An Analysis Of The Factors Contributing To Non-Completion Of Cancer Treatment In A Regional Cancer Centre In Tamil Nadu

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Abstract:
INTRODUCTION:
- *Early diagnosis and management plays an important role in cancer survival and also in improving the quality of life in cancer patients*
- *Access to cancer treatment is a main factor in early diagnosis and starting of treatment as well as completion of treatment.*
- *Crucial factors that contribute to cancer treatment completion rate are not analysed till now in rural cancer centres*
- *Hence we aimed to retrospectively analyse the treatment completion rate among cancer patients in prospectively collected data in our institute including all malignancies distributed across all stages.*

AIMS AND OBJECTIVES:
To analyse the treatment completion rate in cancer patients across different malignancies and all stages.

MATERIALS AND METHODS:
Patients of any sex and any age group who were diagnosed with biopsy proven malignancies and undertaken treatment policy in tumour board in our institute over a period of 1 year (April 2021 -April 2022) were included in our study after they have satisfied the inclusion and exclusion criteria devised
Patients who fit into our study were divided into two groups based on whether treatment completed or not during the course

RESULTS:
Of a total of 643 patients ,44 patients who were assigned for palliative care were not included in our study. Totally 599 patients were analysed of which, 321 (49.92%) patients have completed the treatment and 278 (43.23 %) patients have not completed the treatment. We identify some primary factors hindering treatment completion rate includes distance from cancer centre, elderly age group , lack of education in the patient and care giver, financial burden including the cost of travel, lack of social and economical support from family, lack of awareness about severity of disease. These factors have to be considered by the cancer hospitals, government health departments and policy makers while planning for comprehensive cancer care in India

Key Word: cancer treatment, treatment completion, factors contributing to non-completion, native treatment, financial causes

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I. INTRODUCTION

One in six deaths globally occur due to cancer and accounts for 10 million deaths per year. the leading cause of death worldwide currently is cancer. In India due to lack of awareness and financial problems, patients are usually diagnosed in advanced stage accounting for low survival rate. Several factors such as financial burden, lack of family support, religious reasons and fear of radiotherapy affect the treatment completion rate in cancer patients. There is no significant difference in cancer mortality in rural as well as urban areas in our country. In this article we are demonstrating the determinants affecting treatment completion rate. The data was taken from prospectively maintained hospital based cancer registry(HBCR) of Govt Arignar Anna memorial cancer hospital

and research institute, Karapettai , Kanchipuram which is a rural regional cancer center in south India Tamil Nadu
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II. MATERIAL AND METHODS

Study centre: Govt Arignar Anna Memorial Cancer hospital, Karapettai , Kanchipuram
Period of study: April 2021 to April 2022
Study design : Retrospective study
Sample size : 643
Inclusion criteria
Patients of any sex and any age group who was diagnosed with biopsy proven malignancies and undertaken
treatment policy in tumour board in our institute
Exclusion criteria
Patients who were assigned palliative care / best supportive care

Patients or their attenders were called up over phone to enquire whether they have completed the treatment and/or
their treatment records were checked.

III. RESULTS

- Of the Total number of 643 patients, 420 patients (65.32%) were female and 223 patients (34.68%) were male
patients.

