Identifying the Factors Causing Delayed Presentation of Cancer Patients to Tertiary Cancer Care Centre a Prospective Clinical Study

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ABSTRACT: Background Cancer is one of the leading causes of death worldwide. Although there is advancement in diagnosis and treatment of cancer, there is delay in initiation of treatment. Out of 19.3 million cancer cases worldwide, 1.39 million cases registered in India in the year 2020. Classical delay of presentation can be divided in two ways as primary and secondary. Primary delay is the time interval from appearance of symptoms to first presentation before clinicians **Objective** To identify the factors responsible for delayed presentations of cancer patients to hospital. **Method:** This prospective clinical study involves 118 histopathologically proven cases of cancer registered in Radiotherapy department CIMS, Bilaspur conducted during June 2021 to June 2022 **Result:** The Mean age and Standard Deviation of Patient was 52.47+/-11.99 years. Most of the patients were in the age group of 40 to 60 yrs, and least patients were from less than 30 yrs age group, 55.5% patients were female and 44.1% were male, data depicts that female patients were less informed and aware of cancer treatment than male patients; 53.4% patients belonged to APL and rest were BPL, Among the reasons for primary delay 'lack of knowledge' was found to be the main obstacle in 69.5%, 10.1% patients chose alternative treatment(Ayurved, Homeopathy) after diagnosis before shifting finally to modern medicine,07 patients took self medication while 06 patients received primary treatment from quacks nearby, 1 month delay for primary treatment was done by 46.6% patients, up to 3 months delay was observed in 24.5%. a 6 month delay was seen in 20 patients while 11 patients did the delay of almost 12 months resulting in disease progression and poor prognosis. **Conclusion:** Primary delay to treatment is the major culprit for disease progression and mortality of patients. We concluded in our study that the majority of patients were illiterate who delayed the treatment by 1 month. Lack of knowledge is the most common reason for primary delay followed by alternative treatment, self medication, lack of accompanying persons and fear from the treatment.

I. INTRODUCTION

Cancer is one of the leading causes of death worldwide. Although there is advancement in diagnosis and treatment of cancer, there is delay in initiation of treatment. [1] Out of 19.3 million cancer cases worldwide, 1.39 million cases registered in india in the year 2020. In India the sex ratio of cancer cases in the year 2020 is 1:1.4. [2] [3] our institute is a tertiary care centre situated in the central region of Chhattisgarh amidst urban and rural areas catering about 70 lakhs population in the entire Bilaspur division. Classical delay of presentation can be divided in two ways as primary and secondary. Primary delay is the time interval from appearance of symptoms to first presentation before clinicians. Secondary delay is the time interval from first presentation to clinician until the start of definitive treatment. [4] Primary delay is also known as patient delay due to various factors owned by the patient end. Secondary delay takes into account the characteristics of patient and accompanying person, doctor and health system related factors. Cancer incidence rates, while still lower compared with many western countries, have been changing over recent decades. [5] One of the main reasons for this changing trend is delay in diagnosis or initiation of treatment at an advanced stage. [6] Prolonged duration of diagnosis and treatment increases the proportion of advanced stages in cancer patients and has an impact on poor prognosis and quality of life. [7] Different types of delay can occur in total duration from onset of symptoms to start of cancer treatment and has classically been defined as primary (duration between onset of symptoms to first presentation to clinician) and secondary (from first presentation to clinician until start of treatment). [8] Primary delay (PD) is also referred to as patient delay owing to the various factors responsible on the patient's end that may include lack of information, poor socio-economic support, financial constraints etc. while secondary or clinician delay (SD) takes into account the patient's characteristics and is also associated with doctor and system related factors. [9]

Objective:-

To identify the factors responsible for delayed presentations of cancer patients to hospitals. Secondary objective is to assess the association among various factors responsible for delayed presentation of cancer patients to hospitals.

Material and Methods

This prospective clinical study involves 118 histopathologically proven cases of cancer registered in Radiotherapy department CIMS, Bilaspur conducted during June 2021 to June 2022.

Patient Inclusion criteria

- Cytologically and histopathologically proven cases of cancers.
- All age group patients.
- ECOG performance score of 0 to 4.

Patient Exclusion criteria

- All previously treated patients

II. RESULTS

Age

The Mean age and Standard Deviation of Patient was 52.47+/-11.99 years. Most of the patients were in the age group of 40 to 60 yrs, and least patients were from less than 30 yrs age group, it shows that the young patients were more aware about the importance of early cancer management more than older patients.

Table 1 Age Interval wise Distribution of Patients

Age (yrs)	Frequency N = 118	Percent
20 - 30	1	0.8
31 - 40	22	18.6
41 - 50	32	27.1
51 - 60	32	27.1
61 - 70	22	18.6
>70 yrs	9	7.6

Gender

55.5% patients were female and 44.1% were male, data depicts that female patients were less informed and aware of cancer treatment than male patients; it also shows that female patients were delayed for getting treatment due to unavailability of accompanying persons.

