
RESEARCH COMMUNICATION

Distribution of Cancer Patients According to Time Taken From Starting Day of Symptoms to Reporting at a Regional Cancer Institute in Eastern India

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Abstract

A retrospective study of the patients registered during 1997 aiming the time taken by the patients from their starting day of symptoms of cancer to reporting i.e. duration of symptoms at Chittaranjan National Cancer Institute (CNCI) a regional cancer institute in Eastern India. During 1997 a total of 3628 cancer patients registered at CNCI. Out of these, 716(19.74%) could not remember the duration of symptoms of their diseases at the time of first reporting. For this reason only the remaining 2912 cases were considered in the present study. Only 83(2.85%) reported within one month of the initial onset of symptoms. The vast majority of patients, a total of 2829 (97.15%), appeared at hospital after several months, contributing to a moderate to advanced stage of their disease at first contact. This would clearly be expected to lead to poor success in treatment. Late reporting by the patients is most probably due to lack of awareness about the symptoms of cancer. The patients were from rural, semi-urban and urban populations. Measures of association showed significant links between the place of residence ($p<0.55$), age ($p<0.001$), sex ($p<0.001$), general health condition of the patients at first contact ($p<0.052$), the economic status ($p<0.51$) and the treatment compliance ($p<0.26$) with the duration of symptoms. Tumours of some primary sites like the cervix, breast (female), oral cavity, thyroid and penis, for which treatment responses are good to very good in early stages were also considered. For these primary sites, statistical measures showed late reporting by the patients which resulted in poor treatment compliance as well as a poor treatment response.

Key Words: cancer statistics - cancer awareness - duration of symptoms

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Introduction

Success of treatment of cancer patients is directly related to early reporting by the patients (Caruso et al., 2000; Shetty et al., 1999; Warnakulasuriya et al., 1999; Hinton, 1999). The pattern of duration of symptoms of cancer among the patients registered at CNCI during 1997 were studied with respect to place of residence, age, sex, general health condition of the patients at first contact, economic status according to monthly family income of the patients, treatment compliance

and primary sites of the patients. It is evident from the data of Annual Reports of Hospital Cancer Registries as well as the Population Based Cancer Registries in India that only 30-40% of the registered patients complete their treatment (National Cancer Registry Programme, 1992; Siddiqi et al., 1996; 1997; Mandal et al., 2000). One of the causes of non-compliance to the treatment is due to late reporting by the patients. One of the most promising strategies for successful secondary prevention of cancer is early reporting by the patients. It is also fruitful in terms of less monetary

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involvement for the treatments of the patients by early reporting of cancer cases in developing countries like India (Bennett et al., 2000; Sherman et al., 1999).

Materials and Methods

CNCI is the only regional cancer institute in Eastern India. The cases registered during the year 1997 at CNCI were scrutinised and data were entered into a personal computer with the help of the EPI INFO software package. A total of 3628 patients registered during the year. Out of the 3628 patients 716(19.74%) could not remember the duration of symptoms of their diseases at the time of first reporting. For this reason only the remaining 2912 cases were enumerated in this study. This study has been conducted in this region for the first time. Data on these patients were collected from the Department of Medical Records of the hospital. Some information of the patients recorded in their medical records parameters were carefully considered in this analysis as follows:

1. Duration of symptoms (according to time taken by the patients from their starting day of symptoms of cancer to reporting at CNCI)
2. Place of residence (Rural, semi-urban and urban)
3. Sex

Table 1. Distribution of the Patients According to their Duration of Symptoms

Duration of symptoms in months	Number of patients	Percentage (%)
Less than 1	83	2.85
1 - 2	255	8.76
2 - 3	405	13.91
3 - 4	383	13.15
4 - 5	243	8.34
5 - 6	111	3.81
More than 6	1432	49.18
Total	2912	100.00

4. Age
5. General health condition at first contact (based on pallor, jaundice, cyanosis, surface area, pulse, edema, clubbing, obesity, B.P. and any other abnormality)
6. Economic status according to monthly family income
7. Pattern of treatment compliance
8. Primary site

Results and Discussion

Table-1 shows that the majority of the patients reported late from their starting day of symptoms of cancer

Table-2 shows that 24.14% of the patients rural, 28.60% of the from semi-urban and 25.68% of the patients from urban reported within 3 months from their starting day of symptoms of cancer. This shows that pattern of reporting from the rural, semi-urban and urban population is almost same. But Chi-square test for measures of association for overall reporting by the patients shows there is significant association ($p=0.54828332$) between place of residence and duration of symptoms of cancer patients in this region.

