



Research Paper

Assessment of the Attitude and Perceptions to Radiotherapy by Patients with Previous Exposure in Aba, South Eastern Nigeria

IBE. U. IBE

CONSULTANT UROLOGIST
DEPARTMENT OF SURGERY
ABIA STATE UNIVERSITY TEACHING HOSPITAL,
ABA – NIGERIA

OBINNA CHIKEZIE

MEDICAL OFFICER
DEPARTMENT OF MEDICAL SERVICES,
MINISTRY OF HEALTH,
UMUAHIA – NIGERIA

ABSTRACT

Radiotherapy, also called Radiation Therapy, is a very important management protocol in the treatment of most cancers.

It is actually a local or locoregional modality of management.

As useful as it is, it has some deleterious effects. Recently, various methods have been introduced to reduce the adverse effects of radiotherapy. Despite these measures, poor attitude and negative perceptions have trailed radiotherapy making patients not willing to consent to this modality of treatment.

The aim of this study was to assess the attitude and perception of radiotherapy in men and woman who had undergone one form of radiotherapy.

The study was cross – sectional in design, involving the use of structured questionnaires written in English Language to men and women who had undergone radiotherapy.

A total of 250 questionnaires were given out with 148 completed and returned.

The age range was 30 – 81 years with the mean age 75 years. Of the 148 participants, the age group 71 – 80 had the highest number of 48 (32.48%), closely followed by the age group 61 – 70 with 36 (24.38%). The age group 81 – 90 had the least number of participants 4 (2.7%).

Of the 148 participants, 54 (36.5%) had prompt response to radiotherapy on prescription while 94 (63.15%) had delayed response due to several factors.

The most common reason for delayed response was fear of radiotherapy (RT) due to previous negative information (55.38%), followed by poor finance (29.8%).

The most common negative information was that radiotherapy is associated with several complications, 55 (37.2%).

After radiotherapy, a large number of participants 117 (79.18%) could readily recommend it to other people as they had seen that most of the previous information they had were false.

Attitude and perception to radiotherapy is poor in Aba to those who had never had exposure to radiotherapy.

Keywords: Attitude, Perception, Radiotherapy, and Aba.

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I. INTRODUCTION

Radiotherapy, also called Radiation Therapy, is a management modality applied in the treatment of most cancers.

It employs beams of intense energy such as X – rays and protons to destroy cancer cells.

It could be given from outside the body referred to as External Beam Radiotherapy where machines called Linear Accelerators from which high energy beams are focused onto the body.

When radiotherapy (RT) is given internally, it is described as brachytherapy.

Radiotherapy can also be given by the injection of radioactive substances called radiopharmaceuticals into the body.

The mechanism of action is the use of high energy beams to damage the genetic materials in the nucleus of the cells which is ordinarily responsible for division and growth of the cells and tissues.

The indications for radiotherapy include:

- Most malignant tumors
- Benign tumors
- Other Non-neoplastic conditions such as intractable haemorrhage, intractable pains, spinal cord compression and other non-specific conditions.

In malignant conditions, radiotherapy can be applied in the following situations:

- As a primary treatment where it is the only modality of treatment
- Can be given on a neo-adjuvant basis to shrink and downstage malignant tumors prior to surgery.
- Can be given on adjuvant basis to deal with the remaining cancer cells after surgery
- Can be used to deal with other symptoms of advanced cancer.
- Can be given in conjunction with chemotherapy – chemoradiation to deal with the cancer.

Despite these beneficial effects, radiotherapy has several adverse effects which are dependent on:

- The area of the body radiated
- The types of cancer
- The dose of radiation given
- The duration of the exposure
- Host immunity
- The presence of comorbidities.

The adverse effects include:

- Hair loss which maybe temporary or permanent
- Fatigue
- Sore throat
- Difficulty in swallowing
- Loss of taste
- Nausea, vomiting and diarrhea
- Mouth sores
- Tooth decay
- Cough
- Shortness of breath
- Erectile dysfunction
- Bladder irritation
- Development of new cancers

The adverse effects may be classified as:

- Early Effects – which occur within a few weeks of radiotherapy exposure
- Consequential Effects – due to non-treatment of early effects
- Late Effects – occurring months to years post exposure

Radiotherapy is a locoregional treatment aimed at treating the diseased tissues or organs but has the capacity to effect normal surrounding tissues adversely.

