# Treatment Seeking Behaviour of Cancer Patients in South-Western Punjab

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#### **Abstract**

The present study was conducted in south-western region of Punjab during 2017-2018. Two districts i.e. Bathinda and Sri Muktsar Sahib were randomly selected. The cancer patients (160) were personally interviewed for the study. A majority of male victims (67.8%) were aware about the symptoms and signs which usually proceed as warning signs of the disease before they got clinically diagnosed with the disease as compared to their female counter parts (45.1%). The study found significant gender differences regarding stage of cancer amongst cancer victims at middle and late stage of cancer. The percentage of females seeking treatment from oncologist was marginally less than their male counterparts. The study found significant association between prevalence of cancer amongst cancer victims with no family history of this disease. The NGOs, religious bodies and philanthropists can contribute significantly towards treatment, management and rehabilitation of cancer victims.

Keys word: Cancer, prevalence, awareness, family history and treatment seeking behavior

JEL Classification: I12, I31, Z1

#### Introduction

Expanding cancer care for women in India, our country is the third country after USA and China in terms of high number of cancer cases (World Cancer Report 2019). WHO has revealed that cancer has doubled its grip in the last 20 years and spread its tentacles far and wide in India. It is also reported that 70 per cent of the cancer deaths are taking place in developing countries where India ranked fifth. In developed countries, about 50 per cent of cancer patients pass away due to this fatal disease, while in developing countries, 80 per cent of cancer victims already have late-stage incurable tumors when they are diagnosed. The existing gap in mortality of cancer patients in developed and developing countries is the manifestation of dissimilarities in cultural practices, lifestyles, life chances, values and beliefs. In India, around eight lakh lives were affected with cancer in 2001, which rose to 5.8 million in 2018. With 15 lakh new cases reported every year the country is staring at a catastrophe (American Cancer Society

2009 and Patel 2018). Amongst the Indian states, Punjab has become infamous for unprecedented increase in cancer cases. Average of cancer cases in Punjab is much higher than the national average. At 90 cancer patients for every one lakh population in Punjab, it's more than the national average of 80 per lakh.

Inspite of a good deal of scientific advancement in fields of diagnosis and treatment, threat of cancer looms large on Punjab in general and rural Punjab in particular. Cancer is a great threat not only to health of the person concerned but it plays havoc with the whole family of the victim. It not only disturbs the socio-economic fabric of the family but dwindles the whole development status. The south-western region of Punjab, India, known for its rich agricultural produce and cotton farming is facing an unprecedented crisis of adverse human health events and environmental health linked to indiscriminate, excessive and unsafe use of pesticides, fertilizers and poor groundwater quality. South-western part (Cotton Belt) of Malwa region has become infamous as cancer region of Punjab with the highest average of 1168 per million

persons, thus corroborates the common perception that cancer is most widespread in South-Western Punjab (GOP 2013). Health seeking behavior is an important parameter determining once health status, which inturn is outcome of deep rooted notions and beliefs held by a person or community. These beliefs may result in prompt or delayed in action by the person concern (Kaur 2013, Mittal et al 2014, Pandhi 2012, Singh et at 2013, Singh 2017). Although people are aware of the symptoms which were indicative of cancer, but this information did not completely predict their health seeking behavior. Various studies (Lopes et al 2017, Kaur 2015, Chataut 2015) have found a gap between knowledge of cancer and promptness of treatment seeking. With this backdrop the present study was an endeavor to investigate the treatment seeking behaviour of cancer patients in south western Punjab.

#### **Data Sources and Methodology**

The present study was conducted in cotton belt of Punjab which constitute south western districts viz. Bathinda, Sri Muktsar Sahib, Ferozepur, Mansa, Faridkot, Sangrur, Fazilka and Barnala of Punjab during 2017-2018. Two districts i.e. Bathinda and Sri Muktsar Sahib (hereafter, Sri Muktsar Sahib will be referred as Muktsar in the text) were randomly selected. At the second stage, two blocks were randomly selected from each selected district to obtain a total of four blocks. At third stage, three villages from each block were taken for the purpose of investigation. So, the present study was conducted in twelve villages randomly selected from south western region of Punjab. After the selection of the villages, a list of all the persons suffering from cancer or had cancer (though recovered later on) during the period of five years preceding the study comprised the sample for study. The present study was based on the primary data procured on the basis of records maintained by the hospitals both public and private, Auxiliary Nurse Midwives (ANMs), chemists andsarpanches. Change agents were also contacted for procuring data. At the final stage, 160 cancer patients were personally interviewed for the study. The data were tabulated and analyzed by using appropriate statistical tools. Thus, frequency distribution, percentages and Z test were used to reach the logical conclusion.