Table-3 shows that 34.48% of the age group less than 15, 25.15% of the age group 15-30 years, 19.96% of the age group 30-45 years, 25.38% of the age group 45-60 years, 29.35% of the age group 60-75 years and 34.09% of the age

Table 2. Distribution of the Patients According to their Duration of Symptoms and Place of Residence

Duration of symptoms in months	Rural	Semi-urban	Urban	Total
Less than 1	50	20	13	83
1 - 2	140	80	35	255
2 - 3	228	112	65	405
3 - 4	220	100	63	383
4 - 5	145	62	36	243
5 - 6	70	23	18	111
More than 6	878	344	210	1432
Total	1731	741	440	2912

Table 3. Distribution of the Patients According to their Duration of Symptoms and Age

Duration of symptoms in months	Age in years					Total	
	0-15	15-30	30-45	45-60	60-75		
Less than 1	5	7	17	25	24	5	83
1 - 2	7	6	46	98	84	14	255
2 - 3	8	17	67	154	133	26	405
3 - 4	7	16	83	141	119	17	383
4 - 5	11	15	44	94	72	7	243
5 - 6	2	8	20	40	39	2	111
More than 6	18	90	374	539	350	61	1432
Total	58	159	651	1091	821	132	2912

Table 4. Distribution of the Patients According to their Duration of Symptoms and Sex

Duration of symptoms in months	Male	Female	Total
Less than 1	41	42	83
1 - 2	134	121	255
2 - 3	252	153	405
3 - 4	190	193	383
4 - 5	131	112	243
5 - 6	57	54	111
More than 6	626	806	1432
Total	1431	1481	2912

group 75 years & above reported within 3 months from their starting day of symptoms of cancer. The Chi-square test for measures of association for overall reporting by the patients shows there is significant association (p=0.00000001) between age of the patients and duration of symptoms of cancer patients in this region.

Table-4 shows that 29.84% of the male patients and 21.34% of the female patients reported within 3 months from their starting day of symptoms of cancer. The Chi-square test for measures of association for overall reporting by the patients shows there is significant association (p<0.001) between sex of the patients and duration of symptoms of cancer patients in this region.

Table-5 shows that 22.61% of the patients with good, 25.40% of the patients with fair, 27.37% of the patients with poor and 17.5% of the patients with morbid health condition at first contact reported within 3 months from their starting day of symptoms of cancer. The Chi-square test for measures of association for overall reporting by the patients shows there is a borderline significant association (p<0.052) between general health condition of the patients at first contact and duration of symptoms in this region.

Table-6 shows that 23.13% of the patients with low, 27.10% of the patients with middle, 31.82% of the patients

Table 6. Distribution of the Patients According to their Duration of Symptoms and Economic Status.

Duration of symptoms in months	Economic Status *			
	Low	Middle	High	Total
Less than 1	31	48	4	83
1 - 2	100	146	9	255
2 - 3	162	228	15	405
3 - 4	170	202	11	383
4 - 5	115	125	3	243
5 - 6	52	55	4	111
More than 6	637	753	42	1432
Total	1267	1557	88	2912

* Economic status:

- Low - Monthly family income is less than Rs.1000
- Middle - Monthly family income is between Rs.1000 and Rs. 5000
- High - Monthly family income is more than Rs. 5000
- Rs. - Indian Currency, Rs.45 = 1 US\$ approximately

with high economic status reported within 3 months from their starting day of symptoms of cancer. The Chi-square test for measures of association for overall reporting by the patients shows there is significant association (p<0.51) between the economic status of the patients and duration of symptoms of cancer patients in this region.

Table-7 shows that 23.93% completed, 17.53% started but not completed, 26.79% refused after decision of treatment, 22.89% were fit for no curative treatment at first contact, 28.37% left before decision of treatment and 18.81% completed at least one protocol of treatment in case of combination of treatment reported within 3 months from their starting day of symptoms of cancer. The Chi-square test for measures of association for overall reporting by the patients shows there is significant association (p<0.26) between treatment compliance by the patients and duration of symptoms of cancer patients in this region.

Table-8 shows that 22.47% of the patients having cancer

Table 5. Distribution of the Patients According to their Duration of Symptoms and General Health Condition at First Contact.

Duration of symptoms in months	Good	Fair	Poor	Morbid	Total
Less than 1	6	53	24	0	83
1 - 2	23	162	66	4	255
2 - 3	35	258	109	3	405
3 - 4	39	236	105	3	383
4 - 5	22	151	69	1	243
5 - 6	7	61	40	3	111
More than 6	151	941	314	26	1432
Total	283	1862	727	40	2912

Table 7. Distribution of the Patients According to their Duration of Symptoms and Treatment Compliance

Duration of symptoms in months	Treatment Compliance *						Total
	1	2	3	4	5	6	
Less than 1	16	9	19	8	21	10	83
1 - 2	73	26	62	21	54	19	255
2 - 3	106	37	95	47	89	31	405
3 - 4	120	24	84	44	65	46	383
4 - 5	66	18	58	33	45	23	243
5 - 6	28	6	26	15	25	11	111
More than 6	406	91	313	164	279	179	1432
Total	815	211	657	332	578	319	2912

* Treatment compliance : 1 - Completed 2-Started but not completed 3-Refused after decision of treatment
 4 - No curative treatment possible at first contact 5-Left before decision of treatment
 6 - Completed at least one protocol of treatment in case of combination of treatment

in oral cavity reported within 3 months from their starting day of symptoms of cancer.