Various methods have been devised to reduce the effect on normal tissues.

The external beams (RT) has several variants:

- (1) 3 – Dimensional Conformal Radiotherapy (3D – CRT). It uses special computers to map out the diseased organ.
- (2) Intensity Modulated Radiotherapy (IMRT). It is an advanced form of 3D – CRT which rotates round the patient delivering radiation to the target organ from several angles. A variant of this is called Volumetric Modulated Arc Therapy (VMAT). It delivers radiation much quicker than conventional IMRT.
- (3) Stereostatic Body Radiation Therapy (SBRT). It uses advanced image guided techniques to deliver large doses of radiation to precise area of the targeted organ.
- (4) MRI – Guided Radiation Therapy. This combines 3D – CRT and IMRT and image guided techniques in one.
- (5) Proton Beam Radiation Therapy. It focuses a beam of protons on the target tissues instead of X – rays. Photons or X – rays release their energy before and after hitting their target and may therefore inflict damages on surrounding normal tissues but protons after travelling for a distance to their target release their energy making them less able to damage normal tissues.
- (6) Hypofractionation Techniques. It is a technique used to deliver high doses of radiation over a short period so as to reduce the period of exposure.

Brachytherapy, on the other hand, has two (2) major variants. Brachytherapy also called seed implantation or interstitial radiation therapy is used for:

- Early stage cancer, especially low risk cancers
- Used in combination with external beam radiotherapy where risk is high

It is applied with the implantation of radioactive seeds into the target tissues. Variants include:

- Permanent (low dose rate) brachytherapy
- Temporary (high dose rate) brachytherapy

All these measures were instituted to make radiotherapy a safer procedure and improve attitudes and perceptions towards it.

II. METHODOLOGY

The study was cross – sectional in design and carried out among adult males and females attending outpatient clinics and some health institutions within the metropolis who have had previous exposure to radiotherapy.

The study involved the use of structured questionnaires written in English Language and given out by doctors to men and women with previous RT exposure.

Those with difficulty completing the questionnaires due to low literate level were aided by the doctors. A total of 250 questionnaires were given out with 148 completed and returned.

The questionnaires contained questions on perception of RT before exposure, prompt and delayed response on prescription of RT, reasons for the delay where applicable and overall attitude after radiation exposure.

Data from the completed questionnaires were collated, analysed and interpreted.

INCLUSION CRITERIA

Adult males and females who had had previous exposure to RT.

EXCLUSION CRITERIA

Adult men and women who had no previous radiotherapy exposure were excluded from the study.

III. RESULTS

TABLE 1: SHOWING DEMOGRAPHIC VARIABLES

S/NO	VARIABLE	OUTCOME
1	MEAN AGE	75 years
2	AGE RANGE	30 – 81 years

TABLE 2: SHOWING THE AGE GROUP CHARACTERISTICS OF THE PARTICIPANTS (n = 148)

S/NO	AGE RANGE (IN YEARS)	NUMBER	MALES	FEMALES	PERCENTAGE
1	30 – 40	16	-	16	10.8%
2	41 – 50	32	-	32	21.6%
3	51 – 60	12	-	12	8.1%
4	61 – 70	36	28	8	24.3%
5	71 - 80	48	40	8	32.4%
6	81 - 90	4	4	-	2.7%
	TOTAL	148	72	76	100%

TABLE 3: SHOWING EDUCATIONAL STATUS OF PARTICIPANTS (n = 170)

S/NO	EDUCATIONAL STATUS	NUMBER	PERCENTAGE
1	PRIMARY EDUCATION AND BELOW	24	16.2%
2	POST PRIMARY	48	32.4%
3	POST SECONDARY	76	51.4%
	TOTAL	148	100%

A good number of participants 76 (51.4%) had good education – post secondary education while secondary (post primary level) had 48 (32.4%) and those with poor education (primary and below) were 24 (16.2%).

