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Evaluation of the Level of Care Given to Patients Undergoing Radiotherapy at the Cancer Treatment Centre, Kenyatta National Hospital

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Abstract:

Cartwright (1964:11) asserts that patient care involves all the activities carried out before, during and after medical, radiological, or therapeutic examinations to make the condition of the patient better.

This study was aimed at evaluating the level of patient care at the Cancer Treatment Centre, Kenyatta National Hospital. The study was a cross-sectional survey type that targeted 118 adult patients. The data collection instrument was a self-administered questionnaire, which was designed in line with the objectives of the study. The data was analyzed using statistical package for social scientists (SPSS).

The study revealed that the overall patient care was adequate. However, various aspects of patient care were perceived to be sub-optimal. These were patients waiting area and waiting time, privacy during treatment and comfort at the waiting area. Hygiene in the female patients' toilets was also suboptimal. The female patients were the majority seeking radiotherapy services and were satisfied with the services rendered while the male patients constituted of 37% and 20% of them found the care given to be poor. Eighty eight percent of the respondents were satisfied with the care given to them at the reception of the radiotherapy department with 29% of them being very satisfied. However, it is of importance to find out the reasons why the other 12% were dissatisfied with the care at the reception yet it is the area that the patients are first served. About 63% of the patients had to wait for more than one hour (standard deviation of 1.364) before they are called in for treatment. Seventy three percent (73%) of the respondents were given explanation of the expected treatment side effects satisfactorily, 10% were poorly explained to while 17% were not given any explanation at all.

These shortfalls can be improved by expanding the radiotherapy department by adding treatment machines, increasing the number of staff, availing comfortable seats for waiting patients, providing enough changing gowns and changing rooms, and providing enough and clean toilets for patients. It is therefore incumbent upon the hospital management to ensure that more facilities are acquired and more personnel trained to meet the high demand for radiotherapy services.

Keywords: radiotherapy patient care, patient satisfaction, evaluation of patient care

1. Introduction and Background information

Patient care refers to the prevention, treatment and management of illness and preservation of physical and mental well-being through services offered by medical and allied health professions (www.equalpartners.info accessed on 29.8.2012). Cartwright (1964:11) adds that patient care involves all the activities carried out before, during and after examinations to make the condition of the patient better. The practice of radiography that involves utility of equipment in this era of technological advancements poses challenging

ramifications in patient care as the care of patients can never fit within the function of any mechanical or electrical progression, but must remain in the human hands of the radiographer (Chesney & Chesney, 1978:1).

Cancer patients experience the impact of the disease in different ways and at different times (Holleb, Fink & Murphy, 1996: 546). Nevertheless, cancer patients share some common important concerns like threatened loss of life, fear about loss of independence and career, and concern about the integrity of the body and its functions. Lugton & Kindlen (1999: 34) adds that the cancer journey can start long before the diagnosis is ever reached, particularly when there has been gradual onset of symptoms, accompanied by a growing realization, on the part of the patient and the family that all is far from well.

The duties of the radiographer include providing the highest possible standard of care for the patient before, during, and after the radiological procedure. Proper reception on arrival, adequate instructions and explanation of the procedures to the patient before treatment and reassurance when they are worried are all in the radiographer's docket. Others duties of the radiographer include maintaining high standard of hygiene of the treatment room, empathy, treatment of patients in order of their arrivals to the department and providing radiation protection measures to patient as well as staff and accompanying relations (Chesney & Chesney, 1982, 21-69). It is also the responsibility of the radiographer to educate the patient on the importance of the radiation treatment, its side effects and how to respond to the side effects of treatment.

1.1. Problem Statement

The incidence of cancer is increasing worldwide and despite the significant advancements in cancer treatment, many cancers remain incurable (Bond and Simpson, 2000:249). Different patients experience the impact of cancer in different ways and at different times. However, they share some common concerns like threatened loss of life, threat to relationship, fears about loss of independence and loss of normal body functions.

Consequently, because of the fears concerning their wellbeing, patients are often apprehensive whenever they visit a hospital department in search of medical attention. It is therefore incumbent upon the radiographer to be courteous, understanding, and tolerant in the course of serving patients in order to obtain the requisite cooperation.

Evaluating the level of care provided to patients suffering from cancer will therefore go a long way in providing information that could be crucial in improving the level of patient care and thus achieve higher levels of patient satisfaction with the care provided by therapy radiographers.

1.2. Justification

Khan (2007:1) states that every patient with cancer must have access to the best possible care regardless of any possible constraints. Sub-optimal care is likely to result in an unfavorable outcome for the patient at greater expense for the patient and for the society.

The majority of patients with advanced stages of cancer do benefit from radiotherapy. However, many of the patients in sub-Saharan Africa where there are limited radiotherapy facilities, have to contend with long booking waiting lists and long queues on their booked appointment date.

The purpose of this study therefore is to establish the level of care given to patients at the Kenyatta National Hospital, cancer treatment center.

1.3. Broad Objective

To evaluate the care given to patients receiving external beam radiation therapy at the Cancer Treatment Centre, Kenyatta National Hospital, Nairobi.

1.4. Specific Objectives

- To establish the level of patient care before external beam radiation therapy
- To establish the level of patient care during external beam radiation therapy
- To establish the level of patient care after external beam radiation therapy

1.5. Research Question

What is the level of care given to patients who are receiving external beam radiation therapy at the Cancer Treatment Center, Kenyatta National Hospital?

2. Literature Review

2.1. Patient Care before External Beam Radiation Therapy

Upon arrival at the radiology department, patients are often anxious or apprehensive and this may make it difficult for them to follow instructions given by the radiographer or it may lead to an apparently aggressive attitude (Bryan, 1979:1). The radiographer should make every effort to obtain the willing cooperation of the patient. Chesney & Chesney (1978:3) states that a patient's response to treatment may at times depend on his/her reaction to the prevailing environment. The patient needs reassurance on the professional competence and the interpersonal skills of the radiographer. According to Chesney and Chesney (1978:4), the radiographer has to take charge of the radiologic procedure and ensure that the clients receive care with the highest possible professional standard under the prevailing circumstances.

The radiographer ought to be courteous, cheerful, and empathic to the patient in order to assuage the tension in an apprehensive patient (Chesney and Chesney, 1978:4). Above all, Torres (1997: 317), states that the radiographer must be cognizant of the fact that the cancer patients are in varying stages of grieving process and therefore need an effective communicator that is patient with them in the course of communication. Bryan (1979:4) asserts that patients frequently do not hear or fully understand instructions given too rapidly or too quietly.

