Original Research Article

Reasons behind late presentation of cancer patients to radiotherapy department of a tertiary Hospital in Southern Odisha: a cross sectional study

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ABSTRACT

Background: Prevalence of cancer is increasing worldwide. Early diagnosis with appropriate therapeutic interventions is essential for better treatment outcome. Identification and necessary modifications of factors responsible for delayed presentation might increase the life expectancy or quality of living. This study aims to identify the factors responsible for delayed presentation of cancer patients to radiotherapy department.

Methods: This is a quantitative descriptive study, done with in a period from August 2018 to October 2019, among 120 cancer patients of different stages presenting to OPD of Radiotherapy department of M.K.C.G Medical College. Data were collected by using pretested semi-structured questionnaires, entered into Microsoft Excel and analyzed by using SPSS version 20.0.

Results: A total of 120 cancer patients, 60 from each early and late stage had participated in the study. The mean age of presentation was 53.19 years. The number of male patients were 54 and female were 66. Maximum patients had addiction of chewing tobacco. When the time interval from appearance of symptoms to diagnosis were compared, 1 – 3 months were taken by 45% of early stage and 28.3% of late stage patients. Similarly, <1week time was taken from diagnosis to start of treatment in 25% and 13.3% in respective groups. 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.

Conclusions: Factors responsible for delayed presentation are related both to patient and system. Educating common people regarding early sign symptoms, emphasizing early detection at grass root level, proper referral and by upgrading existing oncology facilities, we can avoid adverse treatment outcome.

Keywords: Cancer, Delayed presentation, Education, Primary delay

INTRODUCTION

Cancer is one of the leading causes of death in many countries despite the advancement in cancer treatment and diagnosis.[1] According to the World Health Organization (WHO 2006), cancer is one of the leading causes of death worldwide. Deaths from cancer are projected to continue rising, with an estimated 9 million people dying from cancer in 2015 and 11.4 million dying in 2030 (WHO 2006).[2] Qualitative studies implicate knowledge of cancer symptoms and attitudes towards help-seeking as important factors in patient delay. Greater knowledge of early cancer symptoms is associated with a higher likelihood of having appraised a symptom as

possibly due to cancer and more negative attitudes towards help-seeking are associated with a lower likelihood of having sought medical advice for that symptom.[3] Delay of presentation can be explained in two ways, the time interval from appearance of symptoms to first presentation before the clinician is considered as primary delay (PD) and the time gap from the first visit to the oncologist until start of treatment is taken as secondary delay (SD).[4]

Primary objective of the study was to assess the factors responsible for delay in coming to the Radiotherapy OPD (RT OPD) among patients suffering from different stages of cancer. Secondarily, the association between the factors responsible.

METHODS

It was a hospital based cross-sectional study carried out in M.K.C.G Medical College from August 2018 to October 2019. A total of 120 patients were recruited with 60 patients from each group of early and late stage of cancers attending the Radiotherapy OPD. Study subject includes adult age group patients both male and females with all types of cancer patients.

Inclusion criteria

All diagnosed cases of cancer with complete staging.

Exclusion criteria

Patients who did not give their consent to be in the study.

Data collection

Patients with cancer Stage- I and II were taken as early stage (Group-1) and those in stage-III and IV were considered as late stage (Group-2). Patients were selected randomly for each group after taking consent. Data regarding socio-economic condition, educational status, occupation, addiction were collected by using predesigned pretested questionnaire by Google form. Information regarding disease history, cancer stage, symptoms, previous treatments other than allopathic (Ayurvedic / Homeopathy etc), pattern and duration of presentation from appearance of symptoms were also included. Knowledge and believes regarding cancer, its management and treatment outcome were also collected.

Statistical analysis

Data were collected by using pretested semi-structured questionnaires, entered into Microsoft Excel and analyzed by using SPSS version 20.0.

RESULTS

A total of 120 newly diagnosed cancer patients attending the RT OPD were taken prospectively in the study to find

out various causes of late presentation that is at a higher stage of disease. All the patients were divided into two groups according to the stage of cancer at the time of appearance before the oncologist. Both the group includes 60 patients each. Out of that 45% (54/120) were males and 55% (66/120) were females. Mean age of males and females were 53.94 years (±11.28) and 52.57 years (±11.45) respectively. Approximately 75% (90/120) of the patients belong to 31 to 60 years of age and about 23.33% (28/120) belong to age group more than 60 years. (Table 1).

Table 1: Age and sex wise distribution.

