

## RADIOTHERAPY SERVICES IN CANCER MANAGEMENT AT THE LAGOS UNIVERSITY TEACHING HOSPITAL, IDI-ARABA; PATIENTS PERSPECTIVE.

<sup>1</sup>Sowunmi AC, <sup>1</sup>Ibitoye AZ, <sup>1</sup>Alabi AO, <sup>2</sup>Fatiregun OA

<sup>1</sup>Department of Radiation Biology, Radiotherapy, Radiodiagnosis & Radiography, College of Medicine Lagos University Teaching Hospital, <sup>2</sup>Cancer screening and Treatment/Oncology Unit, Lagos State University Teaching Hospital, Ikeja.

*Correspondence and reprint request to: Sowunmi Anthonia C,*  
Department of Radiotherapy, Lagos University Teaching Hospital, Idi-araba, Lagos, Nigeria.  
**eMail:-** [toniasow@yahoo.com](mailto:toniasow@yahoo.com)

### ABSTRACT

**Background:** Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. The incidence of cancer is on the increase, due to growth and ageing of the global population. More than half of all cancers (56.8%) and cancer deaths (64.9%) in 2012 occurred in less developed regions of the world, and these proportions will increase. The treatment of cancer has undergone evolutionary changes as understanding of the underlying biological processes has increased. It is estimated that 52% of cancer patients need the service of Radiotherapy at least once at one time or the other during the course of their disease. **Objective:** To determine the knowledge of Radiotherapy as a treatment modality in Cancer Management and to assess the perception to Radiotherapy services among patients receiving treatment at the Radiotherapy department of the Lagos University Teaching Hospital Idi-araba. **Method:** Data collection was by semi structured questionnaires filled by all patients undergoing radiotherapy in the Radiotherapy department of Lagos University Teaching Hospital over a period of two months. A total of 93 questionnaires were reviewed. Data obtained were collated and analyzed using SPSS statistics [Social Sciences Statistical Package] 17.0 version. **Results:** Majority, Fifty six (60.2%) of the respondents were from the age group of 41-65. Seventy-four (79.6%) respondents had not heard of radiotherapy before they started treatment. Sixty-one (65.6%) of the respondents said they were properly informed about radiotherapy before they started the treatment. Seventy-two (77.4%) respondents think radiotherapy is effective and 90 (96.8%) respondents said radiotherapy is too expensive. Majority, Forty eight (51.6%) said the waiting time before they receive treatment is too long.

**Keywords:** Cancer, Radiotherapy, Patients, Perception

### INTRODUCTION

Radiotherapy uses high-energy radiation to shrink tumors and kill cancer cells. X-rays, gamma rays, and charged particles are types of radiation used for cancer treatment. Radiotherapy can either damage DNA directly

or create charged particles (free radicals) within the cells that can in turn damage the DNA.<sup>1</sup>The radiation may be delivered as external-beam radiotherapy or brachytherapy. Systemic radiotherapy uses radioactive substances, such as radioactive iodine, that

travel in the blood to kill cancer cells.<sup>1</sup> Sometimes radiotherapy is used with other types of cancer treatment, such as chemotherapy and surgery, and sometimes it is used alone. As cancer incidence grows, so does the demand for Radiotherapy services. About half of all cancer patients receive some type of radiotherapy sometime during the course of their treatment.<sup>2</sup> It is estimated that 52% of cancer patients need the service of radiotherapy at least once at one time or the other during the course of their disease.<sup>3</sup> However, not all of the African countries have Radiotherapy facilities and most of the available centers are in many cases inadequately equipped and under staffed.<sup>4</sup> Majority of the cancer cases seen in Nigeria are locally advanced and metastatic diseases usually requiring palliation with radiotherapy.<sup>3</sup>

Cancer may be treated with surgery, radiotherapy, chemotherapy, hormone therapy, biological therapy and targeted therapy. The choice of therapy depends upon the anatomical site, grade of the tumor and the stage of the disease, as well as the general state of the patient (performance status).