The radiographer should minimize the time that a patient spends waiting for their turn for treatment at the radiotherapy or radiography department. Bryan (1979:1) asserts that waiting could be less tedious if the patient has something to do, and so a supply of recent magazines and newspapers suitable for different tastes and age groups should be available for patients at the waiting area. Additional printed instructions in the changing cubicles regarding what clothes to take off and what to put on are handy.

Chesney & Chesney (1978:29) emphasizes that hygiene for the patient that includes provision of clean changing gowns, clean cubicles, and clean linen in the treatment rooms. Chesney & Chesney (1978: 31) states that treatment and changing rooms should be well ventilated and clean. In addition, the changing rooms should have lockable safety cabinets where the patients can keep their belongings as they head for treatment.

Bryan (1979:1) advises that it is often helpful for the radiographer to identify the patient by name and the procedure they are to undergo. Experience shows that occasionally an apprehensive patient will answer to a name not his own and this could lead to a procedure being performed on the wrong patient. It is incumbent upon the radiographer to ensure that he/she introduces by name any other staff to be involved in the care of patients. Bryan (1979:7) states that the radiographer should check that a valid consent form is included with the patient's notes and the mentally sound adult patients sign the informed consent form before commencement of their treatment.

Torres (1997: 97) recommends that the radiographers provide the patient with a safe place for his personal belongings in case there are no lockable safety cabinets. Lavatories must be available near the waiting room and their location indicated by clearly visible notices (Bryan, 1979:1). Torres (1997: 317) emphasizes that the patient be directed to the treatment room and allowed to ask questions concerning the treatment. The radiographer must also explain to the patient that the radiation treatments are painless. Most patients appreciate being given some information, particularly as to how long the examination will take, if the procedure is going to cause any pain or discomfort, warning should be given to the patient so that he will not be surprised or alarmed by it and will be able to keep still when required (Bryan, 1979:6).

2.2. Patient Care during External Beam Radiation Therapy

Chesney & Chesney (1978:4) states that the radiographer's work involves encountering with aspects of patients that are displeasing or actively distressing. To begin with, the disease process may give rise to disturbing appearances and unpleasant smells which the unfortunate patients must carry with them when they come to our departments. No radiographer should reveal to the patient any sign of distaste or dismay whatever may occur, but must always present to the patients a manner that is friendly yet impersonal, and convey to him or her a confidence in his/her ability to take control of the situation and care for them. A smile from the radiographer can go a very long way towards establishing an easy rapport with the patient.

Patients in the terminal stages of cancer are likely to have bone metastasis (Torres, 1997:317), and there is a high incidence of pathological fractures with this condition. The radiographer must therefore allow the patient to move at his own pace with as much assistance as necessary. When lifting or moving the patient adequate assistance should be sought to prevent abrupt, jarring, or pushing movements because this may cause fractures and a great deal of unnecessary pain for the patient. Patients must never be allowed to get on or off the treatment table or out of a wheelchair without assistance. Bryan (1979:5) recommends that a study platform, or preferably a small set of steps must be available so that the patient can cling easily on to the coach. The gantry must be removed out of the way so that there is no risk of the patient striking his head against it when sitting up or getting off the table. Torres (1997:98) adds that care must be taken to prevent the patient's skin from being damaged while being cared for. This can be done by preventing injury that may come from immobility, pressure, sheering force, or friction.

Patient privacy during treatment is very vital. Bryan (1979:4) advises that only the necessary persons should be allowed in the treatment room. The patient should be covered with a sheet in the region where treatment is not taking place. Sufficient pillows should be used to make the patient comfortable. Bryan (1979:5) continues to explain that a patient who is uncomfortable, or who feels insecure is likely to move during the procedure.

Maintenance of hygiene during the radiotherapy treatment procedure to militate against the risk of cross-infections is advisable. Smeltzer et al (2008:394) postulates that infection is the leading cause of death in cancer patients. According to (Torres 1997:317) radiographers must practice judicious medical asepsis and when the occasion calls for it, meticulous surgical asepsis during patient care. This is because patients with cancer often have weakened immune systems and therefore are highly susceptible to infections. Therefore, as emphasized by (Chesney & Chesney 1978: 29) general practice of hygiene in the department is an important factor in patient's safety. Adherence to routine hand washing between the handling of patients, and after contact with such articles as bedpans, urinals, used instruments, dressings should be practiced. For drying the hands, ordinary roller towels should not be used as they provide a medium favorable to bacterial growth, and they should be replaced by disposable paper towels or the type of towel dispenser which continuously provides a fresh area of towel for each user. The radiographer must wear clean disposable gloves when assisting with the patient's elimination needs and he must wash hands following removal of gloves.

Torres (1997: 317) states that use of therapeutic communication techniques by radiographers caring for patients having external radiation therapy is of utmost importance. The radiographer should be available to answer the patients' questions and allow the

patients to express their concerns and explore their feelings with the use of simple reflective statements. Chesney and Chesney (1978:7) warn that radiographers who are working together should never begin a general conversation of their own on irrelevant themes such as football matches, hairstyle, or politics. They may have such general conversation with the patient as this may ease his mind and create an amiable atmosphere. Radiographers should restrict spoken exchanges between each other to technicalities relating to the examination. They should avoid such comments as "Don't rely on that light beam diaphragm". Such remarks speak to the uncomprehending patient of major risks that imperil the soundness of the examination or even his own personal safety among this peculiar equipment.

There are times when immobilizers ought to be used for the safety of the adult patient during treatment. Khan (2007:47- 48) defines immobilization device as any device that helps to establish and maintain the patient in a fixed, well-defined position for treatment over a course of radiotherapy. The use of immobilization devices to reduce random set up errors, can also reduce the amount of normal tissue irradiated and ensure adequate coverage of the clinical target volume. Although the main objective of an immobilizing device is to limit patient movement and to reduce probability of positioning errors, there may be other incidental benefits such as reduction in daily set-up time, reduction in patient's fear and worry because he/she feels safer and more secure, as well as the patient does not have to be awake and cooperative. Torres (1997: 97) postulates that when a patient is immobilized, he must be attended at all times and restraints must be released at least every two hours.

Some of the more popular immobilization devices or methods indicated by (Khan, 2007: 48-50) include:

- Tapes and other daily reminders to discourage movement during treatment once the correct treatment position has been achieved with surface fiducials. Such as paper tapes, cloth tapes, and masking tapes.
- Generic body supports which include foam lumbar supports, thigh and heel stirrups, prone face holders with cutouts for nose and mouth.
- Thermoplastics which allow treatments with few skin marks, because most of the reference lines can be placed on the stretched plastic sheet.