Table 1 – Male/Female Distribution

TOTAL NUMBER OF CASES -643		
Sex	#	%
Female	420	65.32
Male	223	34.68
Total	643	100.00
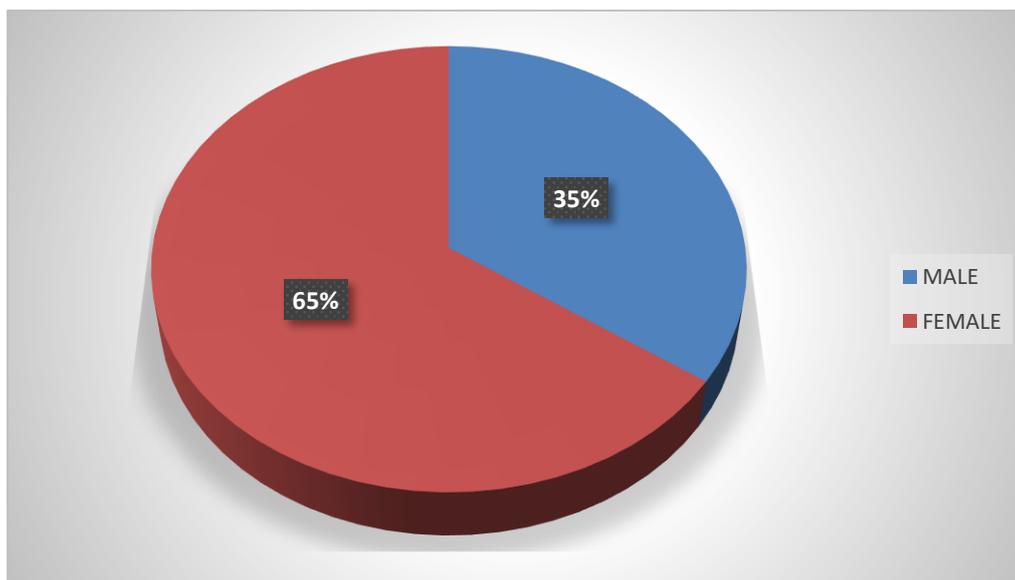
- Of the Total 643 patients, 44 patients(6.84%) – were assigned to palliative care and hence excluded from the
study.

Table 2 - Types of Treatment

SNO	TYPE OF TREATMENT	No. OF PATIENTS
1	CURATIVE TREATMENT	599 – 93.1%
2	PALLIATIVE TREATMENT	44 – 6.84%

- Patients in the age group of 51- 60, constituted the most common age group to receive treatment at our
institute.