Ideally before commencement of Treatment, patients should be properly prepared and counseled to enable the patients to cope and thus comply with the treatment modality. Treatment with radiotherapy is characterized by a complex schedule of appointments planned within a relatively short period of time, in which many different healthcare providers are involved. It is essential that patients experience the best quality of radiation care possible.<sup>5,6</sup> Patients' perception means the way in which the radiotherapy services are understood or interpreted,<sup>7</sup> this will go a long way to improve compliance and clinical outcomes of Radiotherapy Treatment. There is however paucity of published data on patient's knowledge and perception towards

Radiotherapy treatment. These experiences vary between individuals but shape their responses to their disease and experience of the illness. The aim of this study is to determine the level of knowledge of radiotherapy among cancer patients undergoing radiotherapy treatment and assess the radiotherapy services rendered to them.

## METHOD

### Study Area

The study was carried out in the Radiotherapy department of Lagos University Teaching Hospital Idi-araba, Surulere; which is one of the seven public centers for management of cancer in Nigeria. The study is a cross sectional study carried out using semi structured questionnaires. The target population included all cancer patients undergoing radiotherapy treatment at the Lagos University Teaching Hospital.

One hundred (100) questionnaires were distributed but only ninety-three (93) were returned. The data was collected over a period of eight weeks [July 2012 to August 2012]. The questionnaire was divided into four (4) sections; Socio-demographic data, Knowledge of cancer, knowledge of radiotherapy and perception of radiotherapy. The questions consisted of multiple choice questions, checklist and options of free responses which included age, gender, marital status, ethnic group, distribution of the cancer types, sources of information, perception of radiotherapy, radiotherapy services and side effects experienced by patients after treatment.

Ethical approval was obtained from the Ethics Unit of the Hospital. Completed questionnaires were collated and analyzed using SPSS Statistics [Social Sciences Statistical Package] 17.0 version.

**RESULTS**

Ninety three cancer patients undergoing about radiotherapy services at the hospital. radiotherapy in the radiotherapy department Questionnaires consist of patients' socio- of Lagos University Teaching Hospital demographic data, knowledge of cancer, and completed the questionnaires distributed to knowledge of radiotherapy and perception of them to assess their knowledge about radiotherapy services. Radiotherapy and assess their perception

TABLE 1: Socio-demographic characteristics of the respondents.

DEMOGRAPHIC CHARACTERISTIC	FREQUENCY	PERCENTAGE
<20	1	1.1
21-40	20	21.5
41-65	56	60.2
66 & Above	16	17.2
GENDER		
MALE	24	25.8
FEMALE	69	74.2
MARITAL STATUS		
Single	7	7.5
Married	72	77.4
Widow	14	15.1
ETHNIC GROUP		
Hausa	0	0
Igbo	30	32.3
Yoruba	38	40.9
Others	25	26.9
RELIGION		
Christianity	73	78.5
Islam	20	21.5

Majority of the respondents, 56(60.2%) are from the age group of 41-65years, followed by 20(21.5%) within 21-40years of age and 16(17.2%) from the age group of 66years. 69(74.2%) of the respondents were females while 24(25.8%) are males. 72(77.4%) are married amongst the respondents, 7(7.5%) are single while 14(15.1%) are widowed. 38(40.9%) are Yoruba while 30(32.3%) are Igbo and 25(26.9%) are from other ethnic groups. There was no Hausa respondent, 73(78.5%) respondents practice Christianity while 20(21.5%) practice Islam (Table 1).

TABLE 2: Distribution of the types of cancer.

TYPES OF CANCER	FREQUENCY	PERCENT %
Bladder cancer	1	1.1
Breast cancer	47	50.5
Cancer of the tongue	2	2.2
Cervical cancer	12	12.9
Dermatosarcoma	4	4.4
Endometrial cancer	2	2.2
Head and neck tumor	11	11.9
Lung cancer	1	1.1
Ovarian tumor	1	1.1
Prostate cancer	8	8.6
Rectal cancer	4	4.0
<b>Total</b>	<b>93</b>	<b>100</b>

Majority 47(50.5%) of the respondents had breast cancer, 12(12.9%) of the respondents had cervical cancer, 11(11.9%) had head and neck tumors, 8(8.6%) had prostate cancer, 4(4.3%) had rectal cancer, 2(2.2%) had cancer of the tongue, 4(4.4%) had dermatosarcoma, 2(2.2%) of the respondents had endometrial cancer and 1(1.1%) had cancer of the bladder (Table 2).