As concerns radiation protection the radiographer must protect himself, the patient, and his coworkers from unnecessary exposure to ionizing radiation. Torres (1997:98) states that precautions to prevent excessive exposure to radiation involve constant vigilance as the radiographer works. Among the current regulations for safety precautions listed by (Khan, 2010: 372) pertaining to teletherapy use of radioisotopes are:

A licensee shall,

- Control access to the teletherapy room by a door.
- Install door interlocks to prevent the beam from turning on when the door is open, to turn the beam off when the door is opened, and to prevent the beam from turning back on after a door interlock interruption without closing the door and resettling beam "on/off" control the console.
- Install a permanent radiation monitor capable of continuously monitoring beam, status.
- Equip the teletherapy room to permit continuous observation of the patient from the teletherapy unit console during irradiation.

Also among the regulations listed by (Khan 2010: 372) are the periodic checks which require that a licensee shall perform output spot checks once in each calendar month.

2.3. Patient Care after External Beam Radiotherapy

Before the patient leaves the radiotherapy department he/she should be educated on side effects of the treatment which he/she is likely to experience. Holleb, Fink, & Murphy (1996: 590) states that most side effects of therapy occur after the patient leaves the treatment facility and their management is likely to take place at home. Teaching patients what side effects to watch for and how to manage them allows patients to participate actively in their care and provides them with a sense of control. However, in all cases it is extremely important that patients know when to notify the physician. Dobbs, Barrette, & Ash (1999:32) recommends that treatment should be monitored by reviewing patients weekly during their treatment in the clinic by a team of radiographers and radiation oncologists, and medications can be prescribed for side effects such as nausea, diarrhea, esophagitis and skin reactions.

Smeltzer et al (2008:394) states that side effects commonly experienced by patients receiving radiation therapy include fatigue, malaise and anorexia. The patient should be made aware that these effects may occur, are temporary and subside with the cessation of treatment. Holleb, Fink, & Murphy (1996: 591) explains that fatigue is best managed by instructing patients to pace their activities throughout the day depending on their energy level. The writers stipulate that frequent rest periods, going to bed early and getting up late help to minimize the treatment-related fatigue.

The local effect of the tumor may lead to reduced food intake, especially when tumor arises from or impinges on the alimentary tract. Patients with cancer of the oral cavity, the pharynx or the esophagus may have reduced intake because of odynophagia or dysphagia due to partial or complete obstruction, while psychological factors such as depression, grief or anxiety resulting from the disease or its treatment may lead to poor appetite. Thus there is a diminished or unbalanced dietary intake (Holleb, Fink & Murphy 1996:499).

Stomatitis, an inflammatory response of the oral tissues, is a common side effect of radiation and some types of chemotherapy (Smeltzer et al, 2008:426). Stomatitis commonly develops 5 to 14 days after chemotherapeutic agents such as doxorubicin and 5-fluorouracil or after radiation treatment of the head and neck. Smeltzer et al (2008:427) adds that radiation-induced xerostomia associated with decreased function of the salivary glands may contribute to stomatitis in patients who have received radiation to the head and neck.

Constipation is a very common symptom facing cancer patients causing abdominal discomfort, pain and embarrassment (Alexander, Fawcett & Runciman, 2000:977). It may lead to other serious problems such as fecal impaction, overflow diarrhea, urinary dysfunction, nausea, vomiting and even confusion. Sometimes constipation is disease related in the patient depending on the location of the cancer. Eating very small helpings of food with little roughage, drinking considerably less than before and opioids use, restricted mobility may all contribute to development of constipation.

The management of constipation, adds (Alexander, Fawcett & Runciman 2000: 977) is about more than prescribing and administering laxatives. It involves attention to the relief of pain and other symptoms to fluid and diet, and to adopting toilet facilities.

Nausea and vomiting are common symptoms in palliative care and are considered by some patients to be more distressing than pain (Alexander, Fawcett and Runciman, 2000: 973) Therefore before the patient leaves the radiotherapy department he should be educated on these symptoms to expect and how to react on them.

In conclusion, patient care involves all the activities that are carried out before, during and after treatment. Care before the radiation treatments involves among others gaining the willing cooperation of the patient and reassurance of the professional capabilities of the radiographer. General practice of hygiene during the procedure helps to prevent cross-infection to the highly susceptible cancer patient. Effective communication with the patient enhances the patient cooperation and therefore success of the treatment. Patient care after treatment involves communication with the patient and relatives in matters of expected side effects of treatments and education on how to handle them. There are limited studies documenting information about the level of care for cancer patients undergoing radiotherapy particularly in Kenya. This study will therefore go a long way in highlighting the level of care and challenges faced by caregivers as they attend to cancer patients that are undergoing radiotherapy.

3. Research Study Design

A descriptive cross-sectional survey type of design was utilized to collect data.

3.1. Study Area

The study area will be the cancer treatment center, Kenyatta National Hospital

3.2. Background of the Study Area

Kenyatta National Hospital (KNH) is the oldest hospital in the country having been founded in 1901 as the Native Civil Hospital. Following legal notice No. 109 (Kenya Gazette Supplement No. 23 of 10th April, 1987, KNH was established as a state corporation with a board of management under the State Corporation Act (www.marsgroupkenya.org, accessed on 9/11/2012). It is located along the Hospital Road on the eastern, off Ngong Road. On the Northern side it faces Ngong Road near its roundabout with Mbagathi Road. To the south of the hospital is Nairobi-Kisumu railway line (www.uonbi.ac.ke accessed on 9/11/2012). It covers 45.7 hectares. In the precincts of the KNH complex are Colleges of Health Sciences (University of Nairobi) the Kenya Medical Training College, Kenya Medical Research institute and the National Laboratory service (Ministry of Health).

The cancer treatment center is located within the hospital at the old 'King George VI' wing. It comprises several departments which include radiotherapy, nuclear medicine, out-patient oncology clinic, and two in-patient oncology wards. The radiotherapy department currently offers external beam radiation therapy using two cobalt-60 Teletherapy units.

3.3. Study Population

The study population included all cancer patients who came for cancer treatment in both of the Cobalt 60 treatment rooms – Phoenix and Equinox.

3.4. Sampling Method

A purposive sampling strategy was used to select the respondents. This strategy was chosen because other types like the random sampling or systematic sampling could have been time consuming, yet the time schedule was very limited.