TABLE 4: SHOWING RESPONSE TIME FROM PRESCRIPTION OF RADIOTHERAPY

S/NO	RESPONSE TIME	NUMBER	PERCENTAGE
1	PROMPT RESPONSE	54	36.5%
2	DELAYED RESPONSE	94	63.5%
	TOTAL	148	100%

A greater number of participants 94 (63.5%) delayed on presentation to radiotherapy after prescription with only 54 (36.5%) showing immediate and prompt response.

FIGURE 1: BAR CHART SHOWING RESPONSE TIME FROM PRESCRIPTION OF RADIOTHERAPY

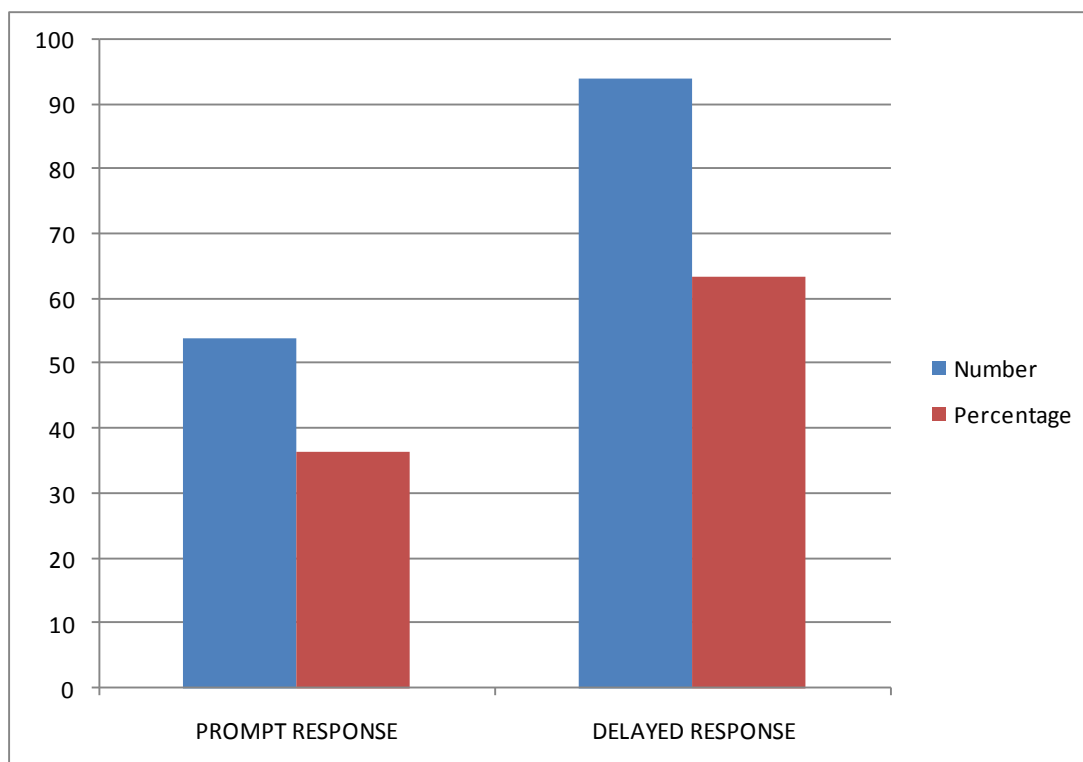


TABLE 5: SHOWING REASONS FOR DELAYING COMMENCEMENT OF RADIOTHERAPY AFTER PRESCRIPTION

S/NO	REASONS	NUMBER	PERCENTAGE
1	FEAR OF RT DUE TO PREVIOUS NEGATIVE INFORMATION	52	55.3%
2	POOR FINANCE	28	29.8%
3	FEAR OF PERCEIVED COMPLICATIONS	10	10.6%
4	NO REASON	4	4.3%
	TOTAL	94	100%

The major reason for non prompt or delayed response to RT treatment was fear arising from previous negative information, 52 (55.3%), followed by poor finance, 28 (29.8%).