Table 3 – Age Wise Distribution of patients

PATIENTS RECEIVING TREATMENT - AGE GROUP WISE		
	#	%
11-20	4	0.62
21-30	17	2.64
31-40	66	10.26
41-50	144	22.40
51-60	**198**	**30.79**
61-70	147	22.86
71-80	56	8.71
81-90	11	1.71
TOTAL	643	100.00
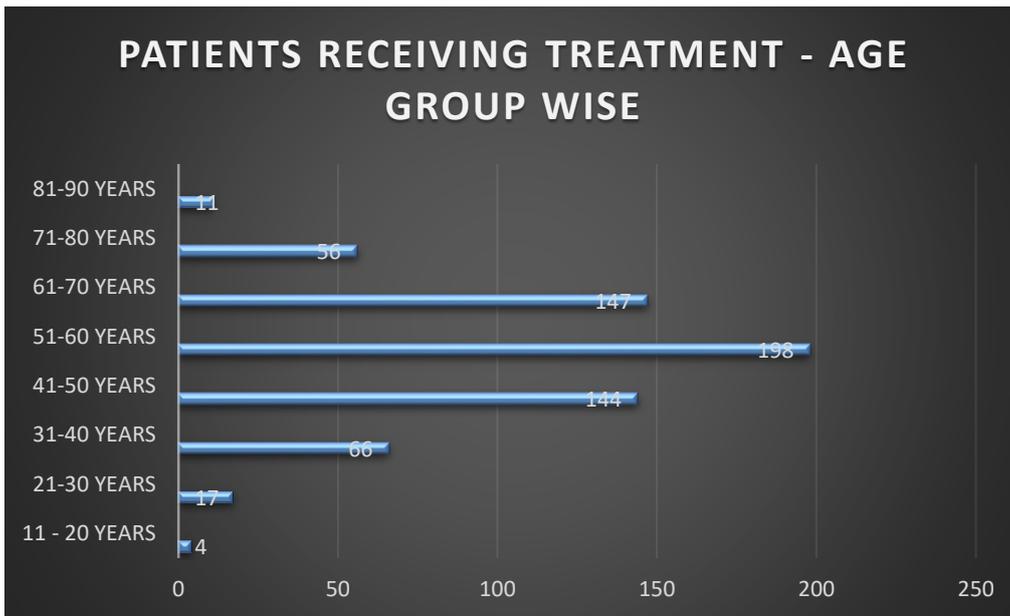
- Of the Total 599 patients, totally 321 patients(49.92%) were