

Awareness of cancer among blood donors in a tertiary cancer centre in Eastern India

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Abstract

The prevalence of cancer and cancer mortality has been on high rise in India. Late diagnosis is likely to be a major factor for this high mortality as most patients present in advanced stage of the disease. Lack of awareness and non-existent nation-wide cancer screening programs in India are the main attributing causes for this high mortality. Ignorance, fear of cancer and its associated stigma are barriers in spreading awareness regarding cancer prevention. Spreading awareness about cancer and its early detection are key public health challenges for India. As a part of tertiary cancer centre in Eastern India, we have observed that even though people would come forward to donate blood for patients suffering from cancer they lacked knowledge regarding this dreaded disease. This study was planned to assess the knowledge, attitude and practice of cancer in blood donors who had come to donate blood in the hospital for patients suffering from cancer.

Keywords: Cancer awareness, Blood donors

Introduction

In India cancer prevalence is estimated around 2.5 million, with over 0.8 million new cases and 0.5 million deaths occurring each year.⁽¹⁾ Most of the patients seek medical advice when the disease is fairly advanced. Over 70% of the cases report for diagnostic and treatment services in advanced stages of the disease, resulting in poor survival and high mortality rates.⁽²⁾ Current survival of cancer patients in India is less than 30 percent at 5 years as proposed by some authors.⁽¹⁾ In India the incidence/mortality ratio is 0.48 compared with 0.25 in North America.⁽³⁾ Late diagnosis is likely to be a major factor for this high mortality as most patients present in advanced stage of the disease. This is attributed to lack of awareness and non-existent nation-wide cancer screening programs in India.⁽⁴⁾ Ignorance, fear of cancer and its associated stigma are barriers in spreading awareness regarding cancer prevention. Spreading awareness about cancer and its early detection are key public health challenges for India.

The National Awareness and Early Diagnosis Initiative (NAEDI) consists of several work streams to help ensure delivery of the Cancer Reform Strategy. One of these has focused on developing a validated measure of public awareness of cancer signs and attitudes to help seeking, and benchmarking current levels on a national basis to provide a baseline against which to evaluate policy initiatives designed to improve awareness.⁽⁵⁾

As a part of tertiary cancer centre in Eastern India, we have observed that even though people would come forward to donate blood for patients suffering from cancer they lacked knowledge regarding this dreaded disease. This survey was planned to assess the knowledge, attitude and practice of cancer in blood donors who had come to donate blood in the hospital for patients suffering from cancer.

Methodology

A total of 300 replacement blood donors, who had come to donate for their friend or relative or an acquaintance admitted to the hospital for treatment of cancer, were included into the study. A pre-tested close ended questionnaire was administered and the data was analysed with the help of SPSS version 22.

Results

Out of the total 300 blood donors included in the study, 283 (94.3%) were males and only 17 (5.7%) were females. The age range was 35±16.7 years. Only 13% (38/300), were voluntary donors. All others had either a close friend or a relative or someone they knew who was being treated for cancer in the hospital and for whom they donated blood.

The sample characteristics evaluated were type of residence, marital status, educational status, profession and monthly income (Table 1).

Table 1: Sample Characteristics

Variable	N=300	Percentage
Gender		
Male	283	94.3
Female	17	5.7
Age (in years)	35.0 + 16.7	
Residence		
Rural		
Semi-urban		
Urban		
Marital Status		
Married	162	54.0
Single	133	44.3
Widowed	2	0.7
Other	3	
Educational status		
No formal education	4	
Primary school	50	
High school	41	
Graduate	141	
Post graduate	51	
Other	13	
Profession		
Unemployed	11	
Businessman	68	
Student	39	
Professional	36	
Service/ Employment	122	
Retired	2	
Others	22	
Monthly income (per month)		
< 5000	53	
5,001 - 10,000	34	
10,001 - 25,000	56	
25,001 – 50,000	60	
50,001 – 1,00,000	21	
>1,00,000	17	
Other/Not applicable	59	

Forty one percent of all the participants (122/300) said that cancer is discussed at workplace and 42% (126/300) said it is not. Of all the respondents who said that cancer is discussed at workplace (122/300), only 17.4% of the people said that there was formal cancer awareness programme or a lecture held. The above figure, constituting those people who had formal cancer awareness program at work, constituted only 7% of the total study population who participated in the study.

