

Improving Treatment Compliance among Oncology Patients due to Lack of Radiotherapy Facilities at District General Hospital, Hambantota

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Abstract- The incidence of cancer is increasing globally, and Sri Lanka is no exception. Radiotherapy which has been recognized as the single most important type of oncological treatment for cancer patients, is only available at six oncology units in the country [1]. Therefore, patients of DGH Hambantota requiring radiotherapy treatment were referred to TH Karapitiya and Apeksha Hospital Maharagama, leading to a significant proportion defaulted from radiotherapy treatment (80%).

The team at DGH Hambantota recognized two major issues responsible for default follow up of oncology patients requiring radiotherapy treatment; inability to travel to referred hospitals due to poor socioeconomic status of patients and long waiting time at referred hospitals. This project has minimized the percentage of defaulted patients requiring radiotherapy treatment from 80% to 11.11% (n = 84) following a year after the implementation of the project.

Index Terms- Compliance, Cost-effective, Oncology, Radiotherapy,

Introduction

District General Hospital Hambantota is the premier Tertiary Care hospital in the district consisting of 655 beds and provides services to an average of 700 patients daily at the Outpatient Department while 300 patients are admitted to the hospital daily.

The incidence of cancer is increasing globally, and the trend in Sri Lanka is no exception. Neoplasms has been identified as one of the leading causes of hospitalization and death in the country with a total number of 23,530 new cases of cancer detected in year 2018 [2,3]. However, with its rising incidence, clinical management of cancer continues to be a challenge in the current era.

Radiotherapy has been recognized as the single most important type of oncological treatment for cancer patients, that cures over 40% of patients with curative cancers compared to a cure rate of less than 10%, achieved with chemotherapy [1]. At present there are only six oncology units in the country with radiotherapy facilities; Apeksha Hospital, Teaching Hospital Kandy, Teaching Hospital Karapitiya, Teaching Hospital Jaffna, Teaching Hospital Anuradhapura and Provincial General Hospital Badulla, that are managed by only twenty-two consultant Oncologists despite having over 50 board certified Oncologists serving the country covering almost all districts.

Neoplasms has been identified as one of the leading causes of death in the Hambantota district [3]. Thyroid cancer, the third most common cancer in Sri Lankan females, is one of the most frequently identified cancers in Hambantota district and radiotherapy is an important adjuvant treatment in the management of thyroid cancer [4, 5]. This treatment was only available at TH Karapitiya and Apeksha hospital Maharagama prior to implementation of this project, that resulted in an unacceptably delay in acquiring treatment (Table 01).

Table 01: Oncology Clinic statistics during 2016/2017

	2016	2017
No. of clinic patients	713	1121
No. of first visits	159	177
No. of subsequent visits	554	944
No. of patients referred for radiotherapy	332	566
No. of defaulted radiotherapy patients	265	453
Monthly average of defaulted radiotherapy patients	22	38

The project was designed to improve treatment compliance among oncology patients due to lack of radiotherapy facilities at District General Hospital, Hambantota. The administration and oncology team at DGH Hambantota focused on addressing two major issues responsible for default follow up of oncology patients requiring radiotherapy treatment at the hospital; inability to travel to referred hospitals due to poor socioeconomic status of patients and long waiting time at referred hospitals.

Research Elaborations

Methodology

Measures taken to address the need to provide radiotherapy treatment for oncology patients of DGH Hambantota

A) Pre- Implementation Stage

1. At national level

Multiple key informant interviews with Director General of Health Services, Deputy Director General / Medical Services, Director/ DGH Hambantota, Director/ Provincial General Hospital Badulla and Clinical Oncologists resulted and appointing two radiotherapists to the radiotherapy planning unit at DGH Hambantota and agreement to provide radiotherapy treatment for oncology patients of DGH Hambantota at PGH Badulla.

2. At Hospital Level

Directors of DGH Hambantota and PGH Badulla, Clinical Oncologists, physicist at PGH Badulla along with administrative officers and accountants at institutional levels, conducted several meetings to develop operational and financial policies. Hence, following strategies were formulated.

I. Establishing a low-cost radiotherapy planning unit

II. Acquiring a physicist to the radiotherapy planning unit

III. Consensus reached to formulate radiotherapy treatment plan by Oncology team at DGH Hambantota and treatment to be carried out by Oncology team at PGH Badulla

IV. Routine transportation of patients to and from PGH Badulla

B) Implementation Stage

I. Establishing a low-cost radiotherapy planning unit at DGH Hambantota

As a result of limited finances, it was decided to utilize a modified diagnostic CT scanner as a simulator for planning scans, a mould room was acquired at a very low cost of LKR 4.5 million and a planning system software was acquired at a low cost of LKR 9.9 million.

II. Acquiring a physicist to the radiotherapy planning unit

The physicist allocated to DGH Hambantota, was given to the National Cancer Institute in the absence of a unit previously. The administration of DGH Hambantota successfully re-absorbed the physicist amidst trade union objection.

III. Patient Care

Radiotherapy treatment required by patients was planned by the oncology team at DGH Hambantota and the treatment is carried out by the oncology team at PGH Badulla. The consultant Oncologist at PGH Badulla takes the entire responsibility of patient care during radiotherapy but is not burdened with the treatment planning work. Patients are admitted to DGH Hambantota on Monday and are transferred every Tuesday morning with planned radiotherapy treatment with no additional transport and other expenditure, weekly to PGH Badulla to carry out the treatment, scheduled to commence radiotherapy on the following day.

As a result of this arrangement, waiting time of patients did not exceed 01 month as PGH Badulla had an allocated number of 20 – 25 patients monthly from DGH Hambantota as an initial measure.

IV. Patient transport

The ambulance, ambulance driver, patient attendant and physicist were already part of the hospital cadre therefore, their salaries weren't an additional cost. Fuel to and from DGH Hambantota to PGH Badulla (132 KM away), four total trips a month was the only additional cost which amount to LKR 40,000.

The care and treatment provided to patients at this additional cost is invaluable.

C) Post Implementation Stage

The number of patients attending the oncology clinic and the number of patients requiring radiotherapy treatment gradually increased since the establishment of the oncology unit.

Results or Finding

Prior to implementation of this project in year 2016 and 2017, 80% of patients requiring radiotherapy had defaulted treatment whereas the percentage of defaulted patients reduced to 11.11% (n = 84) in year 2018, 5% (n = 4) in year 2019 and 7% (n=5) in year 2020.

Table 02: Oncology Clinic and Unit statistics during 2016-2020

	2016	2017	2018	2019	2020
	Pre -Interventional Stage		Post- Interventional Stage		
No. of clinic patients	713	1121	1573	1924	1876
No. of first visits	159	177	312	657	638
No. of subsequent visits	554	944	1261	1267	1238
No. of patients referred for radiotherapy	332	566	756	920	895
No. of defaulted radiotherapy patients	265	453	84	46	62
Monthly average of defaulted radiotherapy patients	22	38	7	4	5
% of defaulted radiotherapy patients	79.8	80	11.1	5.0	7.0

Conclusions

This solution is economically sound with minimal out of pocket expenditure for patients as it's the same as admitting to DGH Hambantota with no additional transport and other expenditure for patients. PGH Badulla now accommodates 10 patients weekly instead of 05 patients from DGH Hambantota. This project was a cost-effective project and was designed to work with limited available resources.

APPENDIX

DGH- District General Hospital
PGH- Provincial General Hospital
TH- Teaching Hospital
LKR- Sri Lankan Rupees

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