Table 2 Gender wise Distribution of Patients

Gender	Frequency	(%)
Female	66	55.9
Male	52	44.1
Total	118	100

Socioeconomic Status

53.4% of patients belonged to APL and the rest were BPL. APL patients' delayed presentation is related directly to their choice of taking a second opinion from other centers.

Table 3 SES wise Distribution of Patients

SES	Frequency	(%)
APL	63	53.4
BPL	55	46.6
Total	118	100

Diagnosis

23.7% suffered from Head and Neck cancers, 17% were breast cancer, least were abdominal and colorectal cancers, data clearly depicts that most commonly diagnosed cancers were presented delayed for management.

Table 4 Cancer wise distribution

	Frequency	Percent
Diagnosis		
Head & Neck Cancers	28	23.7
Breast Cancers	20	16.9
Cervical cancers	07	5.9
Colorectal cancers	07	5.9
Esophagus & stomach	05	4.2
Lung cancers	08	6.7
Ovarian cancers	06	5.0
Gall bladder and secondary liver	05	4.2
Lymphoma and Leukemia	09	7.6
Other cancers	23	19.4
Total	118	100

Stage

Patients diagnosed with late stages i.e. 3 & 4 were 76.3% while early stages were only 19% this finding reveals that patients with late stages were delayed for treatment more than that of early disease patients.

Table 5 Stage wise distribution

Stage	Frequency	Percent
Stage I	07	5.9
Stage II	15	12.7
Stage III	38	32.2
Stage IV	52	44.1
Staging N. A.	06	5.1
Total	118	100.0

Population

Patients residing in urban areas were more who delayed the initiation of treatment than rural population due to their choice of taking a second opinion and also due to readily available other alternative treatment modalities like Ayurvedic and homeopathy.

Table 6 Population wise distribution

Population	Frequency	(%)
Rural	55	46.6

Urban	63	53.4
Total	118	100

Illiterate	44	37.3
Primary	26	22.0
Middle	22	18.6
High School	10	8.5
Higher Secondary School	9	7.6
Graduate	6	5.1
Post Graduate	1	.8
Total	118	100.0

Education

Among 118 patients 37.3% patients were recorded illiterate and only 5% patients completed their graduation this data conveys that the cancer awareness is directly proportional to the education more the literacy more is the awareness.

Table 7 Education wise distribution

Education	Frequency	Percent
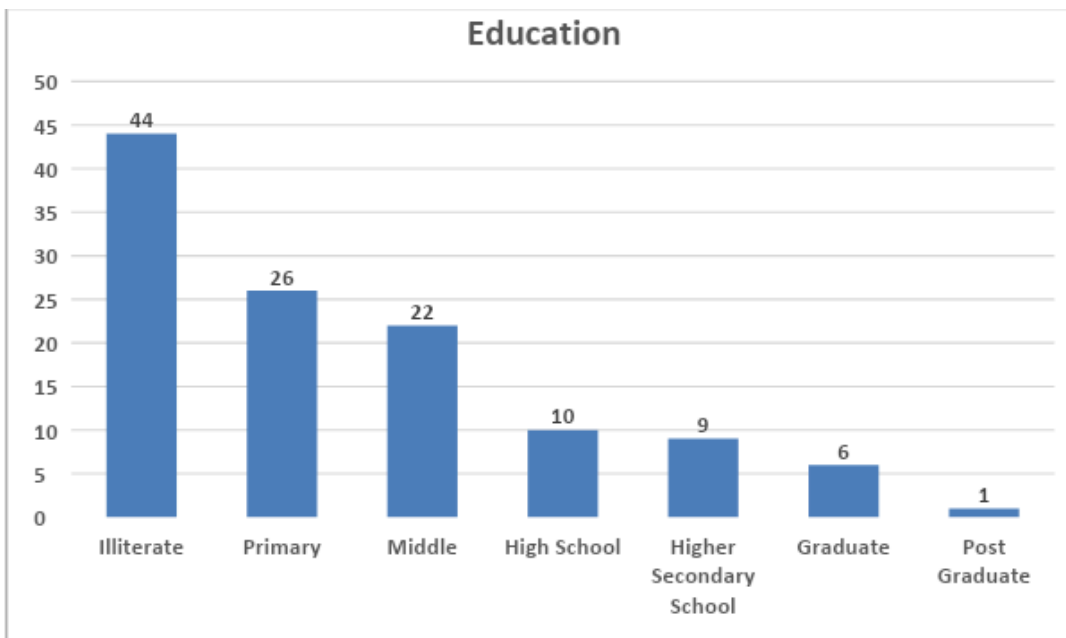
Pattern of Presentation

Most of the patients 41.5% were diagnosed at our centre while 31.4% were diagnosed outside and referred to our center for further management.

