarried, 68% were non resident of Sikkim and 32% were resident of Sikkim, 88% were Hindu, 6% were Buddhist, 4% were muslim and 2% were Christian, 70% had monthly income between 31,000 - 60,000, 17% had 61-90,000 monthly income, 7% had $\leq 30,000$ monthly income and 6% had $\geq 91,000$, 40% had 1-5 years of working experience, 39% had 6-10 years of experience, 12% had 11-15 years of experience and 9% had ≥ 16 years of experience, 94% did not have any chronic illness and 6% had chronic illness, 100% were aware of their blood group. Data presented in table 9. shows the obtained chi square value for chronic illness (19.35) df(1) which was significant at 0.05 level of significance hence the research hypothesis for chronic illness accepted whereas age (0.113) df(3), gender (0.935) df(1), marital status (0.45) df (1), abode (0.031) df(1), monthly income (5.527) df(3), years of experience (7.03) df (3), was not significant at 0.05 level of significance, hence the research hypothesis H₂ for age, gender, marital status, abode, monthly income and years of experience was rejected and null hypothesis H₀ was accepted. Data presented in table 10. shows the obtained chi square value for age (3.61) df(3), gender (0.07) df (1), marital status (0.087) df (1), abode (0.087) df(1), chronic illness (2.34) df(1), awareness of blood group (0.147) df (1) was not significant at 0.05 level of significance, hence the research hypothesis H₂ for age, gender, marital status, abode, chronic illness, awareness of blood group was rejected and null hypothesis H₀ was accepted.

Table 1. Description of tools for data collection

Slno.	Variable	Tool	Components/variables	Technique
1.	Demographic proforma	Structured Questionnaire	Age, gender, marital status, religion, profession, monthly income, abode, years of experience, disease condition, blood group	Paper and pen test (self-reporting)
2.	Practice	Structured questionnaire	Frequency of blood donation, reason for blood donation,	Paper and pen test (self-reporting)
3.	Attitude	Likert 4 point scale	Benefits of blood donation, motivation for blood donation	Paper and pen test (self-reporting)
4.	Barrier	Self-administered structured questionnaire	Physical barrier, cultural barrier, psychological barrier, social barrier	Paper and pen test (self-reporting)

Table 1. Findings related to the personal profile of health care professionals

n=100			
Sl.no.	Demographic variables	Frequency	Percentage (%)
1	Age		
	22-31 yrs	78	78
	32-41 yrs	12	12
	42-51 yrs	7	7
	52-61 yrs	3	3
2	Gender		
	Male	39	39
	Female	61	61
3	Marital status		
	Married	37	37
	Unmarried	63	63
4	Abode		
	Resident of Sikkim	73	73
	Non-resident of Sikkim	27	27
5	Religion		
	Buddhist	22	22
	Christianity	10	10
	Hinduism	66	66
6	Profession		
	Healthcare professional	100	100
	Non health care professionals	0	0
7	Monthly income		
	≤ 30,000	68	68
	31,000-60,000	18	18
	61,000-90,000	13	13
	≥91,000	1	1
8	Years of experience		
	1-5yrs	73	73
	6-10yrs	16	16
	11-15yrs	2	2
	≥16yrs	9	9
9	Any chronic illness		
	Yes	6	6
	No	94	94
10.	Awareness of blood group		
	Yes	98	98
	No	2	2

Data presented in table 11, shows the obtained chi square value for abode (5,0976) df (1) and years of experience (10.37)df(3) was significant at 0.05 level of significance hence the research hypothesis H_2 for abode and years of experience was accepted whereas the obtained chi square value for age (0.265) df(3), marital status(0.018) df (1),monthly income (5.127) df(3),chronic illness(2.60)df(1) , was not significant at 0.05 level of significance, hence the research hypothesis H_1 for age, marital status, monthly income, chronic illness was rejected and null hypothesis H_0 was accepted. Table no 12 : depicts that among 48 healthcare professionals non donors 50% were never asked to donate blood,35.4% were physically unfit to donate blood, 33.3% did not have adequate knowledge about blood donation 27% mentioned lack of time,18.7% had fear of becoming weak after blood donation, 16.6% mentioned lack of approach by responsible authorities ,14.5 % feared that the health workers might take too much blood,8.3% were afraid of needle prick,6.2% feared that the donated blood might get sold ,4.16% did not trust health care workers with regards to maintenance of sterility, 4.16% mentioned socio cultural taboos,4.11%mentioned lack of easy access to donation center, 2% mentioned the process to be long and boring, 2% mentioned that they did not receive blood when they needed, 2% were afraid of getting their blood tested.