**Z-test:** Z-test has been used to find out the regional differences of the various factors of the respondents.

$$Z = \frac{p_1 - p_2}{\sqrt{PQ\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}}$$

$$p_1 = \frac{r_1}{n_1}$$

$$p_2 = \frac{r_2}{n_2}$$

$$P = \frac{n_1 P_1 + n_2 P_2}{n_1 + n_2} = \frac{r_1 + r_2}{n_1 + n_2}$$

Where,

O = 1-P

 $p_1 = Proportion of sample 1$ 

 $p_2$  = Proportion of sample 2

 $n_1$  = number of subject in sample 1

 $n_2$  = number of subject in sample 2

 $r_1 =$  number of attributes in sample 1

 $r_2$  = number of attributes in sample 2

P = estimate of population proportion

#### **Results and Discussion**

#### **Treatment Seeking Behaviour**

The studies conducted on various aspects of cancer differ agree with each other while analyzing causes, adaptation and mitigation strategies (Chandrani 2013, Sheikh and Ogden 1998, Bottorff et al 2007), however, a significant research studies have built up a consensus that treatment success is related to how promptly a treatment is initiated (Thomas et al 2014, Egbera 2015). Hence, treatment seeking behaviour needs thorough investigation which includes unraveling various components like gender differentials, pertaining to awareness about the disease, time interval between first symptoms and visit to doctor etc. discussed further. Although people are aware of the symptoms which were indicative of cancer, but this information did not completely predict their health seeking behavior. Various studies (Lopes et al 2017, Kaur 2015, Chataut 2015) have found a gap between knowledge of cancer and promptness of treatment seeking.

#### Awareness about the disease

The present study attempted to divulge the awareness about symptoms and signs which were indicative of cancer and found that more than half (53.1%) were well versed about the disease, the symptoms which

Aware about disease	Sri	Muktsar S (n=84)	ahib	Overall (n=160)					
	Male (n=22)	Female (n=54)	Total (n=76)	Male (n=34)	Female (n=50)	Total (n=84)	Male (n=56)	Female (n=104)	Total (n=160)
Before onset of disease	17	26	43	21	21	42	38	47	85
	(77.27)	(48.14)	(56.57)	(61.76)	(42.00)	(50.00)	(67.85)	(45.19)	(53.12)
After onset of disease	5	28	33	13	29	42	18	57	75
	(22.72)	(51.85)	(43.42)	(38.23)	(58.00)	(50.00)	(32.14)	(54.80)	(46.87)

Table 1. Distribution of respondents on the basis of awareness about the disease

usually preceed as warning signs of cancer. Ironically, inspite of wide spread prevalence of the disease in the study area a significant percentage (48.8%) were still not aware about the symptoms which could emerge before and during the onset of the disease. A majority of male victims (67.8%) were aware about their disease before they got diagnosed with the disease as compared to their female counter parts (45.1%).

# Symptoms appeared

The study further investigated the initial symptoms which rang alarm bells that something wrong is happening in the body. Most common symptoms reported by all the cancer victims was fever and general weakness etc. even by those who did not have any other symptoms and got detected at later stage. The data given in Table 2 indicates the symptoms being found in the cancer patients. The pain was the most common symptom found in patients irrespective of the various types of symptoms observed from the sample. It was the widely prevailing symptom in the all cancer patients (Injodey 1998, Rawat 2015). In the study area of Punjab, major symptom among females suffering from breast cancer was breast lump (20.0%). The pain in stomach and breast (12.5%) each was the widely prevailing symptom of the cancer victims in the region. The change in shade of urine, heavy bleeding (6.4%) and leucorrhea (9.4 %) were the symptoms found in the female respondents whereas such symptoms were not found in the male respondents in the region. A majority of male victims reported urine problems (26.8%) than their female counterparts (1.9%). The cavity/swelling in jaws also appeared as a symptom more in male victims compared to female respondents in Bathinda (13.6 % and 1.8 %) and in Muktsar (11.7 % and 4.0%) districts respectively.