3.5. Inclusion/ Exclusion criteria

All patients that were able to read and write that were treated between 8.00 a.m. and 4.00 p.m were interviewed. Excluded will be all in-patients, patient under 18 years and those above 80 years. Those excluded may not be in a position to give proper judgment due to the preferential treatment they may be accorded.

3.6. Data Collection Method

Self-administered questionnaires that the researcher distributed to the patients that came for treatment between 8.00 a.m. and 4.00 p.m were utilized for data collection. Informed consent was obtained from the participants before they were asked to fill and return the filled questionnaires.

3.7. Method of Data Analysis and Presentation

Data collected was appropriately coded to remove self-identifiers and then analyzed using Statistical Product and Service Solutions (SPSS) and multiple regression analyses were utilized to explore the interplay between variables and then come up with statistically significant relationships based on the values. The results were presented in form of charts, graphs, and frequency tables.

3.8. Ethical Considerations

Authority to carryout research was sought from the Ministry of Higher Education, Science and Technology through National Council for Science and Technology through the Director of Kenya Medical Training College. The information obtained was used strictly for the study purposes and was not used to incriminate or harm anybody. Information obtained was treated with utmost confidentiality and according as the data was appropriately coded to remove self-identifiers and the nature of the study was explained to each patient.

3.9. Research Outcome

The outcome is to help policy makers to plan for improved patient care in areas which will be found wanting at the Cancer Treatment Centre, Kenyatta National Hospital.

4. Presentation of the Study Findings

4.1. Introduction

This chapter presents the summary of statistically analyzed data for the entire sample and individual groups. The study was aimed at evaluating the care given to patients during external beam radiation therapy. The results were presented in line with the set specific objectives.

4.2. Demographic Data

Sex	Frequency	Percent
Male	15	37
Female	26	63
Total	41	100

Table 1: Distribution by sex

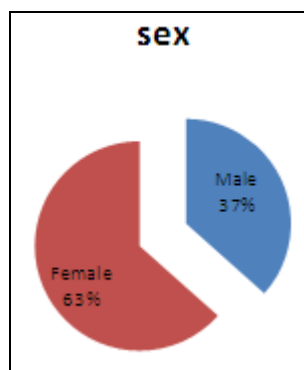


Figure 1: Percentage distribution by sex

Figure 1 and table 1 demonstrate that majority of patients who presented for radiotherapy was female (26). They were twice as many as the male (15). Female were 63% while male were 37%.

Age	Frequency	Percent
0-9	1	2
20-29	1	2
30-39	3	7
40-49	13	32
50-59	12	29
60 and above	11	27
Total	41	100

Table 2: Distribution by age

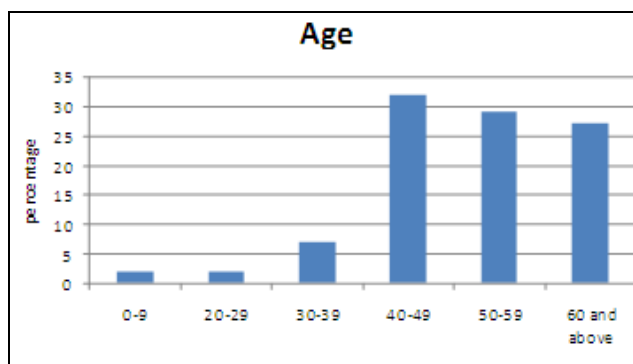


Figure 1: Percentage distribution by age

Table 2 and figure 2 demonstrate that majority of the respondents who presented to KNH radiotherapy department were aged between 40-60 years. A few of them were aged between 0-29 years.

Level of Education	Frequency	Percent
Primary	14	34
Secondary	12	29
College/University	9	22
None	6	15
Total	41	100

Table 3: Distribution by level of education

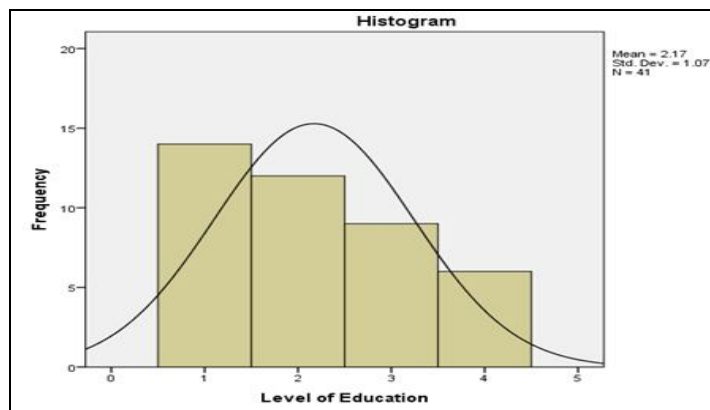


Figure 3: Histogram demonstrating level of education

Majority of the respondents have attained primary education (standard deviation of 1.07). The level of education is positively correlated with the overall satisfactory of care delivered. From the figure 4 below, the respondents who had any level of education were satisfied with the care given to them and were able to rate the care compared to those who had none.

Relationship between the level of Education and the overall satisfaction on care given						
		classify your overall satisfaction on care given to you				Total
		excellent	satisfactory	adequate	poor	
Level of Education	Primary	7	5	1	1	14
	Secondary	3	6	1	2	12
	College/University	1	6	2	0	9
	None	3	3	0	0	6
Total		14	20	4	3	41

Table 4: Overall satisfactions as related to level of education

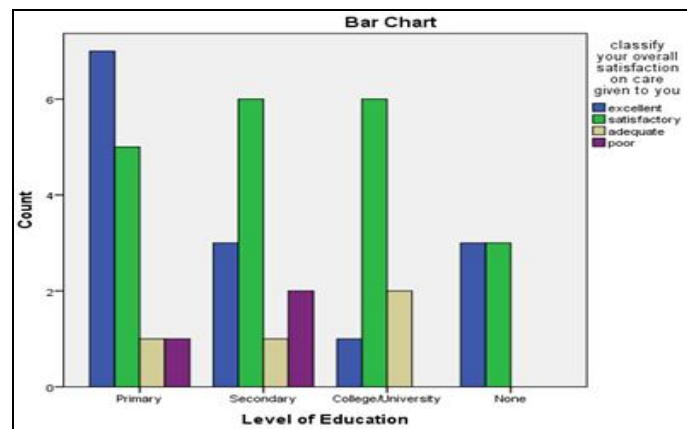


Figure 4: Distribution by level of education

Marital Status	Frequency	Percent
single	4	10
married	30	73
widowed	7	17
Total	41	100

Table 5: Distribution by marital status

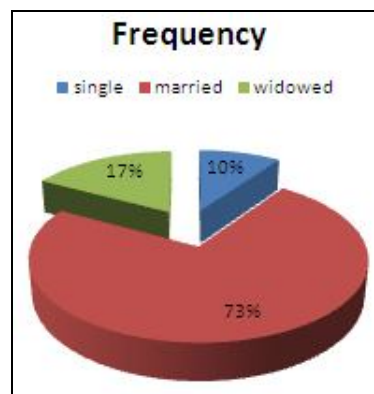


Figure 5: Distribution by marital status

From figure 5 above, 73% of the respondents were married, 17% were widowed while 10% were single.