According to the response among the donors, it was seen that 8.7% (26/300) considered themselves well informed, 69% (208/300) had some knowledge

and 19.3% (58/300) admitted to have no knowledge at all regarding cancer. Considering the various associations with self perceived awareness of cancer (Table 2), a univariate analysis was done and p value was calculated for each. It was observed that educational status and monthly income had a significant association with p values <0.001 and 0.003 respectively. A multivariate analysis (Table 3) of profession, educational status and income with knowledge of cancer showed only educational status to have a significant correlation (p value <0.001).

Table 2: Associations with self perceived awareness of cancer

Variables	No knowledge	Some knowledge	Chi square	P value
Gender				
Male	55	221	0.13	0.46
Female	4	13		
Marital status				
Married	36	123	1.21	0.17
Single	23	109		
Educational status				
Illiterate/ School Education	24	27	27.85	< 0.001
College/Graduate Education	26	153		
Post graduate/University Education	7	45		
Profession				
Unemployed/retired	3	18	0.77	0.80
Business	15	52		
Professional/Service	31	123		
Student	7	32		
Income				
Less than 10,000 per month	30	63	11.7	.003
10,001-50000 per month	18	98		
More than 50,001 per month	4	34		

Table 3: Multivariate Analysis (Awareness/Knowledge of cancer)

Variables	BETA	SE	Odds Ratio	Confidence Interval	P Value
Profession	-0.127	0.175	0.88	0.63 - 1.24	0.47
Educational status	0.56	0.175	1.75	1.24 - 2.47	< 0.001
Income	0.334	0.302	1.39	0.77-2.52	0.27

Sixty two percent (186/300) of the respondents believed that cancer could be cured, 6.7% thought otherwise and 29.3% were not sure. Table 4 shows that educational status alone had a significant correlation (p value = 0.07) with the perception of cancer being a curable disease in some patients.

Table 4: Effect of variables on knowledge of cure of cancer

Variables	Yes	No & Not Sure	CHI Square	P Value
Gender				
Male	176	107	0.78	0.8
Female	10	07		
Marital status				
Married	109	53	4.8	0.1
Single	76	59		
Educational status				
Illiterate/ School Education	26	28	5.2	0.07
College/Graduate Education	118	64		
Post	34	18		

graduate/University Education				
Profession				
Unemployed/retired	16	05	2.95	0.4
Business	41	27		
Professional/Service	95	63		
Student	27	12		
Income				
Less than 10,000 per month	55	41	1.49	0.47
10,001-50000 per month	72	12		
More than 50,001 per month	26			

Majority of the respondents (54.7%) however believed that cancer can be prevented, 31.3% were not sure and rest 10.7% were of the opinion that cancer cannot be prevented. None of the socioeconomic variables had any significant association with the knowledge of cancer prevention (Table 5).

Table 5: Effect of variables on knowledge of prevention of cancer

Variables	Yes	No & Not sure	Chi square	P value
Gender				
Male	156	125	2.7	0.13
Female	6	11		
Marital status				
Married	90	72	0.15	0.72
Single	72	63		
Educational status				
Illiterate/ School Education	26	28	1.55	0.44
College/Graduate Education	102	80		
Post graduate/University Education	31	21		
Profession				
Unemployed/retired	11	10	1.99	0.57
Business	33	35		
Professional/Service	89	69		
Student	24	15		
Income				
Less than 10,000 per month	47	49	1.13	0.57
10,001-50000 per month	65	51		
More than 50,001 per month	21	17		

Fortunately, only 9% of the study population thought cancer could be contagious, 59.7% thought it was not and 26% were not sure. Educational status again had a significant correlation with this knowledge (p value = 0.05) (Table 6). However, multivariate analysis (Table 7) showed monthly income to have a significant association (p value = 0.02).