#### Present stage of cancer

Though there is some ambiguity regarding the chronology of symptoms defining the stage of cancer yet in medical terminology there are four stages of cancer identified viz. early, middle, later and terminal. The early stage is characterized by decrease in vitality, fever etc. while middle stage by decrease appetite, weakness etc. and at the later stage by increased fatigue, pain, dyspnea etc. and at terminal stage patients are usually put on life support system (Rawat 2015, Reddy *et al* 2011).

The study reveals that nearly half of the sampled respondents (46.8%) from south western region of Punjab were at first stage of cancer (Table 3). As is mentioned earlier that more than half of the victims were well informed about the disease, these respondents' got detected at early stage and they started their treatment well in time. The early diagnosis of cancer improves the chances of cure considerably. It's all because of the awareness of this disease. Nearly 31per cent of the respondents were at stage II in the region hoping that soon they will also get rid of this disease and 21.25 per cent of the respondent were at stage III and was totally scared whether after the treatment they would survive or not. Two respondents were at terminal (IV) stage. The later stage of diagnosis is often identified as the major cause of excess morbidity and mortality in the patients. The study found significant gender differences regarding stage of cancer amongst cancer victims at middle and late stage of cancer.

## Family history of the patient

Environmental hazards, life style and genetic factor transmitted in progeny have a determinant role in cancer risk. Oncologist's record family history usually of primary kins as determinants for assessing

Table 2. Distribution of respondents on the basis of symptoms appeared

(Multiple response)

Symptoms appears		Bathinda (n <sub>1</sub> =76)		Sri 1	Muktsar S (n <sub>2</sub> =84)	Sahib		Overall (N=160)	
	Male (n=22)	Female (n=54)	Total (n=76)	Male (n=34)	Female (n=50)	Total (n=84)	Male (n=56)	Female (n=104)	Total (n=160)
Breast lump	-	14 (25.92)	14 (18.42)	-	18 (36.00)	18 (21.42)	-	32 (30.76)	32 (20.00)
Piles problem	-	3 (55.55)	3 (3.94)	-	-	-	-	3 (2.88)	3 (1.87)
Pain in breast	-	10 (18.51)	10 (13.15)	-	10 (20.00)	10 (11.90)	-	20 (19.23)	20 (12.50)
Pain in stomach	3 (13.63)	9 (16.66)	12 (17.10)	7 (20.58)	1 (2.00)	8 (9.52)	10 (17.85)	10 (9.61)	20 (12.50)
Lump/Non healing wound	-	-	-	2 (5.88)	-	2 (2.38)	2 (3.57)	-	2 (1.25)
Cough	5 (22.72)	2 (3.70)	7 (9.21)	3 (8.83)	1 (2.00)	4 (4.76)	8 (14.28)	3 (2.88)	11 (6.87)
Heavy bleeding	-	8 (12.96)	8 (10.52)	-	4 (8.00)	4 (4.76)	-	11 (10.57)	11 (6.87)
Sore Throat	3 (13.63)	3 (55.55)	6 (7.89)	4 (11.76)	3 (6.00)	7 (8.33)	7 (12.50)	6 (5.76)	13 (8.12)
Leucorrhea	-	8 (14.81)	8 (10.52)	-	7 (14.00)	7 (8.33)	-	15 (14.42)	15 (9.37)
Urine problem	4 (18.18)	1 (1.85)	5 (6.57)	11 (32.35)	1 (2.00)	12 (14.28)	15 (26.78)	2 (1.92)	17 (10.62)
Problem in swallowing the food	6 (27.27)	3 (55.55)	9 (11.84)	3 (8.82)	6 (12.00)	9 (10.71)	9 (16.07)	9 (8.65)	18 (11.25)
Cavity/swelling in jaws	3 (13.63)	1 (1.85)	4 (5.26)	4 (11.76)	2 (4.00)	6 (7.14)	7 (12.50)	3 (2.88)	10 (6.25)