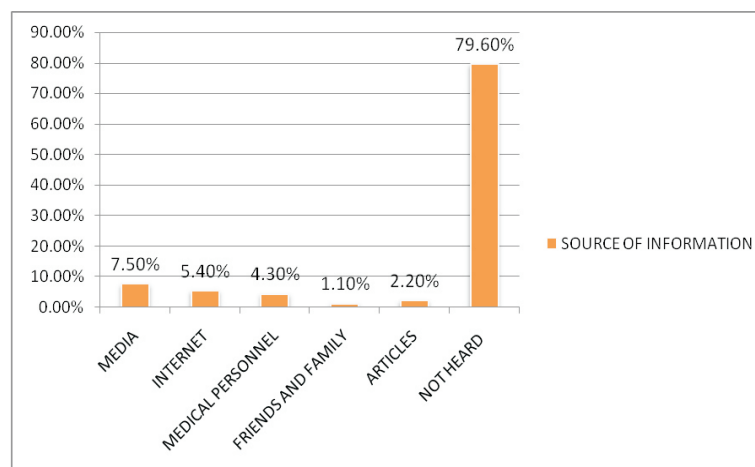


Figure 1: Sources of Information of Radiotherapy Prior Treatment.

Most of the respondents 74(79.6%) had not heard of radiotherapy before they became sick. 7(7.5%) got their information from the media, 5(5.4%) through the internet, 4(4.3%) from medical personnel, 1(1.1%) from friends and family, and 2(2.2%) knew about radiotherapy through articles (Figure 1).

TABLE 3: Perception of Radiotherapy And Services

VARIABLES	FREQUENCY	PERCENTAGE
DEFINITION OF RADIOTHERAPY		
Treatment of cancer with radiation	46	49.5
Treatment of cancer with chemical	4	4.3
Surgical removal of tumor	3	3.2
Other definitions	7	7.5
I don't know	33	35.5
ASSESSMENT OF RADIOTHERAPY SESSIONS		
VERY GOOD	18	19.4
GOOD	37	39.8
FAIR	36	38.7
BAD	2	2.2
PREFERENCE OF RADIOTHERAPY TO OTHER TREATMENT MODALITIES		
Radiotherapy is less painful	17	18.3
Radiotherapy's side effects are minimal	31	33.3
Radiotherapy workers are nice	3	3.2
Preference of other treatments	5	5.4
No preference	37	39.8
ASSESSMENT OF INFORMATION (well informed)		
YES	61	65.6
NO	32	34.4

46(49.5%) of the respondents defined radiotherapy as the treatment of cancer with radiation, 4(4.3%) of the respondents defined it as the treatment of cancer with chemicals, 3(3.2%) of the respondents defined it as the surgical removal of tumor and 33(35.5%) could not define radiotherapy at all (Table 3). 37(39.8%) of the respondents rated the sessions so far as good, another 36(38.7%) as fair, 18(19.4%) rated it as very good while 2(2.2%) respondent rated it as bad. 5(5.4%) prefer other treatments to radiotherapy, 17(18.3%) prefer radiotherapy treatment because it's less painful, 31(33.3%) prefer radiotherapy because it's side effects are minimal, 3(3.2%) prefer radiotherapy treatment because the radiotherapists are nice, 37(39.8%) had no preference (Table 3). More than half of the respondents 61(65.6%) said they were properly informed about radiotherapy before they started radiotherapy treatment, 32(34.4%) said they were not properly informed about the treatment (Table 3).

TABLE 4: Side effects experienced by respondents.