able to complete the treatment assigned to them, while 278 patients(43.23%) did not complete the treatment.
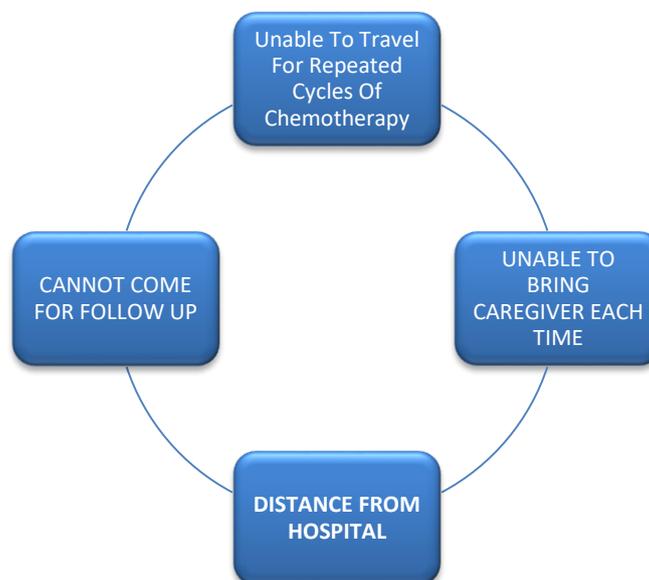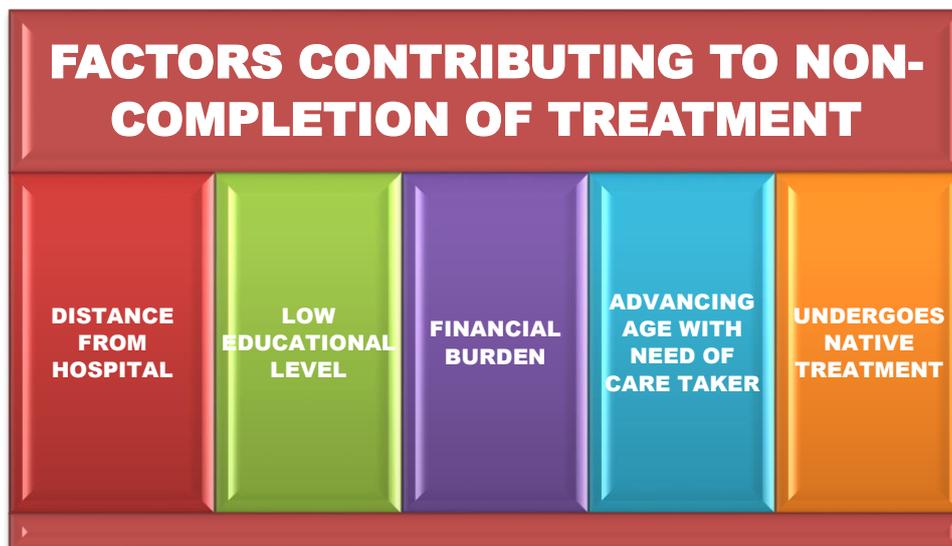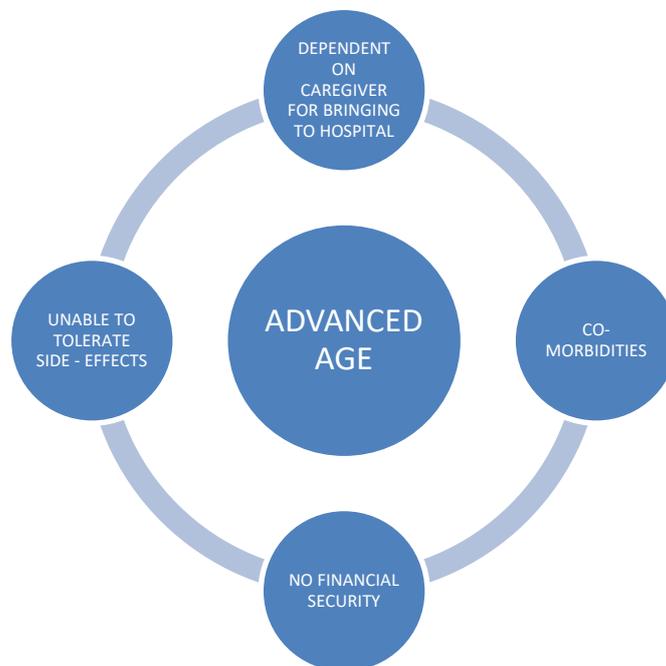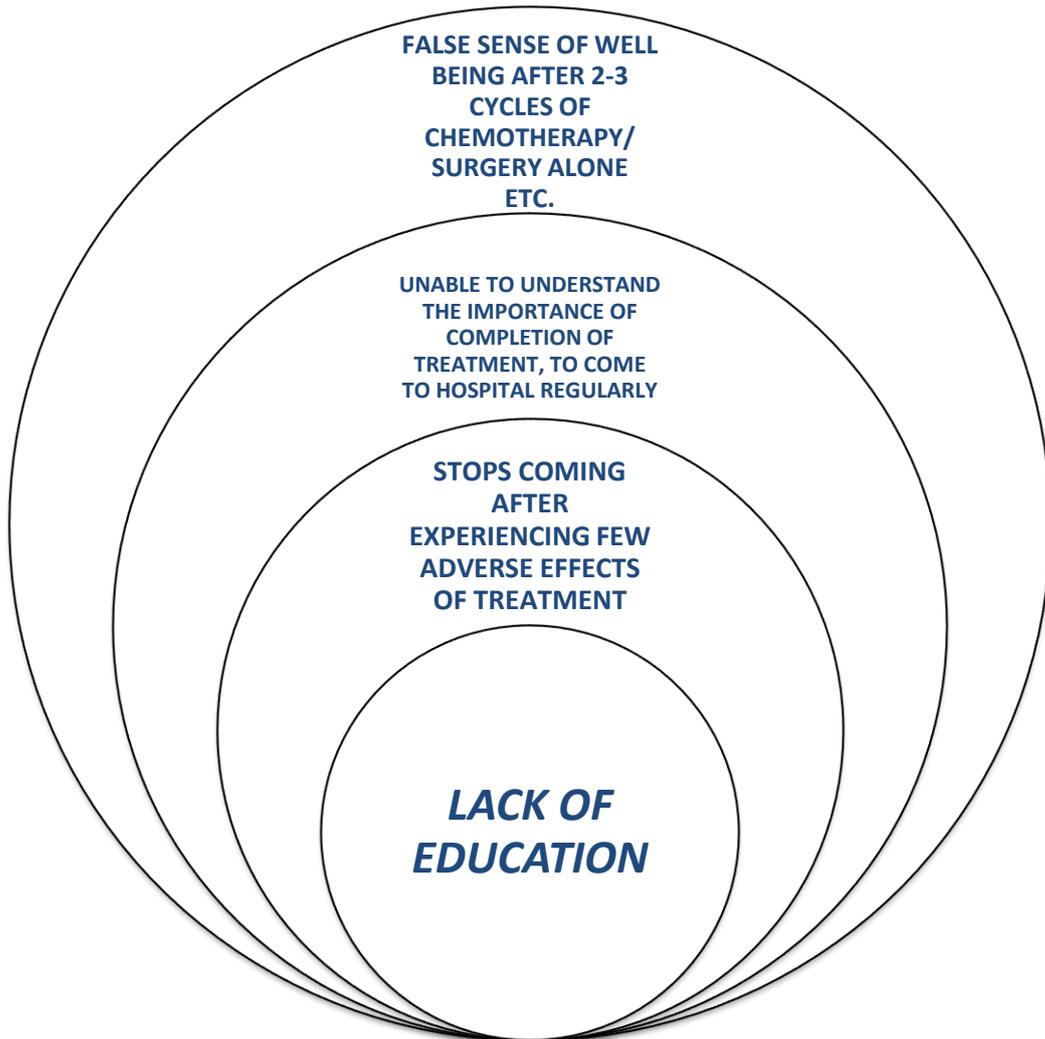
Table 4 – Percentage of patients who completed treatment