Table 13, depicts that among 54 non health care professionals non donors,29.61% mentioned lack of time,29.61% feared of becoming weak after blood donation,29.6% were afraid of needle prick,27.7% mentioned that they were never asked to donate blood,24 % did not trust the health care workers with regards to the maintenance of sterility,20.3% were physically unfit to donate blood,14.8% feared that the donated blood might get sold,12.9% mentioned lack of easy access to donation centre,11.11% feared that the health workers might take too much blood,11.1% did not have adequate knowledge about blood donation,9.2% mentioned lack of approach by responsible authorities, 3.7% did not receive blood when they needed,3.7% mentioned that the process is long and boring

DISCUSSION

The findings of the present study shows that the practice of health care professionals towards voluntary blood donation is low (non-donors=63%) which is equivalent with the findings of the study of D. Bantayehu where the results showed that 522 (67.4%) of the health care providers had never donated blood. The findings of present study showed that 41 (41%) of the non-health care professionals had poor practice and 59 (59%) of them had good practice.

Table 2. Frequency and percentage distribution of demographic variables for non-health care professionals n=100

S.no.	Demographic variables	F	%
1	Age		
	22-31 yrs	46	46
	32-41 yrs	42	42
	42-51 yrs	10	10
	52-61 yrs	2	2
2	Gender		
	Male	70	70
	Female	30	30
3	Marital status		
	Married	64	64
	Unmarried	36	36
4	Abode		
	Resident of Sikkim	32	32
	Non resident of Sikkim	68	68
5	Religion		
	Buddhist	6	6
	Christianity	2	2
	Hinduism	88	88
	Muslim	4	4
6	Profession		
	Health care professional	0	0
	Non health care professionals	100	100
7	Monthly income		
	≤ 30,000	7	7
	31,000-60,000	70	70
	61,000-90,000	17	17
	≥91,000	6	6
8	Years of experience		
	1-5yrs	40	40
	6-10yrs	39	39
	11-15yrs	12	12
	≥16yrs	9	9
9	Any chronic illness		
	Yes	6	6
	No	94	94
10	Awareness of blood group		
	Yes	100	100
	No	0	0

Table 3. Findings related to frequency and percentage distribution of attitude among non-health care professionals n=100

Sl. no	Attitude	Score	f	%
1	Favorable attitude	>45	56	56
2.	Unfavorable attitude	≤45	44	44

Table 4. Findings related to frequency and percentage distribution of practice among health care professionals n=100

Sl. no	Practice	Score	f	%
1	Good practice	>4	37	37
2.	Poor practice	≤4	63	63

Table 5. Findings related to frequency and percentage distribution of practice among non-health care professional n=100

Sl. no	Practice	Score	f	%
1	Good practice	>4	41	41
2.	Poor practice	≤4	59	59

Table 6. Co-relation between attitude and practice among the health care professional n=100

Sl. no	Variables	r value	Remarks
	Practice	0.018	Moderately positive co-relation
	Attitude		

Table 7. Co-relation between attitude and practice among non-health care professional n=100

Variables	r value	Remarks
Practice	0.017	Moderately positive co-relation
Attitude		

Table 8. Chi square for association between attitude and selected demographic variables of non-health care professionals

Sl no	Demographic variables	Median		df	χ^2	Table value	P value
		Below median	Above median				
		<45.5	>45.5				
1.	Age	48	52	3	0.113	7.82	<0.05
2	Gender	40	60	1	0.935	3.84	<0.05
3.	Marital status	48	52	1	0.45	3.84	<0.05
4	Abode	43	57	1	0.031	3.84	<0.05
5.	Religion	42	58	3	-	-	NA
6.	Profession	43	57	1	-	-	NA
7.	Monthly income	56	44	3	5.527	7.82	<0.05
8.	Years of experience	47	53	3	7.03	7.82	<0.05
9.	Chronic illness	36	64	1	19.35	3.84	>0.05
10.	Awareness of blood group	43	57	1	-	-	NA

Table 9. Chi square for association between attitude and selected demographic variables of non-health care professionals

Sl no	Demographic variables	Median		df	χ^2	Table value	P value
		Below median	Above median				
		<45.5	>45.5				
1.	Age	48	52	3	0.113	7.82	<0.05
2	Gender	40	60	1	0.935	3.84	<0.05
3.	Marital status	48	52	1	0.45	3.84	<0.05
4	Abode	43	57	1	0.031	3.84	<0.05
5.	Religion	42	58	3	-	-	NA
6.	Profession	43	57	1	-	-	NA
7.	Monthly income	56	44	3	5.527	7.82	<0.05
8.	Years of experience	47	53	3	7.03	7.82	<0.05
9.	Chronic illness	36	64	1	19.35	3.84	>0.05
10.	Awareness of blood group	43	57	1	-	-	NA