SIDE EFFECTS	FREQUENCY	PERCENT %
Skin desquamation	11	11.8
Loss of appetite/ taste	6	6.4
Dryness of throat	14	15.1
Skin rash	4	4.3
Nausea	8	8.6
Body ache	2	2.2
Skin pigmentation	1	1.1
Diarrhea	2	2.2
Dysentery	2	2.2
Fatigue	9	9.6
Fever	3	3.2
Heat	5	5.3
Cold	2	2.2
No side effect	24	25.8
<b>TOTAL</b>	<b>93</b>	<b>100</b>

Majority of the respondents experienced radiotherapy side effects; 11(11.8%) had skin desquamation, 6(6.4%) had loss of taste/appetite, 14(15.1%) had dry throat, 4(4.3%) had skin rash, 8(8.6%) had nausea, 1(1.1%) body ache, 1(1.1%) had dark pigmentation of skin, 2(2.2%) had diarrhea, 2(2.2%) had dysentery, 9(9.6%) are fatigued, 3(3.2%) had fever. 24(25.8%) said they did not experience any side effect (Table 4).

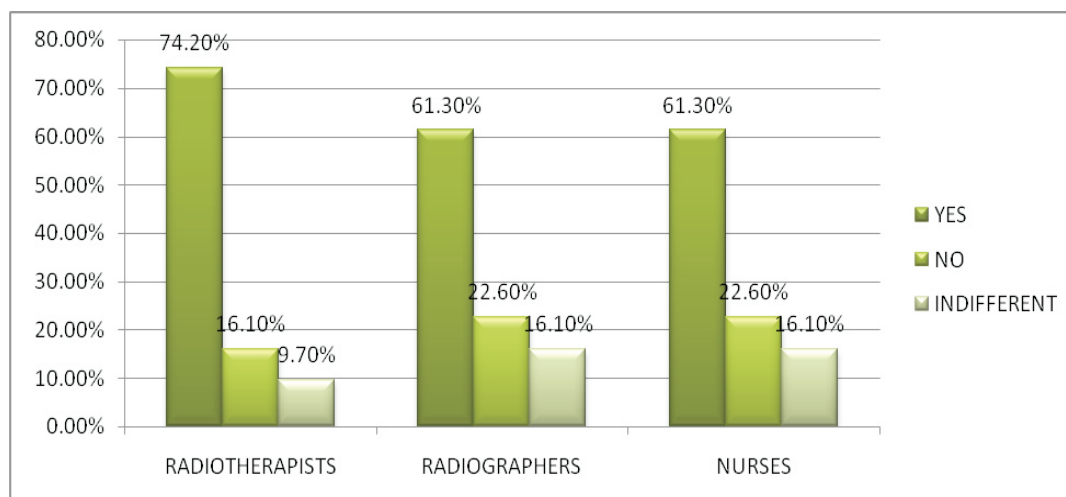


Figure 2: Histogram Representing Respondents Relationship With Radiotherapy Workers.

Majority of the respondents 69(74.2%) said they relate very well with their radiotherapists, 15(16.1%) do not relate well with the radiotherapists and 9(9.7%) are indifferent about their relationship with the radiotherapist. 57(61.3%) of the respondents relate very well with the radiographers and the nurses, 21(22.6%) do not relate well with the radiographers and nurses and 15(16.1%) are indifferent about their relationship with the radiographers and nurses (Figure 2).

TABLE 5: Respondents General Perception of Radiotherapy

FACTORS	YES	NO	INDIFFEREN	TOTAL
Effectiveness	72 (77.4%)	5 (5.4%)	16 (17.2%)	93 (100%)
Expensive	90 (96.8%)	3 (3.2%)	0 (0%)	93 (100%)
Patient waiting time	37 (39.8%)	48 (51.6%)	8 (8.6%)	93 (100%)
Fear of radiotherapy	32 (34.4%)	59 (63.4%)	2 (2.2%)	93 (100%)

Almost all the respondents 90(96.8%) said radiotherapy is too expensive while 3(3.2%) said it's not too expensive. 72(77.4%) think radiotherapy is effective while 5(5.4%) think it is not effective and 16(17.2%) are not sure of its effectiveness. Majority of the respondents 48(51.6%) said the patient waiting time before the treatment each day is too long and unbearable, 37(39.8%) feels it's bearable and 8(8.6%) are indifferent. 32(34.4%) are afraid of radiotherapy while 59(63.4%) are not afraid (Table 5).

## DISCUSSION

In this study, majority of the respondents were from the age group of 41-65years, and most of them were females. Breast cancer was the commonest cancer among respondents and this finding is in agreement with several studies<sup>8,9</sup> which showed that breast cancer is the commonest malignancy among women worldwide.