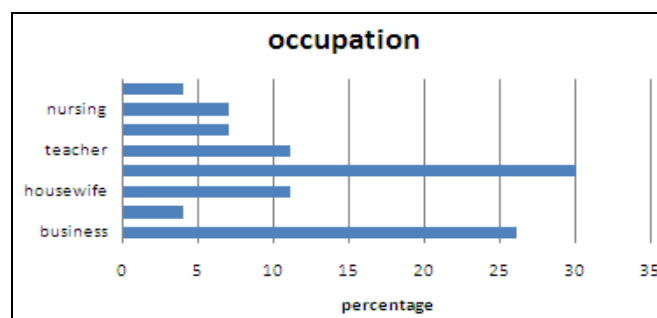


Figure 6: Distribution by occupation

The figure demonstrates that majority of the respondents were farmers followed by those in business.

4.3. Patient Care before Treatment

To what extent were you satisfied with the reception and instructions given to you on arrival to the radiotherapy department?

Extent of satisfaction with the reception at radiotherapy department	Frequency	Percent
very satisfied	12	29
satisfied	24	59
rarely satisfied	5	12
Total	41	100

Table 6: Satisfaction at the reception

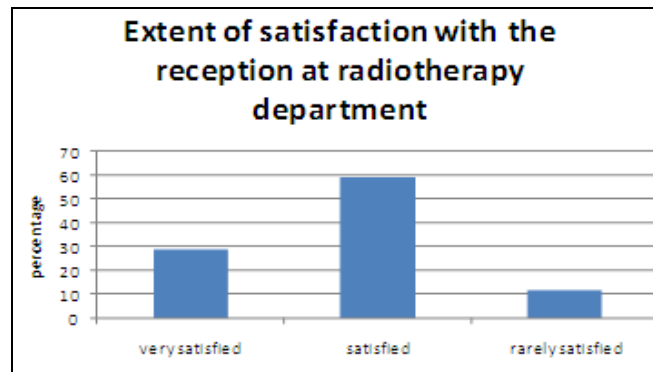


Figure 7: Extent of satisfaction with the reception at radiotherapy department

Eighty eight percent of the respondents were satisfied with the care given to them at the reception of the radiotherapy department with 29% of them being very satisfied. However, it is of importance to find out the reasons why the other 12% rarely get satisfied with the care at the reception yet it is the area that the patients are first served.

How tidy was the waiting area	Frequency	Percent
very tidy	12	29.3
fairy tidy	18	43.9
tidy	7	17.1
untidy	3	7.3
very untidy	1	2.4
Total	41	100.0

Table 7: Tidiness of the waiting area

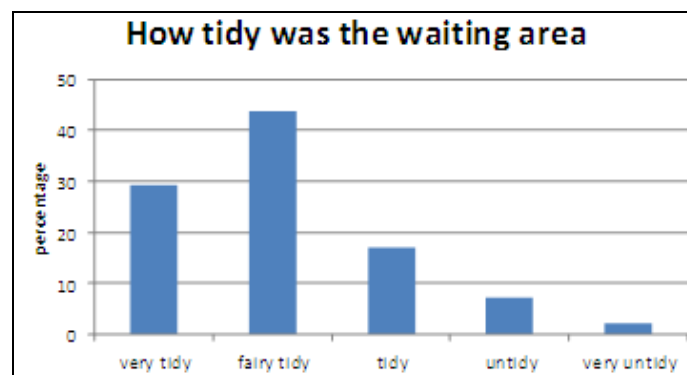


Figure 8: Tidiness of the waiting area

About 46% of the respondents felt that the waiting area was tidy while 44% felt it was fairy tidy and about 10% felt, it was untidy. This was contributed by the fact that the women toilet were not in good working conditions forcing the women patients to use the men toilets.

Facilities found at the waiting area	Frequency	Percent
long benches	4	10
padded single seats	1	2
television	5	12
long benches and television	29	71
padded single seats with television	2	5
Total	41	100

Table 8: Facilities found in the waiting area

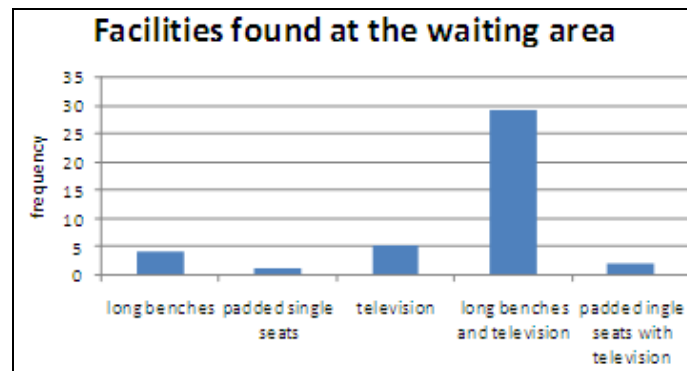


Figure 9: Facilities found at the waiting area

71% of the respondents found long benches and television in the waiting area of the radiotherapy department. The respondents said that they are many and the machines are few thus, they have long queues as they wait for their turns. It would be important if they were made comfortable at the waiting area

Waiting time before being called in for treatment	Frequency	Percent
immediately	4	9.8
less than 10 minutes	2	4.9
10-30 minutes	5	12.2
30-60 minutes	4	9.8
more than an hour	26	63.4
Total	41	100.0

Table 9: Waiting time before being called in for treatment

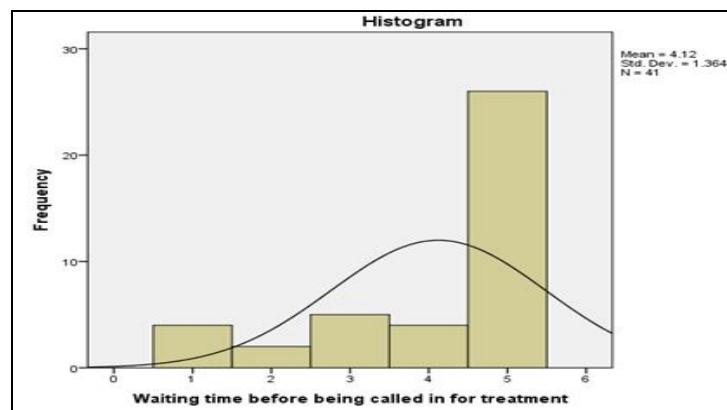


Figure 10: Waiting time before being called in for treatment

About 63% of the patients had to wait for more than one hour (standard deviation of 1.364) before they are called in for treatment.