Table-9 shows that 8.70% of the patients having cancer in thyroid reported within 3 months from their starting day of symptoms of cancer.

Table 8. Distribution of the Patients having Primary Site in Oral Cavity According to their Duration of Symptoms

Duration of symptoms in months	Number of patients	Percentage (%)
Less than 1	4	1.15
1 - 2	21	6.05
2 - 3	53	15.27
3 - 4	53	15.27
4 - 5	29	8.36
5 - 6	15	4.32
More than 6	172	49.58
Total	347	100.00

Table 10. Distribution of the Patients with Primary Site in Breast (female) According to their Duration of Symptoms

Duration of symptoms in months	Number of patients	Percentage (%)
Less than 1	1	0.45
1 - 2	16	7.32
2 - 3	12	5.48
3 - 4	15	6.85
4 - 5	10	4.57
5 - 6	2	0.90
More than 6	163	74.43
Total	219	100.00

Table-10 shows that 13.25% of the patients having cancer in breast(female) reported within 3 months from their starting day of symptoms of cancer.

Table-11 shows that 18.19% of the patients having cancer in oral cavity reported within 3 months from their starting

Table 9. Distribution of the Patients having Primary Site in Thyroid According to their Duration of Symptoms

Duration of symptoms in months	Number of patients	Percentage (%)
Less than 1	0	0.00
1 - 2	0	0.00
2 - 3	2	8.70
3 - 4	2	8.70
4 - 5	1	4.35
5 - 6	1	4.35
More than 6	17	73.90
Total	23	100.00

Table 11. Distribution of the Patients having Primary Site in the Penis According to their Duration of Symptoms

Duration of symptoms in months	Number of patients	Percentage (%)
Less than 1	0	0.00
1 - 2	3	13.64
2 - 3	1	4.55
3 - 4	4	18.18
4 - 5	0	0.00
5 - 6	0	0.00
More than 6	14	63.63
Total	22	100.00

Table 12. Distribution of the Patients having Primary Site in Cervix According to their Duration of Symptoms

Duration of symptoms in months	Number of patients	Percentage (%)
Less than 1	16	2.34
1 - 2	39	5.69
2 - 3	64	9.34
3 - 4	96	14.01
4 - 5	58	8.47
5 - 6	25	3.65
More than 6	387	56.50
Total	685	100.00

day of symptoms of cancer.

Table-12 shows that 17.37% of the patients having cancer in cervix reported within 3 months from their starting day of symptoms of cancer.

Table -13 shows that t-test for mean values of different aspects of the patients are significantly differing from zero.

Conclusions

From the present study it is evident that majority of the cancer patients appeared at hospital after several months resulting the moderate to advanced stage of their disease at first contact. Which again leads to poor success of their treatment. Late reporting by the patients is most probably due to lack of awareness about the symptoms of cancer. The patients were from rural, semi-urban and urban

Table 13. Mean ± s.e. of Different Aspects of the Patients

Different aspects	Mean ± s.e.	p-values
Age (in years)	50.77 ± 0.28	0.001
Income (in Indian Currency Rs.)	1489.35 ± 28.52	0.001
Duration of symptoms (in days) for all cases	288.46 ± 10.35	0.001
Duration of symptoms (in days) for primary site in oral cavity	306.52 ± 30.79	<0.001
Duration of symptoms (in days) for primary site in thyroid	1306.65 ± 429.35	<0.05
Duration of symptoms (in days) for primary site in female breast	371.64 ± 28.73	0.00001
Duration of symptoms (in days) for primary site in penis	402.95 ± 161.61	0.02108
Duration of symptoms (in days) for primary site in cervix	266.39 ± 14.82	0.00001

population. Though the measures of association of some parameters like age, sex, place of residence and income with duration of symptoms are observed significant, any common cancer awareness programme may encourage the people for early reporting for cancer disease. Even for the cervical and female breast cancer cases the mean duration of symptoms are approximately 9 months and 1 year respectively which is most probably due to poor level of cancer awareness. A statistical survey for cancer awareness among the population is needed to assess the level of awareness among them(Shankar et al.,1999;Uche, 1999). In this scientific way we can step forward for downstaging of cancer cases in this region (Halverson et al., 2000;Thiemann et al.,1999).

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