FIGURE 2: BAR CHART SHOWING REASONS FOR DELAYING COMMENCEMENT OF RADIOTHERAPY AFTER PRESCRIPTION

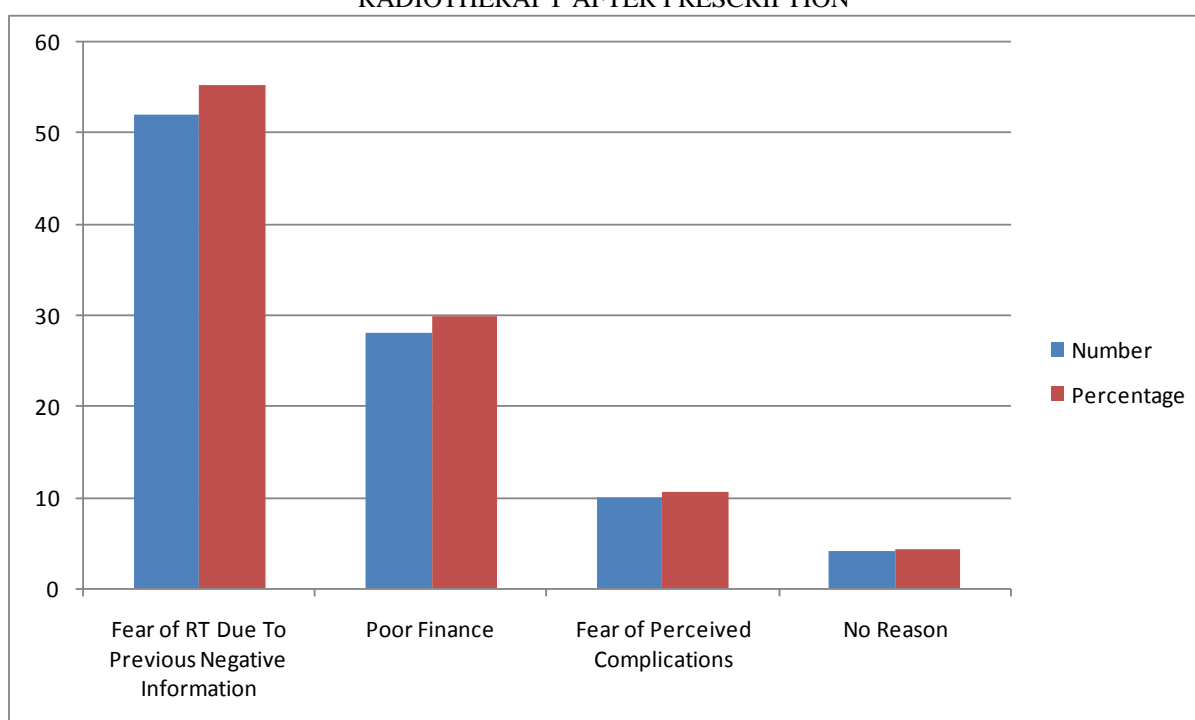


TABLE 6: SHOWING THE INFORMATION AVAILABLE TO THE PARTICIPANTS PRIOR TO RADIOTHERAPY

S/NO	INFORMATION	NUMBER	PERCENTAGE
1	SEVERAL COMPLICATIONS	55	37.2%
2	RT BREAKS DOWN ALL SYSTEMS	42	28.4%
3	INABILITY TO REGAIN PREVIOUS STATUS POST EXPOSURE	35	23.6%
4	IRREVERSIBLE HAIR LOSS	10	6.8%
5	IT DOES NOT CHANGE THE COURSE OF THE DISEASE PROCESS	6	4.1%
	TOTAL	148	100%