Most respondents in this study have never heard of radiotherapy before they started the treatment this finding is in agreement with a study done by Nwankwo *et al*<sup>3</sup> which showed that the awareness about radiotherapy services was poor and that awareness about such centers should be raised among medical practitioners and the populace. Most of the respondents know the definition of radiotherapy as treatment of cancer with radiation, others think radiotherapy is the treatment of cancer with chemical, some think its treatment of cancer with machines or treatment with invisible heat.

More of the patients expressed a wish for more information, this is in agreement with a study done by Bergenmar *et al*<sup>10</sup> reported that patients satisfied with information scored significantly higher on global health status and emotional functioning and reported less fatigue. Positive

associations were found between "satisfaction with information" and health related quality of life.<sup>11</sup> The results of their study also underline the need for patient-centered information in general and that extra attention should be paid to younger women and patients undergoing combined treatment.<sup>11</sup> Despite the fact that half of the patients knew what radiotherapy treatment was, there is room for improvement, especially regarding "the disease," "expected side effects," "other services," "different places of care," and "things you can do to help yourself."

Information provision is essential as it allows patients to prepare for the process of receiving radiotherapy.<sup>12</sup> There seemed to be a desire for appropriate information about the short and long-term side-effects of radiotherapy which again corresponds to previous studies on communication and information.<sup>13</sup> In this study, Most of the respondents said they were properly informed about radiotherapy before they started the treatment while others said they were not properly informed. They claimed that their doctors just told them to go for radiotherapy as part of their cancer treatment; therefore they were not well prepared. Providing patient information can significantly reduce anxiety and raise satisfaction levels.<sup>12</sup>

The respondents were asked to rate how their sessions has been so far. Majority think it has been good so far. Radiotherapy has been demonstrated to lengthen survival time, to improve localized tumor control, and to reduce mortality.<sup>14</sup> Several side effects were noticed by the patients having radiation treatment; which included skin desquamation, loss of taste/appetite, dry throat, skin rash, nausea, body aches, dark pigmentation of skin, diarrhea. This is in agreement with side effects experienced by patients on Radiotherapy.<sup>15,16</sup>

Most patients relate very well with the radiotherapists a study in Nigeria by Onajole et al revealed that good doctor-patient relationship was an important tool to quality health services.<sup>15</sup> The radiotherapists should sense the desires for further explanation, psychosocial help or additional educational material. Furthermore they expect the radiation oncologist to be up to date about the patients' file, i.e. to have appropriate knowledge of the patient's state of health, the progress of the treatment and history. Some studies found information received, technical competences, interpersonal and communication skills, time spent talking with doctors and nurses, accessibility and coordination of care, waiting times, and patients' emotional needs as important or priority areas to improve cancer care services,<sup>12-17</sup>

Most of the respondents said radiotherapy is too expensive. They believe since it's a government hospital, the cost of the radiotherapy treatment should be subsidized. Majority of the respondents in this study said the waiting time before they receive treatment is too long and it's not bearable. Some claim to get to the clinic as early as 7am to a clinic that starts by 9am, yet they will probably not receive treatment till evening. A female respondent said she's scared of the treatment because of radiation and its effect on reproduction because she still wants more offspring; another

respondent said she's scared of the machines because it's just oneself and the machines. Patient should always be reassured, as this helps them to be less afraid. Some studies found information received, technical competences, interpersonal and communication skills, time spent talking with doctors and nurses, accessibility and coordination of care, waiting times, and patients' emotional needs as important or priority areas to improve cancer care services.<sup>18</sup>

### CONCLUSION

Radiotherapy services should be improved on. The patients expect a lot from this treatment and they have personal criteria they think should be met. And knowing these criteria helps health care providers to satisfy them. It can be concluded that cancer patients undergoing radiotherapy thinks radiotherapy is effective and they prefer it to other forms of cancer treatments. This study has pointed out patients' dissatisfaction about the patients waiting time and the high cost of radiotherapy.