4.4. Patient Care during treatment

How clean was the gown given during the treatment	Frequency	Percent
very clean	9	22
clean	11	27
moderately clean	1	2
not given gown	20	49
Total	41	100

Table 10: Cleanliness of the changing gown

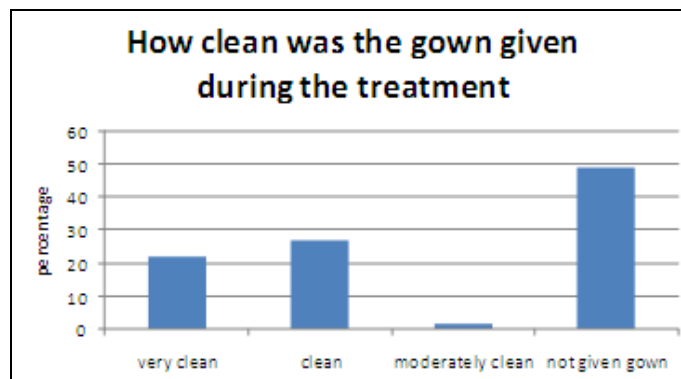


Figure 11: Cleanliness of changing gown

49% of the respondents felt that the gown given to them during treatment was clean or very clean. The equivalent numbers of patients were not given gowns during treatment.

How was the treatment room	Frequency	Percent
very tidy	22	53.7
tidy	11	26.8
moderately tidy	6	14.6
untidy	2	4.9
Total	41	100.0

Table 11: Cleanliness of the treatment room

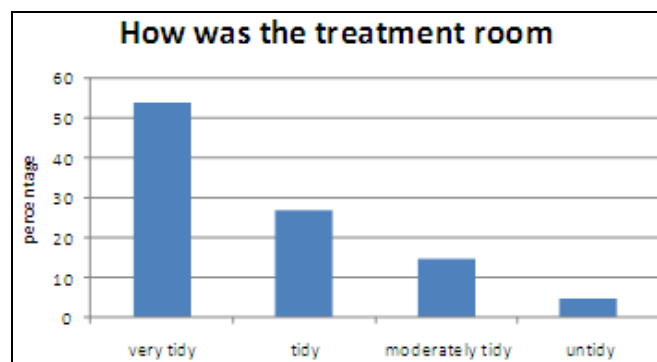


Figure 12: Tidiness of the treatment room

Eighty-one percent reported that the treatment room was tidy, 14% felt that the room was moderately tidy while 5% felt that the room was untidy.

How were the health workers dressed	Frequency	Percent
very smartly dressed	18	43.9
smartly dressed	17	41.5
satisfactorily dressed	6	14.6
Total	41	100.0

Table 12: Smartness of the health workers

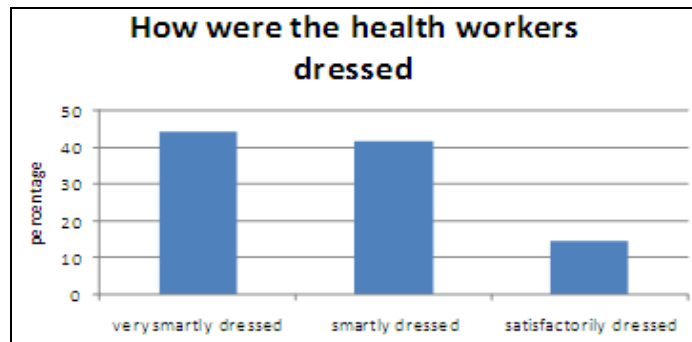


Figure 13: Smartness of the health workers

44% of the respondents felt that the health workers were smartly dressed while 15% felt that they were satisfactorily dressed.

How was the treatment procedure explained to you	Frequency	Percent
excellently	17	41.5
satisfactorily	11	26.8
adequately	3	7.3
fairly	5	12.2
not explained to me	5	12.2
Total	41	100.0

Table 13: Explanation of the treatment procedures

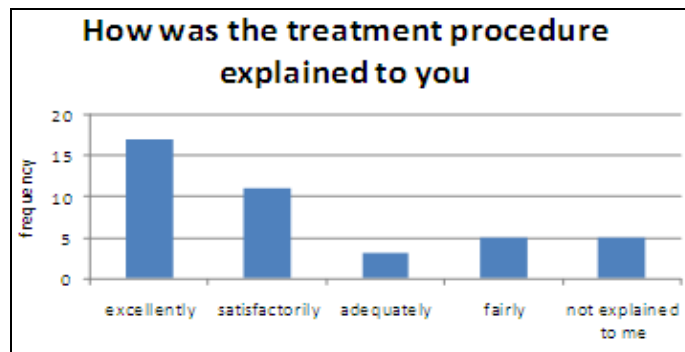


Figure 14: Explanation of treatment procedures

Majority of the respondents felt that the treatment procedure was excellently explained to them, 34% felt that the explanation was satisfactory, 12% found the explanation to be fair while another 12% were not given any explanation about the treatment procedure.

Attentiveness of the health worker during the treatment process	Frequency	Percent
very attentive	27	65.9
fairly attentive	10	24.4
poorly attentive	4	9.8
Total	41	100.0

Table 14: Attentiveness of the health workers during treatment

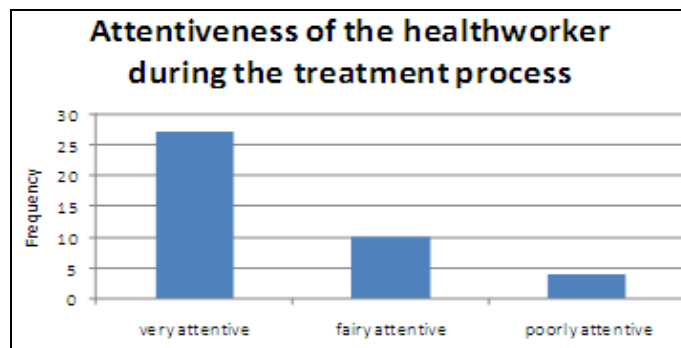


Figure 15: Attentiveness of health worker during treatment

66% of the respondents reported that the health workers were attentive during the treatment procedure, 24% felt they were fairly attentive while 10% found them not attentive.