Note: Figures in the parentheses indicate percentage

Table 3. Distribution of the respondents on the basis of stage of cancer

Stage of cancer	Bathinda (n=76)			Sri N	Muktsar S (n <sub>2</sub> =84)	Sahib	Overall (n=160)				
	Male (n=22)	Female (n=54)	Total (n=76)	Male (n=34)	Female (n=50)	Total (n=84)	Male (n=56)	Female (n=104)	Total (n=160)	<b>Z-Value</b>	
Early (I)	14 (63.64)	23 (42.59)	37 (48.68)	17 (50.00)	21 (42.00)	38 (45.24)	31 (55.36)	44 (42.31)	75 (46.88)	1.71	
Middle (II)	6 (27.27)	14 (25.93)	20 (26.31)	11 (32.35)	18 (36.00)	29 (34.52)	17 (30.36)	32 (30.77)	49 (30.63)	2.32*	
Late (III)	2 (9.09)	16 (29.63)	18 (23.68)	6 (17.64)	10 (20.00)	16 (19.05)	8 (14.29)	26 (25.00)	34 (21.25)	3.26*	
Terminal (IV)	-	1 (1.85)	1 (1.31)	-	1 (2.00)	1 (1.19)	-	2 (1.92)	2 (1.25)	1.41	

 $\it Note: Figures in the parentheses indicate percentage$ 

<sup>\*</sup>Significant at 5 per cent

Table 4. Distribution of respondents on the basis of family history of patient in prevalence to cancer

Prevalence of cancer		Bathinda (n <sub>1</sub> =76)	1	Z- Value	Sri N	Muktsar S (n <sub>2</sub> =84)	Auktsar Sahib (n <sub>2</sub> =84)		Z- Overall Value (N=160)			Z- Value
	Male (n=22)	Female (n=54)	Total (n=76)		Male (n=34)	Female (n=50)	Total (n=84)		Male (n=56)	Female (n=104)	Total (n=160)	
Maternal Side	4 (18.18)	14 25.92)	18 (23.68)	2.51*	7 (20.59)	13 (26.00)	20 (23.80)	1.42	11 (19.64)	27 (25.96)	38 (23.75)	2.76*
Paternal Side	4 (18.18)	7 12.96)	11 (14.47)	0.93	6 (17.65)	4 (8.00)	10 (11.90)	0.65	10 (17.86)	11 (10.57)	21 (13.12)	0.22
Not prevalent	14 (63.63)	33 61.11)	47 (61.84)	3.33*	21 (61.76)	33 (66.00)	54 (64.28)	1.98*	35 (62.50)	66 (63.46)	101 (63.12)	3.72*

genetic risks, presumpting that family history reflects the consequences of genetic susceptibilities, shared values, practices and beliefs and common behaviour (Turati *et al* 2013, American Cancer Society 2009 and Kaur 2013)

The respondents were asked to divulge that if anyone in their maternal or paternal side suffered from cancer (Table 4). Majority (63.1%) of respondents did not have any history of cancer in their family. In south western region of Punjab nearly one fourth of the respondents stated that it was because of the hereditary from their mother side and only 13.12 per cent of the respondents

divulged that it was because of the inheritance from their father's side. The study found significant association between prevalence of cancer amongst cancer victims with no family history of this disease, pointing towards reasons other than genetic i.e. environmental or lifestyle.

### Disclosing about the disease

The studies reveals that in most cases, family members of cancer patients requested doctors not to disclose the disease to their patients as it might cause psychological havoc and traumatize them (Rawat 2015, Reddy *et al* 2011 and Patel 2018). But cancer had

Table 5. Distribution of respondents on the basis of disclosing about the disease to respondent