Table 8 Pattern of Presentation

Pattern of Presentation	Frequency	Percent
Presented directly and being	49	41.5
diagnosed at our center		
Diagnosed outside and referred to our center for further management	37	31.4
Diagnosed outside and referred to our center following incomplete treatment	32	27.1
Total	118	100.0

>12	03	2.5
Total	118	100.0

Reasons for primary Delay

Among the reasons for primary delay 'lack of knowledge' was found to be the main obstacle in 69.5%, 10.1% patients chose alternative treatment(Ayurved, Homeopathy) after diagnosis before shifting finally to modern medicine,07 patients took self medication while 06 patients received primary treatment from quacks nearby which resulted in progression of diseases thus poor prognosis. 4 patients denied treatment due to apprehension and fear from cancer.

Reasons for Secondary Delay

Table 11 Reasons for Secondary Delay

Reasons	Frequency	Percent
Patient and Accompanying person related	68	57.6
Doctor and Health System related	50	42.4
Total	118	100.0

Table 9 Reasons for primary Delay

Reasons	Frequency	Percent
Lack of Knowledge	82	69.5
Alternative Treatment	12	10.1
Self Medication	07	5.9
Treatment from quacks	06	5.0
Fear From Treatment	04	3.3
Financial Issue	03	2.5
No accompanying person	02	1.7
Corona Vaccination	02	1.6
Total	118	100.0

Reasons for Secondary Delay

Table 12 Reasons for Secondary Delay

Duration of primary delay(in months)	Frequency	Percent
< 1month	90	38.1
1 – 3	09	24.5
3 – 6	04	16.9
6 – 12	08	6.7
>12	16	13.5
Total	118	100.0

Duration for primary Delay

1 month delay for primary treatment was done by 46.6% patients, up to 3 months delay was observed in 24.5%. a 6 month delay was seen in 20 patients while 11 patients did the delay of almost 12 months resulting in disease progression and poor prognosis.

Table 10 Duration for primary Delay

Duration of primary delay(in months)	Frequency	Percent
< 1 month	55	46.6
1 – 3	29	24.5
3 – 6	20	16.9
6 – 12	11	9.3

III. DISCUSSION

This prospective clinical study involves 118 histopathologically proven cases of cancer registered in Radiotherapy department CIMS, Bilaspur conducted during June 2021 to June 2022. The Mean age and Standard Deviation of Patient was 52.47+/-11.99 years. Most of the patients were in the age group of 40 to 60 yrs, and least patients

were from less than 30 yrs age group, results are similar to the study done by **Vivek Tiwari et al (2015)** where they found that the mean age of presentation was 51.05 years (range 7 months-77 years). [10] Our study depicted that the patients from APL (53.4%) SES did the delay more than BPL (46.6%) findings are similar with the study by **RD Neal and VL Allgar (2005)** Sociodemographic factors and delays in the diagnosis of six cancers analysis of data from the "National Survey of NHS Patients : Cancer. Br J Cancer. [11] And study by **L.J.L.Forbes et al (2014)** where they reported 21% delayed presentation for >3 months. Delay was associated with greater socioeconomic deprivation but not age or sex. [12] our study revealed that mong the reasons for primary delay 'lack of knowledge' was found to be the main obstacle in 69.5%, 10.1% patients chose alternative treatment(Ayurved, Homeopathy) after diagnosis before shifting finally to modern medicine, 5.9% patients took self medication while 5% patients received primary treatment from quacks nearby, similar factors were described and recorded by **A.Almuammar et al (2010)** Factors associated with late presentation of cancer : a limited literature review. [13] **A.Almuammar (2019)** Primary health care factors associated with late presentation of cancer in Saudi Arabia. [14] **Christina Mary Dobson et al. (2014)** Patient delay in cancer diagnosis: what do we really mean and can we be more specific? [15] In our study we found that 37.3% patients were illiterate and only 5% patients completed their graduation this data conveys that the cancer awareness is directly proportional to the education more the literacy more is the awareness similar to the finding from study of **Das B. P., Panda, R. R., & Patra, J. (2020).** [15] Comparison of educational status (p=0.001), difference between primary and secondary delay (p<0.05), and socio-economic status (p=0.008) between both the groups were found to be statistically significant.

IV. CONCLUSION

Incidence of cancer is increasing per year in our country at the same time modern diagnostic tools and management facilities are helping us to fight against cancer. Primary delay to treatment is the major culprit for disease progression and mortality of patients. We concluded in our study that the majority of patients were illiterate who delayed the treatment by 1 month. Lack of knowledge is the most common reason for primary delay followed by alternative treatment, self medication, lack of accompanying persons and fear from the treatment.

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