Characteristics	Number (%)
Total no of subjects	120
Male	54 (45)
Female	66 (55)
Mean age of males (years)	53.94±11.28
Mean age of females (years)	52.57±11.45

Majority of patients were diagnosed with head and neck cancer (40.83%) followed by gynecologic malignancies (25%). Genito-urinary, breast and gastrointestinal cancers constitute 13.3%, 7.5% and 5.8% respectively. Out of total population 75.8% of patients were from rural area, 15% of patients belong to semi-urban area and 9.1% of patients were residing in urban areas. According to the educational status, 48.3% of the population were illiterate, 31.7% patients had attended primary school, 17.5% had completed 10th standard and 2.5% had higher education (Figure 1). Addiction of tobacco chewing was found in 41.6% patients followed by Gudakhu use (a paste like form of tobacco) in 11.6% of the population and rest of the subjects did not have any addiction. Time interval of less than one week from diagnosis to start of treatment in Group I and II were found to be 12.5% and 6.6% respectively. Similarly, time interval between 1 - 4 weeks in both the group was found to be 37.5%.
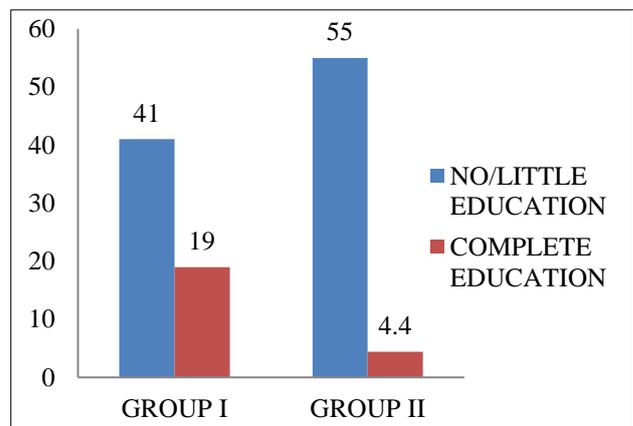

Figure 1: Comparison of education level of cases in both the groups.

According to the patterns of presentation patients were divided into three groups. The patients those attended RT

OPD directly were considered as Group-A and were 27.5%, with mean primary delay (PD) 81.78 days ranging from 14 - 245 days and mean secondary delay (SD) 47.7 days ranging from 4 - 135 days. Patients diagnosed outside and referred to RT OPD (Group-B) were 65% who had mean PD 161.3days (range 20 - 360days) and mean SD 136days (range 4 - 380 days). Similarly, patients diagnosed outside, received treatment and then referred to RT OPD (Group C) were 7.5% having mean PD 223.2 days (range 75 - 390 days) and SD 195days (range 6 - 345 days). On statistical analysis, pattern of presentation were found to be statistically significant with PD (p = 0.038) and SD (p= 0.40) (Figure 2). Previous knowledge about cancer in Group I (34.16%) was greater than Group II (16.6%) and was found to be statistically significant (p value <0.001) (Figure 3).
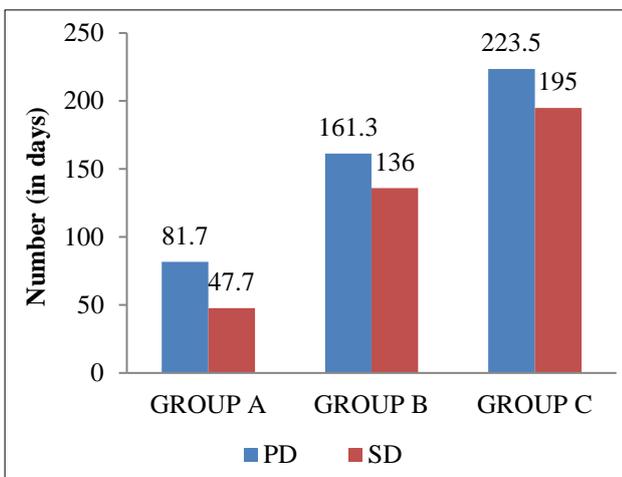

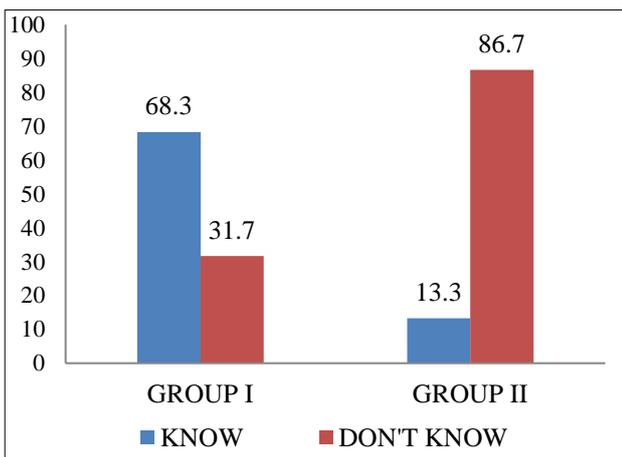**Figure 2: Comparison of delay to pattern of presentation.**

Figure 3: Distribution of cases on the basis of their previous knowledge of cancer.