Table 6: Effect of variables on belief that cancer is contagious

Variables	Yes & Not Sure	No	Chi Square	P Value
Gender				
Male	101	183	1.04	0.43
Female	4	13		
Marital status				
Married	54	108	0.44	0.54
Single	50	85		
Educational status				
Illiterate/ School Education	26	28	6.13	0.05
College/Graduate Education	59	123		
Post graduate/University Education	14	38		
Profession				
Unemployed/retired	9	12	2.54	0.47
Business	28	40		
Professional/Service	50	108		
Student	13	26		
Income				
Less than 10,000 per month	44	52	5.57	0.06
10,001-50000 per month	37	79		
More than 50,001 per month	11	27		

Table 7: Multivariate Analysis (Belief that cancer is contagious)

Variables	Beta	SE	Odds ratio	Confidence Interval	P value
Educational status	-0.005	0.008	0.99	0.99-1.02	0.56
Income	0.46	.20	1.58	1.07-2.34	0.02
Profession	0.14	0.13	1.15	0.88-1.51	0.19

Discussion

Non-communicable diseases (NCDs) are the leading cause of adult mortality and morbidity worldwide of which cancer is one of the commonest. Cancer has been rapidly increasing globally and reached epidemic proportions in many countries, largely due to industrialization, socio-economic development, rapid urbanization, demographic and lifestyle changes. These diseases are posing a major public health challenge that undermines social and economic development, and place a tremendous demand on health systems and social welfare throughout the world especially in low/ and middle/income countries. NCDs are surpassing communicable diseases as the most common causes of morbidity and premature mortality worldwide.^(6,7)

Tobacco, alcohol, unhealthy diet, physical inactivity, high salt intake, use of trans-fats, high blood pressure, and obesity are the major risk factors common to many non-communicable diseases. Urgent action is required at the global, regional and national level to address the increasing challenge and to prevent increasing inequalities between countries and in populations.⁽⁶⁾

Two systematic literature reviews⁽⁸⁻¹⁰⁾ investigating risk factors for patient delay in presenting with common cancers have shown the predominant risk factors to be

lack of awareness of the seriousness of the symptom or not recognising that the symptom could be caused by cancer. The study highlights the extreme paucity of systematic awareness campaigns that the common man can recollect. Most employers do not have any health promotion events focussed on cancer. This is surprising as cancer poses a major burden for families and employers in India.

There are two theories which have frequently been used to explain social behaviours – “The theory of reasoned action” and “The theory of planned behaviour”.^(11,12) The former proposes that most behaviours are under volitional control and are determined by the attitude towards the action; while the latter proposes that individuals who do not have complete control over their behaviour or that their behaviour is not totally their decision, could be influenced by others. These two theories when viewed in the light of the index study, it is observed that the study population falls into two categories:

- People who had come to donate blood for their friends or relatives and were well aware of the basic facts of cancer(theory of reasoned action)
- People who were not aware of the basic facts of cancer but had come to donate only because they had been requested by their friends or relatives to do so (theory of planned behaviour).

It was noted that educational status was the most important variable that had a direct impact on the knowledge and awareness of cancer. This, therefore, highlights the fact that information, education and communication (IEC) are the basic pillars to strengthen the foundation of knowledge in general population. Although, the incidence of cancer is increasing day by day, the awareness of people regarding cancer has not been satisfactory. Cancer is a dreaded disease, but the fear often arises out of ignorance and misconceptions, rather than any reality. There are many lifestyle and behavioural factors which are directly or indirectly associated with the causation of cancer. Modification of such factors plays a vital role in prevention and control of cancer. But this cannot be achieved if the general population is not well aware of the basic facts regarding cancer and its consequences. This study, therefore, stresses upon the fact that mass knowledge and population awareness regarding cancer should be first step in cancer control programme.

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