Source		Bathinda (n <sub>1</sub> =76)		Sri	Muktsar S (n <sub>2</sub> =84)	ahib		Overall (N=160)	
	Male (n=22)	Female (n=54)	Total (n=76)	Male (n=34)	Female (n=50)	Total (n=84)	Male (n=56)	Female (n=104)	Total (n=160)
Not informed	1 (4.55)	5 (9.26)	6 (7.89)	-	1 (2.00)	1 (1.19)	1 (1.79)	6 (5.77)	7 (4.38)
Doctor	9 (40.91)	15 (27.78)	24 (31.58)	13 (38.23)	10 (20.00)	23 (27.38)	22 (39.29)	25 (24.04)	47 (29.38)
Husband	-	13 (24.07)	13 (17.11)	-	13 (26.00)	13 (15.48)	-	26 (25.00)	26 (16.25)
Son	5 (22.73)	13 (24.07)	18 (23.68)	11 (32.35)	15 (30.00)	26 (30.95)	16 (28.57)	28 (26.92)	44 (27.50)
Brother	3 (13.64)	1 (1.85)	4 (5.26)	5 (14.70)	3 (6.00)	8 (9.52)	8 (14.29)	4 (3.85)	12 (7.50)
Mother	-	3 (5.56)	3 (3.95)	-	-	-	-	3 (2.88)	3 (1.88)
Others*	4 (18.18)	4 (7.41)	8 (10.53)	5 (14.70)	8 (16.00)	13 (15.48)	9 (16.07)	12 (11.54)	21 (13.13)

Note: Figures in the parentheses indicate percentage

<sup>\*</sup>Significant at 5 per cent

<sup>\*</sup> Wife, sister, brother in-law, father, nephew

Table 6. Distribution of respondents on the basis of time interval between symptoms and first visit to doctor

Time interval		Bathinda (n <sub>1</sub> =76)	1	Sri I	Muktsar S (n <sub>2</sub> =84)	ahib	Overall (N=160)				
	Male (n=22)	Female (n=54)	Total (n=76)	Male (n=34)	Female (n=50)	Total (n=84)	Male (n=56)	Female (n=104)	Total (n=160)	Z- Value	
< 7 Days	6 (27.27)	9 (16.66)	15 (19.73)	5 (14.70)	6 (12.00)	11 (13.10)	11 (19.64)	15 (14.42)	26 (16.25)	0.81	
7-14	4 (18.18)	8 (14.81)	12 (15.78)	7 (20.58)	4 (8.00)	11 (13.10)	11 (19.64)	12 (19.23)	23 (14.38)	0.21	
14-21	-	12 (22.22)	12 (15.78)	4 (11.76)	7 (14.00)	11 (13.10)	4 (7.14)	19 (18.27)	23 (14.38)	3.24*	
21-28	2 (9.09)	2 (3.70)	4 (5.26)	8 (23.52)	7 (14.00)	15 (17.86)	10 (17.86)	9 (8.65)	19 (11.88)	0.23	
>28	10 (45.45)	23 (42.59)	33 (43.42)	10 (29.41)	26 (52.00)	36 (42.86)	20 (35.71)	49 (47.11)	69 (43.13)	3.94*	

spread its tentacles so widely that it seemed the disease had become a new normal in the region. Except four percent of the victims, the rest were informed directly about the disease. Almost 29 per cent of the respondents were informed by the doctor on the day of diagnosis of cancer about the disease. Another 27.5 per cent of them were informed by their sons'. About one fourth of the female respondents were informed by their spouse and the remaining about eight percent were informed by their brothers.

# Time interval between symptom(s) appeared and first visit to doctor

Time interval between first symptoms appeared and

visits to doctor was examined to evaluate the prompt/ delayed action by the victim or his/her family. The time lapse between the appearance of symptom(s) and diagnosis of cancer and the visit to doctor ranged between less than a week to more than a month. One-sixth of the respondents were quite prompt in seeking medical advice as they wasted no time once the symptom of cancer was shown. Another about 29 per cent took around three weeks' time to consult doctor as they first took the advice of local RMP doctors and few visited traditional healers. Still around 43 percent of the respondents took nearly a month until they visited doctor. The gender differences were quite visible as male patients were comparatively prompt

Table 7. Distribution of respondents on the basis of their primary consultation

Primary Consultation	Bathinda (n <sub>1</sub> =76)			Sri I	Muktsar S (n <sub>2</sub> =84)	ahib	Overall (N=160)			
	Male (n=22)	Female (n=54)	Total (n=76)	Male (n=34)	Female (n=50)	Total (n=84)	Male (n=56)	Female (n=104)	Total (n=160)	
Quacks/ Traditional healers	3	15	18	10	10	20	13	25	38	
	(13.63)	(27.77)	(23.68)	(29.41)	(22.00)	(23.80)	(23.21)	(24.03)	(23.75)	
RMP	9	30	39	10	3	13	19	33	52	
	(40.90)	(55.55)	(51.31)	(29.41)	(6.00)	(15.47)	(33.92)	(31.73)	(32.50)	
ANM	-	4 (7.40)	4 (5.26)	-	3 (6.00)	3 (3.57)	-	7 (6.73)	7 (4.37)	
General Physician/	10	5	15	14	34	48	24	39	63	
Oncologist	(45.45)	(9.25)	(19.73)	(41.17)	(68.00)	(57.14)	(42.85)	(37.50)	(39.37)	