Similarly, the knowledge about causes cancer in Group I (31.6%) was found to be greater than Group II (10.8%), which was also found to be statistically significant (p <0.001) (Figure 4). Similarly, educational level (p = 0.001) and SES (p= 0.008) were found to be statistically

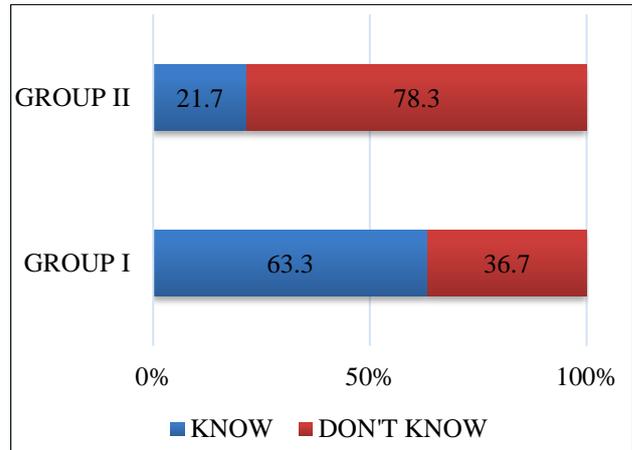significant in two subsets of patient groups I and II (Table 2).

Figure 4: Distribution of cases according to knowledge of causes of cancer.

Table 2: Socio-demographic and clinical characteristics.

Characteristics	Number
Educational level	
Illiterate	58
Primary school	38
High school	21
College	03
Site wise distribution of cancer	
Head and Neck	49
Gynecologic	30
Genito-urinary	16
Breast	09
GI	07
Others (Lungs, Lymphomas, CNS etc)	09
Residency	
Urban	11
Semi-urban	18
Rural	91
SES	
Low	85
Medium	35
Addictions	
Smokeless (Tobacco chewing, Gudakhu)	64
Smoking	06
Alcohol	03
No addiction	47
Patterns of presentation	
Directly to RT OPD	33
Diagnosed outside and referred to RT OPD	78
Diagnosed, received Tt and referred to RT OPD	09
Time interval from diagnosis to start of treatment	
<1week	23
1 - 4 weeks	90
>4 weeks	07

DISCUSSION

Now-a-days, cancer has become a global burden in the community. Appropriate management of cancer requires a complex diagnostic evaluation and is a stepwise process hence invariably prone to delays.[1] The problems related to delay are mainly due to various limitations in social and treatment grounds.

Better knowledge of the signs and symptoms of cancer may help people to recognize the deadly disease at an early stage and therefore reduce appraisal delay, while more positive attitudes towards help-seeking may reduce behavioral delay.[2,5] In this study, 68.3% of patient diagnosed in early stage of cancer have previous knowledge about cancer, whereas only 13.3% patients diagnosed in late stage had some knowledge . Similarly, 63.3% of patients in early stage and 21.6% of patients in late stage have knowledge about various causes of cancer. This suggests that lack of awareness about cancer may be the cause of delayed presentation.

Men and women with no education had higher overall cancer incidence rates compared to the educated population.[5-8] Here, in this study 81.6% of patients presenting in late stage are illiterate which may indirectly indicate the lack of knowledge about cancer in this subset. Patient's socioeconomic characteristics are predictors of patient, doctor and system related delay in cancer diagnosis and treatment. Lower social class groups had longer delays than higher social class groups. This may be as a result of lower levels of knowledge, lack of awareness, low economic condition and negligence towards significant cancer symptoms, leading to poorer access to health services.[1,8-10] Similarly, in this study 70.8% patients belongs low economic status of which 57.6% diagnosed in late stage. These results favor that low socio-economic status may be one of the causes for delayed presentation. Where gender differences existed, female subjects had longer delays than male subjects.[6,9] House hold works and more domestic responsibilities in Indian women contribute towards their negligence for availing health care facilities.

Younger people had longer delays than older people. This may be because cancer is rarer in younger people, so is more likely to go unnoticed by both patients and their health professionals.[10] Here, maximum patients belong to age group between 31 to 60 years, of which 65.6% have diagnosed outside and referred to RT OPD. Use of smokeless tobacco may be the reason for highest percent of patient suffering from Head and Neck cancer.[1,11] As in this study maximum subjects had addiction of smokeless tobacco, so higher percentages were suffering from head and neck cancer. According to areas of living, 75.8% belongs to rural area and of whom 52.7% were diagnosed in late stage of cancer. This suggests rural residency may have some hindrance in attending tertiary hospitals which may be a result of prevalence of various myths, disbelieves and alternative medicines in rural areas.

Similar study has shown the statistical significance between primary delay and patient presenting directly to the medical college.[1] In this study PD in group A, B and C were found to be 81.78 days, 161.3 days and 223.2 days respectively. Similarly, SD in these groups was found to be 47.7days, 136 days and 195 days respectively. Both PD and SD are lowest in the group that attended the RT OPD directly.

Although educational status, knowledge have come significant for patients related to diagnosed early late stage, still the specific causes related to primary and secondary delay has to be find out were few limitations of this study. Reason for the delay in different cases of cancer should be studied separately to find out more disease specific causes for delay in health seeking behavior.

CONCLUSION

Factors responsible for delayed presentation are related both to patient and system. There are some modifiable factors like knowledge, awareness that can be helpful in preventing the primary delay. Educating common people regarding early sign symptoms, emphasizing early detection at grass root level may also be helpful. Likewise, proper referral and by upgrading existing oncology facilities secondary delay can be prevented by which adverse treatment outcome can be avoided.

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