### RECOMMENDATIONS

Establishment of more Radiotherapy centers to reduce waiting times. Public enlightenment programmes should discuss the role of radiotherapy in the management of cancer. Radiotherapy centres should reduce patient waiting time to treatment so as to allow for treatment compliance. Patients receiving treatment should form treatment groups to discuss their challenges and how to overcome them. Proper patient education be given to patients to allow them cope effectively with the treatment.

### LIMITATIONS OF THE STUDY

Not all patients completed the questionnaire especially with patients with head and neck cancers who are not comfortable with their appearance, and some patients were very weak and would not complete the questionnaires.



## REFERENCES

1. American Cancer Society. Cancer Facts & Figures 2011. Atlanta: American Cancer Society; 2011.
2. Rosenbaum E. The Doctor (formerly titled: A taste of my own medicine). New York: Ivy Books; 1998.
3. Nwankwo K C, Dawotola D.A, Sharma V. Radiotherapy in Nigeria: Current status and future challenges. West Afr. J. Radiol 2013; 20:84-88.
4. Grover S, Xu M J, Yeager A, Rosman L, Groen R S, Chackungal S, A Systematic Review of Radiotherapy Capacity in Low- and Middle-Income Countries, Front Oncol. 2014; 4: 380. Published online 2015 Jan 22.
5. Nijman, J.L., Sixma, H., Triest, B.V., Keus, R.B., Hendriks, M. The quality of radiation care: the results of focus group interviews and concept mapping to explore the patient's perspective. Radiotherapy and Oncology: 2012,102(1), 154-160
6. Naden D, Saeteren B ,Cancer Patients' Perception of Being or Not Being Confirmed ,Nursing Ethics 06/2006; 13(3):222-35.
7. Haggmark C, Bohman L, Ilmoni-Brandt K et al. Effects of information supply on satisfaction with information and quality of life in cancer patients receiving curative radiation therapy. Patient Education Counseling 1-12-2001; 45:173-9.
8. Lesley E. Long, Cancer Nursing. Being informed. Vol. 24, No. 6, 2001\_ 463
9. Vinh-Hung V, Verschraegen C J ,Breast-conserving surgery with or without radiotherapy: pooled-analysis for risks of ipsilateral breast tumor recurrence and mortality. Natl Cancer Inst. 2004 Jan 21; 96(2):115-21.
10. Bergenmar M, Johansson H, Sharp L. Patients' perception of information after completion of adjuvant radiotherapy for breast cancer. European Journal of Oncology Nursing, Volume 18, Issue 3, June 2014, Pages 305-309
11. Wiggers JH, Donovan KO, Redman S et al. Cancer patient satisfaction with care. Cancer 1990; 66: 610-616.
12. Gesell SB, Gregory N. Identifying priority actions for improving patient satisfaction with outpatient cancer care. Journal of Nursing Care Quality 2004; 19: 226-233.
13. Barton MB, Frommer M, Shafiq J. Role of radiotherapy in cancer control in low-income and middle-income countries. Lancet Oncol 2006; 7:584-95.
14. Sharma V, Gaye PM, Wahab SA, Ndlovu N, Ngoma T, Vanderpuye V, et al. Patterns of practice of palliative radiation therapy in Africa, Part 1: Bone and brain metastases. Int J Radiat Oncol Biol Phys 2008; 70:1195-201.
15. Onajole A T, Ajekigbe A T. Client perception of radiotherapy services at the Lagos University Teaching Hospital, Lagos, Nigeria. Nigerian Journal of Health and Biomedical Sciences Vol. 5 (2) 2006: 57-61.
16. Cox JD, Stetz J, Pajak TF. Toxicity criteria of the Radiation Therapy Oncology Group (RTOG) and the European Organization for Research and Treatment of Cancer (EORTC) Int J Radiat Oncol Biol Phys. 1995 Mar 30; 31(5):1341-6.
17. Jereczek-Fossa BA, Marsiglia HR, Orecchia R. Radiotherapy-related fatigue. Crit Rev Oncol Hematol. 2002 Mar; 41(3):317-25.
18. Gesell SB, Gregory N. Identifying priority actions for improving patient satisfaction with outpatient cancer care. Journal of Nursing Care Quality 2004; 19: 226-233.