Note: Figures in the parentheses indicate percentage

<sup>\*</sup>Significant at 5 per cent

Reaction **Bathinda** Sri Muktsar Sahib **Overall**  $(n_1 = 76)$ (N=160)(n,=84)Male **Female Total** Male **Female Total** Male **Female Total Z-Value** (n=22)(n=54)(n=76)(n=34)(n=50)(n=84)(n=56)(n=104)(n=160)5 4 9 6 17 Shattered 11 11 15 26 0.81 (22.72)(7.40)(11.84)(17.64)(22.00)(20.23)(19.64)(14.42)(16.25)**Boldly** 12 22 38 15 13 28 27 35 62 1.13 (54.54)(40.74)(50.00)(44.11)(26.00)(33.33)(48.21)(33.65)(38.75)5 **Fatalistic** 28 33 13 26 39 18 54 72 4.81\* (38.28)(22.7)(51.85)(43.42)(52.00)(46.42)(32.14)(51.92)(45.00)

Table 8. Distribution of respondents on the basis of reaction of the respondent at the time of diagnosis

in seeking advice of doctor (19.6%) as compared to female counterparts (14.4%). A majority of female patients took more time (47.1%) as compared to their male counterparts (35.7%) as they initially took recourse in alternative medicines or traditional healers. The study found significant gender differences between symptom(s) appeared and first visit to doctor in two categories i.e. from 14 to 21 days and above 28 days.

#### **Primary consultation**

Accessibility and affordability were major factors, which hindered the consultation of oncologist and general physician. Otherwise, a significant majority were well aware of the necessity of consulting specialists. Almost one-fourth of the respondents visited quacks/traditional healers for their first consultation. Male patients were comparatively more (42.9%) than females (37.5%) to consult specialist doctors. The study did not find any gender differences in medical consultations for the disease.

#### Reaction at the time of diagnosis

The first reaction of respondents after they were informed about their disease revealed that 45 per cent of the respondents accepted it as their fate i.e. whatever destiny has in its store for them. They felt that it was all outcomes of their *karmas* (*sab karma di khed hai*). Many faced it boldly as 38.7 per cent reacted by saying that many in their acquaintances has already had it and now they too got it (*Buht jania nu eh bimari hai, hun mainu vi ho gyi*). Male faced it more boldly (48.2%) than females (33.7%). Another about 16 per cent of respondents loose all hopes on the disclosure of the disease and were sure of mortality (*Eh chandari bimari* 

tan leke hi jaou gyi). Males were shattered more (19.6%) than females (14.4%).

# **Conclusion and Policy Implications**

Treatment seeking behavior of cancer patient in south western region of Punjab suggested that inspite of cancer playing havoc with the life of significant majority, more than half were still not aware about signs and symptoms which were indicative of cancer and more than one-fifth of them got diagnosed at late stage, increasing the threat of morbidity and mortality. The study found significant association between prevalence of cancer amongst cancer victims with no family history of the disease, pointing towards the fact that environment factors, ecology of the area and undesirable life style could be the reasons behind unbridled growth of cancer. The gender differences were quite visible in the treatment as males were more prompt in seeking advice of specialist doctors than females. The study concluded fact that their existed wide gap in awareness of disease and treatment seeking behavior. A significant gender differentialsin treatment seeking behavior suggested to overcome discriminatory practices against women to assure gender neutral health care system. The awareness programs on bursting the myths associated with cancer should be arranged at village panchayat level to encourage early screening. The cost of treatment charged by private hospitals could be regulated through effective government intervention. Civil Society Organizations, NGOs, religious bodies and philanthropists can contribute significantly towards treatment, management and rehabilitation of cancer victims.

<sup>\*</sup>Significant at 5 per cent

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