COMPLETED TREATMENT	321(49.92%)
NOT COMPLETED TREATMENT	278(43.23%)
TOTAL	599
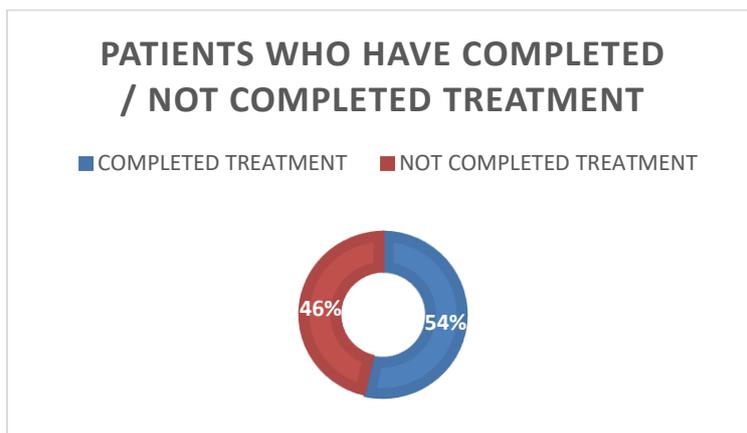
IV. DISCUSSION

- We found that patients who have to travel more than 40 kms are usually diagnosed at an advanced stage, with low compliance to treatment, worse prognosis and poor quality of life. The travel burden plays an important role in cancer treatment completion rate
- Education is an important factor in treatment completion. Patients who have not completed treatment in our study was found to have low literacy rate than who have completed treatment. The educated patients are more likely to complete treatment. It is also found that low literacy rate associated with advanced stage at diagnosis , decreased acceptance and decreased compliance to treatment.
- Financial burden plays an important role in treatment completion. Patients who are eligible for government health insurance schemes , patients with high socio economic status found to have more treatment completion rate. In low and middle income country like India ,most patients did not complete the treatment due to financial barriers. Hence elimination of financial barrier plays an important role in successful completion of treatment.
- Age is also an important factor. We found that old age patients are less likely to complete treatment. This is probably due to the fact that elderly patients are dependent on a care giver for accompanying them. As the most common age group to receive treatment in our institute is 51-60 years followed by 61-70 years, all these patients are dependent on a care taker for accompanying them to hospital, who most of the times are the breadwinner of the family. In case of female care taker, we found that she would be involved in taking care of her family with children and hence unwilling to be the care taker for long.

FACTORS CONTRIBUTING TO NON-COMPLETION OF TREATMENT

| DISTANCE FROM HOSPITAL | LOW EDUCATIONAL LEVEL | FINANCIAL BURDEN | ADVANCING AGE WITH NEED OF CARE TAKER | UNDERGOES NATIVE TREATMENT |

Unable To Travel For Repeated Cycles Of Chemotherapy

UNABLE TO BRING CAREGIVER EACH TIME

DISTANCE FROM HOSPITAL

CANNOT COME FOR FOLLOW UP

FALSE SENSE OF WELL BEING AFTER 2-3 CYCLES OF CHEMOTHERAPY/ SURGERY ALONE ETC.

UNABLE TO UNDERSTAND THE IMPORTANCE OF COMPLETION OF TREATMENT, TO COME TO HOSPITAL REGULARLY

STOPS COMING AFTER EXPERIENCING FEW ADVERSE EFFECTS OF TREATMENT

LACK OF EDUCATION

DEPENDENT ON CAREGIVER FOR BRINGING TO HOSPITAL

UNABLE TO TOLERATE SIDE - EFFECTS

ADVANCED AGE

CO-MORBIDITIES

NO FINANCIAL SECURITY

- In our study, we found that patients shifting to native treatment (Non-Allopathic forms of treatment / Non-approved forms of treatment) formed a significant proportion of the population of the patients who didn't complete their treatment at our institute. The reasons for availing native treatment are multi-factorial with socio-economic and cultural reasons being the main.

- Providing cancer care to all is an important component of cancer control. Boyle et al stated that "prevent all cancers that can be prevented, treat all cancers that can be treated, cure all cancers that can be cured and provide palliation whenever palliation is required". We need to take efforts to provide all the modalities of management. Our priority should be not only to provide the best available treatment to the patients to improve treatment completion rate thereby preventing early death due to cancers but also to discover the other reasons behind patients not completing their treatment and try to mitigate these factors.

V. CONCLUSION

The important findings of this study are that educated patients, young patients, patients who reside nearby hospital, patients with psychosocial family support are more likely to have high treatment completion rate. The other factors such as religion, gender, clinical extent of the disease have not shown any effect on treatment completion rate. Of all the factors associated with negative impact on treatment completion rate, the travel burden and distance from cancer centre is an important factor affecting access to appropriate cancer diagnosis and treatment. Few changes in the health infrastructure including proper referral system can make huge difference in the quality of the care delivered. This study also recommends to raise the awareness among cancer patients about the availability of different state and central government health schemes for financial support. There should be an assisting team of individuals for illiterate patients like social worker/ health guide/ counsellor in addition to the treating oncologist in order to improve cancer care especially in rural cancer centres.

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