Items used during the treatment	Frequency	Percent
pillows under the head	30	73.2
masking tape over the forehead	4	9.8
masks over the head	1	2.4
pillows under the knee	1	2.4
pad under the head	3	7.3
others	2	4.9
Total	41	100.0

Table 15: Items used during the treatment

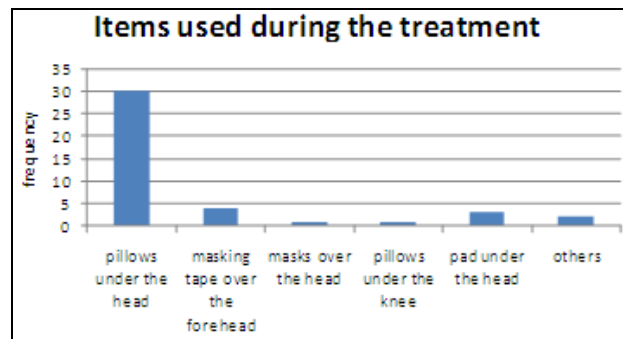


Figure 16: Items used during treatment

Majority of the respondent found pillows that are placed under the head during the treatment (73%) a few found the masking tape (10%) and pad under the head (7%) among others.

4.5. Patient Care after Treatment

Explanation of expected treatment side effects	Frequency	Percent
excellently	13	32
satisfactorily	17	41
poorly	4	10
not explained	7	17
Total	41	100

Table 16: Explanation of the expected treatment side effects

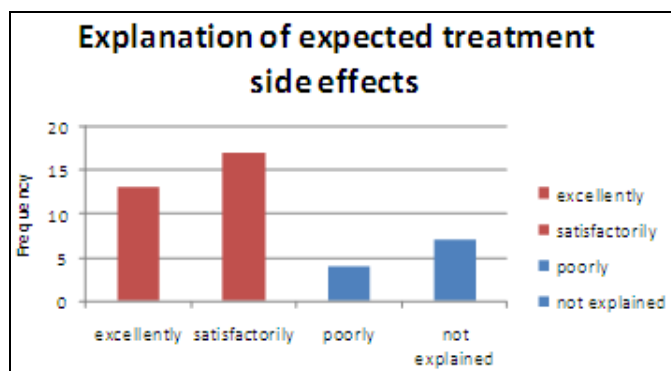


Figure 17: Explanation of expected treatment side effects

73% of the respondents were given explanation of the expected treatment side effects satisfactorily, 10% were poorly explained to while 17% were not given any explanation at all.

How were you advised to take care of the skin on the treatment area	Frequency	Percent
excellently	20	48.8
satisfactorily	8	19.5
adequately	3	7.3
fairy	5	12.2
not advised	5	12.2
Total	41	100.0

Table 17: Advice on skin care on the treatment area

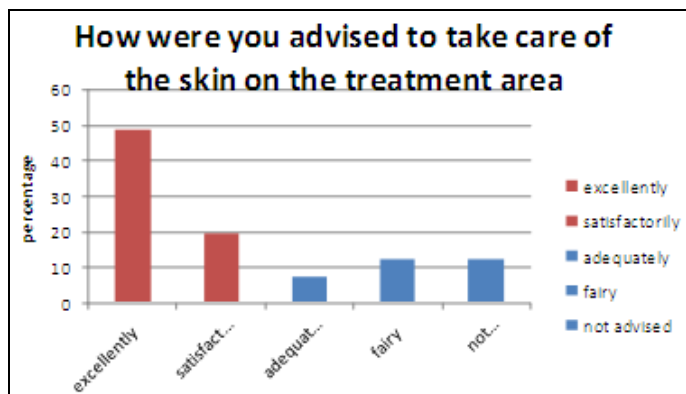


Figure 18: Advice on skin care on the treatment area

Majority of the respondents, 76% were satisfactorily advised to take care of their skin treatment area. 12% of them felt the advice was fairy done while another 12% were not advised on how to care for their skin treatment area.

How were you informed of treatment schedules and appointments	Frequency	Percent
excellently	19	46.3
satisfactorily	10	24.4
adequately	2	4.9
fairy	5	12.2
poorly	4	9.8
not informed	1	2.4
Total	41	100.0

Table 18: Information on treatment schedules and appointments

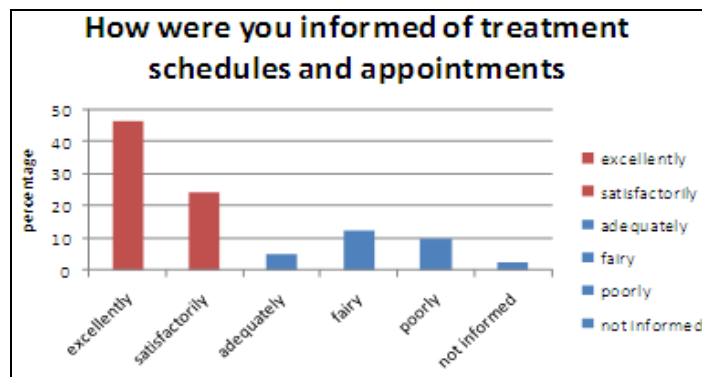


Figure 19: Information on treatment schedules and appointments

Majority of the respondents (76%) were informed of the treatment schedules and appointments adequately, 12% felt it was fairly done while about 10% felt it was poorly done because the appointments would be cancelled the last minute when the patient had already arrived in the department. About 2% were not informed on the appointments.

4.6. Overall Satisfaction

classify your overall satisfaction on care given to you	Frequency	Percent
excellent	14	34.1
satisfactory	20	48.8
adequate	4	9.8
poor	3	7.3
Total	41	100.0

Table 19: Overall satisfactions on the care given

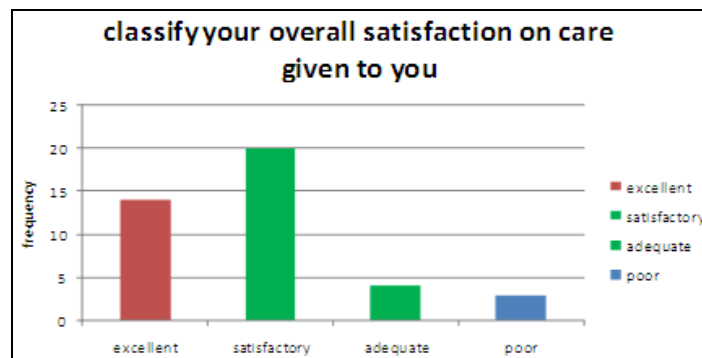


Figure 20: Overall satisfactions on the care given

About 34% of the respondents classified their overall satisfaction of the care given as excellent, 59% classified their satisfaction as adequate while 7% found the care to be poor.