Table 10. Chi square for association between practice and selected demographic variables of health care professionals

Sl. no	Demographic variables	Median		df	Chi square	Table Value	P value
		Below median	Above median				
		<4	>4				
1.	Age	53	47	3	3.61	7.82	<0.05
2.	Gender	54	46	1	0.07	3.84	<0.05
3.	Marital status	52	48	1	0.087	3.84	<0.05
4.	Abode	46	54	1	0.087	3.84	<0.05
5.	Religion	45	55	3	-	-	NA
6.	Profession	54	46	1	-	-	NA
7.	Monthly income	42	58	3	-	-	NA
8.	Years of experience	52	48	3	-	-	NA
9.	Chronic illness	43	47	1	2.34	3.84	<0.05
10.	Awareness of blood group	44	46	1	0.147	3.84	<0.05

Table 11. Chi square for association practice and selected demographic variables of non-health care professionals

Sl no	Demographic Variables	Median		df	Chi square	Table value	P value
		below median	Above median				
		<4	>4				
1.	Age	51	49	3	0.265	7.82	<0.05
2.	Gender	63	37	1	6.375	3.84	>0.05
3.	Marital status	57	43	1	0.018	3.84	<0.05
4.	Abode	48	52	1	5.0976	3.84	>0.05
5.	Religion	47	53	3	-	-	NA
6.	Profession	43	57	1	-	-	NA
7.	Monthly income	42	58	3	5.127	7.82	<0.05
8.	Years of experience	54	46	3	10.37	7.82	>0.05
9.	Chronic illness	55	45	1	2.60	3.84	<0.05
10.	Awareness of blood Group	54	46	1	-	-	NA

Table 12. Frequency and percentage distribution related to barriers towards voluntary blood donation among health care professionals

		n=48*	
Sl. no	Structured questionnaire	F	%
1.	I am physically unfit	17	35.4
2.	I am afraid of needle prick	4	8.3
3.	No one has ever asked me to donate blood	24	50
4.	I am afraid of getting my blood tested	1	2
5.	I do not have adequate knowledge about blood donation	4	33.3
6.	I do not trust health care workers with regards to the maintenance of sterility	2	4.16
7.	Donated blood might get sold	3	6.2
8.	Process is long and boring	1	2
9.	Fear that they might take too much blood	7	14.5
10.	Lack of time	13	27
11.	Fear of becoming weak after blood donation	9	18.7
12.	Lack of approach by responsible authorities	8	16.6
13.	Lack of easy access to donation centre	2	4.16
14.	Socio cultural taboos	2	4.16
15.	Family friends advice not to donate blood	0	0
16.	Did not receive blood when I needed	1	2

The result of which is consistent with the findings of the study of M. Amatya, R Prajapati and R Yadav which showed that 32 (18%) of the non-medical students had donated blood whereas 145 (82%) of them had never donated blood. The findings showed that that 50% of the health care professionals had favorable attitude and 50% of them had unfavorable attitude whereas among the non-health care professionals, 56% of the non-health care professionals had favorable attitude and 44% of them had unfavorable attitude. There was a significant relationship between attitude and practice towards voluntary blood donation among health care professionals and non-health care professionals. Among health care professionals, there no significant association with practice whereas among non-health care professionals; gender, abode and year of experience was statistically significant and had association with practice. The findings also showed that among health care professionals, there no significant association with attitude whereas among non-health care professionals, chronic illness was statistically significant and had association with attitude.

The most common barriers found in the study were not approached (50%), physically unfit (35.4%), inadequate knowledge (33.3%) and lack of time (27%).

Table 13. Frequency and percentage distribution related to barriers towards voluntary blood donation among non-health care professionals

		n=54*	
Sl no	Structured questionnaire	f	%
1.	I am physically unfit	11	20.3
2.	I am afraid of needle prick	16	29.6
3.	No one has ever asked me to donate blood	15	27.7
4.	I am afraid of getting my blood tested	0	0
5.	I do not have adequate knowledge about blood donation	6	11.1
6.	I do not trust health care workers with regards to the maintenance of sterility	13	24
7.	Donated blood might get sold	8	14.8
8.	Process is long and boring	2	3.7
9.	Fear that they might take too much blood	6	11.11
10.	Lack of time	16	29.61
11.	Fear of becoming weak after blood donation	16	29.61
12.	Lack of approach by responsible authorities	5	9.2
13.	Lack of easy access to donation centre	7	12.9
14.	Socio cultural taboos	0	0
15.	Family friends advice not to donate blood	0	0
16.	Did not receive blood when I needed	2	3.7
*	Among 100 participants, 54 are non-donors		

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