FIGURE 2: BAR CHART SHOWING THE INFORMATION AVAILABLE TO THE PARTICIPANTS PRIOR TO RADIOTHERAPY

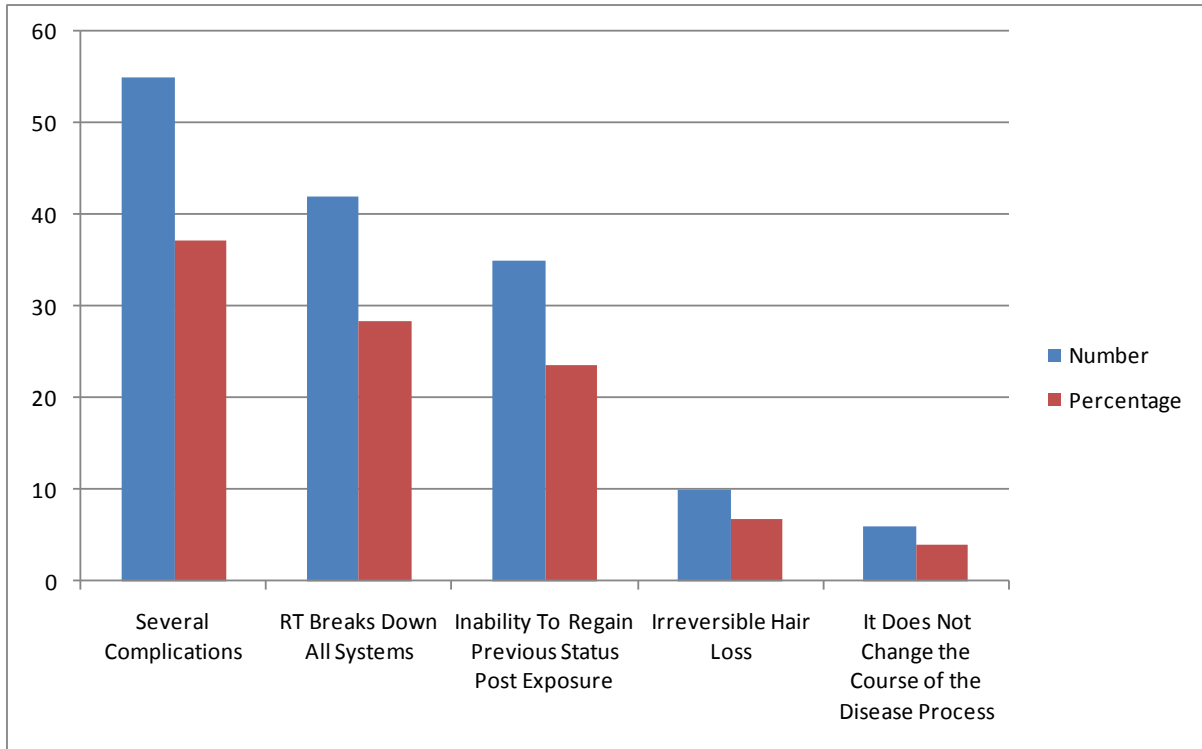
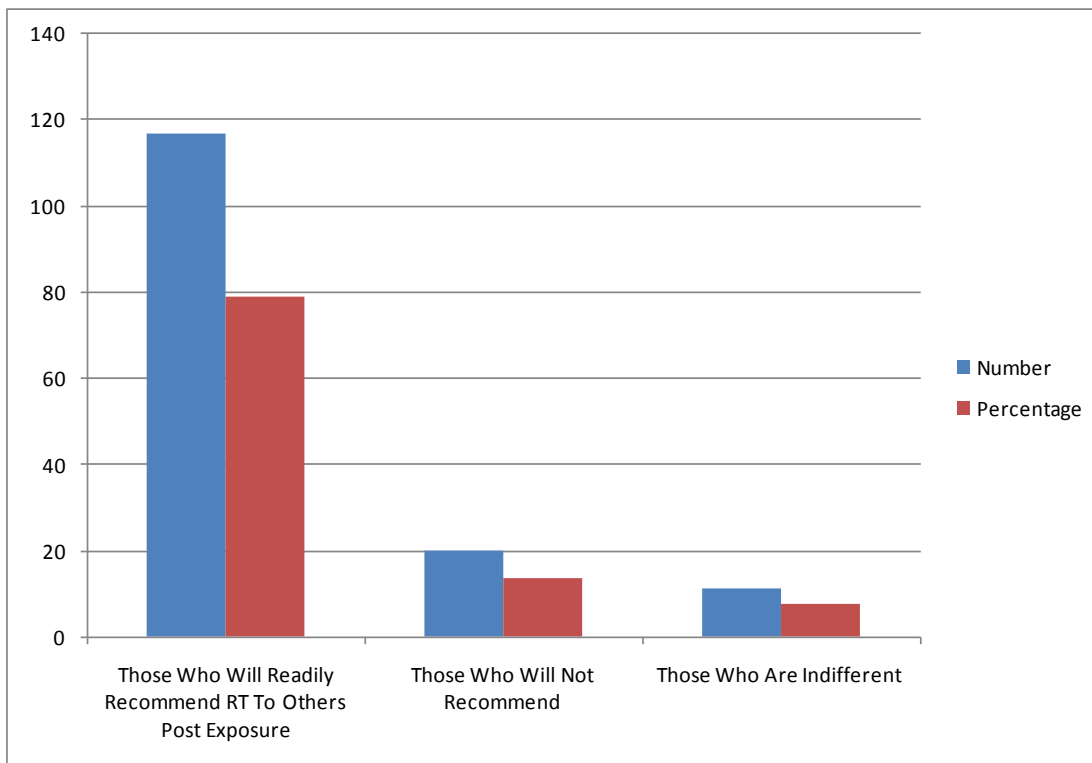