Relationship between sex and the overall satisfaction of care given						
		classify your overall satisfaction on care given to you				Total
		excellent	satisfactory	adequate	poor	
Sex	Male	5	5	2	3	15
	Female	9	15	2	0	26
Total		14	20	4	3	41

Table 20: Relation between sex and the overall satisfaction on care given

The female patients were the majority seeking radiotherapy services and were satisfied with the services rendered the male patients constituted of 37% and 20% of them found the care given to be poor presented in the bar chart below.

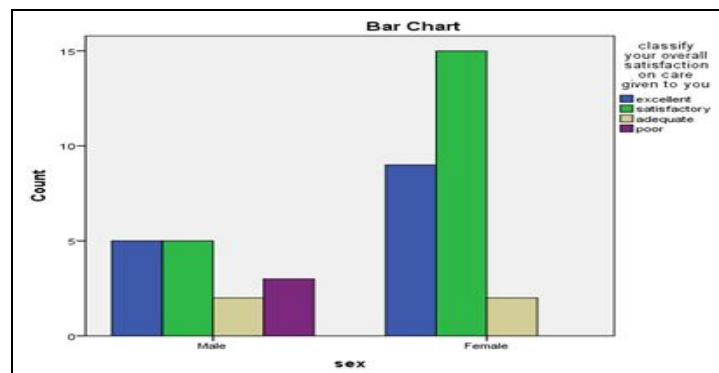


Figure 21: Relationship between sex and the overall satisfaction of the care given

5. Discussion and Interpretation

5.1. Demographic Data

The study revealed that 63% of the patients presenting for radiotherapy were female. This finding was in contrast with the report of the National Centre for Health statistics and United State Bureau of census which reports that the proportion of new cases in men to women is 520,000: 520,000 (Holleb, et al. 1996:3).

From the study the majority of patients were aged between 40 and 60 years. This is in conformity with literature which states that cancer is primarily a disease of older people with incidence rate increasing with age (www.cancerresearch.org).

The study revealed that majority of the patients had attained primary level of education. The patients who had any level of education were satisfied with the care given compared to those who had none, since the former could have some understanding of the expectations. Seventy three (73%) of the patients were married. This corresponds with the age bracket of 40-60 years who are mostly affected as shown in figure 2.

The study revealed that 30% of the patients were farmers, 26% were in business while the patients in other professions constituted 44%. Perhaps this can be related with the principle cause of cancer-exposure to certain chemicals in the environment (Holleb, et al. 1996:80).

5.2. Results on Patient Care before Treatment

The study revealed that 88% of the patients were satisfied with the care given to them before they were treated. However 12% were rarely satisfied. The waiting time was more than one hour as revealed by 63.4% of the patients. The existing literature emphasizes that hygiene for the patient must be maintained Chesney & Chesney (1978:29). This is not reflected in these findings as seen from the conditions of the toilets, waiting area and the benches.

5.3. Results on Patient Care during Treatment

Hygiene during treatment must be maintained to prevent cross-infection since the literature reveals infection is the leading cause of death in cancer patients (Smeltzer et al 2008:394). This study revealed that 51% of the patients were not given changing gowns. This went against the maintenance of quality care since in addition to hygiene the literature states that the patient's privacy should be maintained (Bryan, 1979:4).

Although 75.5% of the patients felt the treatment procedure was satisfactorily explained, a small number (12%) felt that prior explanation was not given. This figure, though small comparatively contravenes the literature which stipulates that use of therapeutic communication techniques by radiographers is of utmost importance (Torres 1997:317).

A good number of patients (90%) felt the health workers were attentive during treatment while 10% felt they were not. Though a small number each patient should be attended individually and every health worker should be attentive during treatment and radiographers working together should never begin conversation of their own on irrelevant themes (Chesney & Chesney 1978:7). This is also supported by (Torres, 1997:98) suggesting that there should be constant vigilance as the radiographer works.

5.4. Results on Patient Care after Treatment

The literature stipulates that the patient should be made to know the side effects of treatment which he/she is likely to experience, and be educated on how to manage them at home (Holleb, Fink & Murphy, 1996:950). The study revealed that 73% of the patients were given satisfactory explanation on the expected side effects of treatment. Twenty seven (27%) were either not explained or poorly explained. Therefore patient care on this area was not of high quality since some patients went home without the knowledge of taking care of themselves. The study revealed that 76% were advised on how to take care of the skin. Twelve per cent (12%) were not given any advice and 12% received only fair advice. The 24% who received fair or no advice lowered the quality of patient care.

Literature stipulates that patients should be monitored by reviewing them weekly during treatments in the clinics (Dobbs, Barrette & Ash, 1999). The study revealed that 22% of the patients were not fairly informed on the treatment schedules. This means that this percentage did not follow the appointments regularly and this could have reduced the therapeutic effect of the treatments given.

6. Summary

The study revealed that a majority of the patients (93%) were satisfied with the care given. Seven per cent (7%) stated that the patient care was poor. Female patient were the majority of those seeking radiotherapy services and were satisfied with services rendered. The male patients consisted of 37 percent and 20 percent of them found the care given to be poor.

7. Conclusions and Recommendations

The majority of the patients undergoing radiotherapy treatment at the KNH Cancer Treatment Centre generally received optimal quality of care as 88% of the respondents were satisfied with the care.

The waiting area was tidy; however, the respondents reported that the women's toilets were not in working conditions, forcing the women to use the men toilets. This calls for concerted efforts by the hospital administration to step up measures to ensure that this aspect of care is accorded to not only the female patients but the male patients who may have had to witness the sharing of these essential facilities.

A majority of the patients waited for more than an hour before their turn for treatment. This could have been occasioned by the fact that many patients seek treatment at the Cancer Treatment Centre that only has two radiotherapy machines. It is therefore incumbent upon the hospital management to ensure that more facilities are acquired and more personnel trained to meet the high demand for radiotherapy services.

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