TABLE 7: SHOWING THE DEGREE OF WILLINGNESS TO RECOMMEND RADIOTHERAPY TO OTHERS AFTER RT EXPOSURE

S/NO	WILLINGNESS TO RECOMMEND RT TO OTHERS	NUMBER	PERCENTAGE
1	THOSE WHO WILL READILY RECOMMEND RT TO OTHERS POST EXPOSURE	117	79.1%
2	THOSE WHO WILL NOT RECOMMEND	20	13.5%
3	THOSE WHO ARE INDIFFERENT	11	7.4%
	TOTAL	148	100%

79.1% of the participants could recommend RT to others, knowing that most of the previous information prior to exposure were false.

FIGURE 4: BAR CHART SHOWING THE DEGREE OF WILLINGNESS TO RECOMMEND RADIOTHERAPY TO OTHERS AFTER RT EXPOSURE



IV. DISCUSSION

Radiotherapy (RT) remains an important modality of cancer management. It is the chief non-surgical modality to control malignant tumours, especially in the organ confined and locally advanced stages.

Over the past few years, RT has undergone advanced methodology, techniques and biological improvements in order make it safer and thereby improving public perception and positive attitude towards it.

The adverse effects are grouped into:

- Early Effects - which occur in rapidly dividing cells and occur within few weeks of commencement of RT
- Consequential Effects - which occur when Early Effects are left untreated
- Late Effects – which occur in months to years after exposure and are seen in slow dividing cells.

Despite these improvements in techniques of RT, public attitude towards it remains low with poor perceptions. These are influenced by several factors resulting in low patronage and delayed presentation to RT when disease process is grossly advanced.

In our work, we found a substantial number of participants 94 (63.5%) delaying presentation to treatment. We also found that the major reasons for this delay were fear of RT arising from previous negative information (55.3%) and poor finance (29.8%).

We also found that a substantial number 117 (79.1%) were ready to recommend RT to others after exposure.

In a work by Geoffrey F. Soko et al on Public Awareness and Perception of Radiotherapy and Their Influence on the Use of RT in Dar Es Salaam, Tanzania, they found out that the percentage of right perception was less than 50%. Only 16% of responders were aware that RT would not reduce their lifespan.

Awareness was higher among medical / nursing students. Only 52% would accept receiving RT if recommended as part of their treatment. They concluded that public awareness in Dar Es Salaam is low and negative perceptions prevail.

Low level of awareness and negative perceptions have a negative effect on the use of radiotherapy.

Beliefs regarding RT are influenced by a multitude of factors encompassing demographic, socioeconomic, cultural and healthcare related domains.

A survey on the public awareness of RT in the UK revealed that only 10% were aware that RT can cure a large proportion of cancers and about 40% had negative perceptions. Such negative perceptions are exacerbated by information from the media such as links to nuclear power plants.

V. CONCLUSION

Attitude and public perception are poor in Aba. This poor attitude is attributable to negative information from ununiformed people and people who have not been exposed to radiotherapy. This perception improves only after exposure to RT.

VI. RECOMMENDATIONS

- (1) Government institutions should engage in aggressive media and healthcare campaigns to educate people on the usefulness of radiotherapy and dispense off negative information / disposition towards radiotherapy.
- (2) Healthcare professionals especially those in oncology units should educate patients properly on the newer innovations of radiotherapy.
- (3) Governments should introduce subsidy regimes to reduce the cost of radiotherapy and make it affordable to patients especially those in low income and developing countries.

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