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Is There A Need To Make The Radiotherapy Bunkers More Patient Friendly?

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Abstract

Objective: To survey the patient's perspective of the Teletherapy Bunker and to take measures to make them patient friendly inside and outside the Teletherapy bunkers.

Methods: 41 patients (Age 30 – 66 yrs) on Teletherapy were interviewed individually and were shown various types teletherapy bunkers and their interior decorations that currently exist in the Department of Radiation Oncology. There are 6 – Telecobalt Bunkers, 1- Linear accelerator bunker at Kidwai Memorial Institute of Oncology . The patients were shown various local environments and asked for their opinion regarding need for improving the local environment in the treatment zone in order to boost the patient morale and psychological well being.

Results: On the first treatment day 29.2% of the patients expressed anxiety. 60.97% of the patients felt the need for wall poster with nature, animals &. Artistic painting was preferred by 26.82%. 7.3% of patients preferred interior decorations with artificial flowers and plants.

Conclusion: There is a need to make the radiotherapy bunkers more users friendly and the patients comfort have to be of utmost importance. A good design & interior decoration with adequate lighting contributes directly to the therapeutic success by reducing patients' negative agitation and fears and giving them a sense of security at the same time.

Key Words: Teletherapy, Radiotherapy, Bunker, Maze Construction, Radiation protection, Linear Accelerator

INTRODUCTION

During Radiation Therapy the patient is subjected to high-energy x-ray radiation generated in a Linear Accelerator or Telecobalt Machine. This type of radiation is harmful when emitted without control. The sheer size of the linear accelerators requires the Hospital to undertake extensive building work to house the equipment, The rotating structure weighs _ tons, and is mounted on a meter diameter drum which rotates the Accelerator around the patient. Therefore the surroundings of the Machine have to be specially shielded. The structural radiation protection for radiotherapy rooms (also called Bunker) are walls and ceilings made of concrete, which are about 1 to 1.5 m thick4 (Picture 1 & 2). This requirement naturally affects the static's of the building and thus the location of the radiotherapy room3.

Radiation therapy machines, bunkers and the treatment procedures are most often imposing on the cancer patients, and they easily frighten the already stressed cancer patients. At the same time there is limitation to which alterations in the building design can be made, as radiation safety & protection criteria's have to be strictly followed

METHODS

41 patients (Age 30 – 66 yrs) on Teletherapy were interviewed individually and were shown various types teletherapy bunkers and their interior decorations that currently exist in the Department of Radiation Oncology. There are 6 – Telecobalt Bunkers, 1- Linear accelerator bunker. The patients were shown various local environments and asked for their opinion regarding need for improving the local environment in the treatment zone in order to boost the patient morale and psychological well being.

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RESULT

On their first treatment day 29.2% of the patients expressed anxiety. All the other patients informed that they spent little time in the treatment zone and they did not have fear of the machines and being in isolation

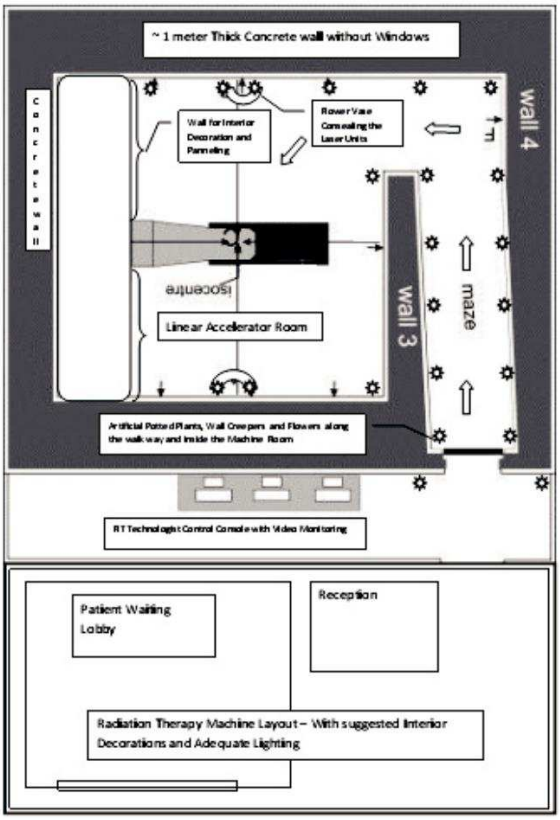
Regarding the need for improving the local environment to make the patients feel comfortable and to keep them distracted. 25(60.97%) of the patients felt the need for wall poster (with nature- 12 (48%), animals - 10 (40%) & birds - 03 (12%)), The artistic painting was preferred by 11(26.82%) of the subjects and 02(4.87%) believed that no change was required as they wished to finish their days treatment and return home at the earliest & the local environment did not matter to them. 7.3% (3) patients preferred interior decorations with artificial flowers and plants and sceneries like water in the poster imposed some kind of disturbance in their mind.

DISCUSSION

The issue of interior decorations within radiotherapy bunkers is being explored both with the equipment manufacturers and the design team for the new building. Radiotherapy bunker rooms need ceiling and wall imagery (e.g. ceiling tiles or projections) to give patients something pleasant to focus on. Background music in radiotherapy bunkers could help distract from Equipment.noise.or.sounds[1].

The lack of natural illumination in Tele-therapy Bunker is a critical issue. The medical staff accomplishes their daily work without natural light, and the patient, who comes to the radiotherapy daily for about six to eight weeks, has to get exposed

Picture 1: Patient on Treatment in Linear Accelerator with Immobilization Mask



Picture 2: Recommended Interior Decoration in the Linear Accelerator Bunker and Maze

to cellar like atmosphere of the irradiation bunker. A generously glazed atrium built in front of the radiotherapy room allows the radiotherapy room to be illuminated naturally. The greenery in the atrium also enhances the atmosphere in the radiotherapy room and gives the impression of a wider space.[3]

Garden areas are important for providing space away from the bunker. Both open-air and enclosed green spaces are required. Water fountains would be relaxing and therapeutic. Plants should reflect the changing seasons. Garden areas should be well maintained. Surfaces should allow for drip stands to be moved around. A gardening club would provide an activity for patients. The new environment should be aimed at offering patients a more peaceful and relaxed area to wait for their treatment. Patients have to be involved at all stages of the interior design - from the shade of paint, colors of wallpaper and color and design of the carpets.[3]

Waiting areas- The provision of sub-divided waiting areas would help to reduce the anxiety, and enhance the comfort of patients waiting to be seen. Waiting areas throughout the proposed Oncology Hospital have to be sub-divided to avoid large waiting areas. Consequently, patients will wait in smaller, specific waiting areas, adjacent to the area in which they are being seen or treated. Consideration needs to be given to means of reducing waiting times in the outpatients department and ensuring that patients are seen at their specified appointment times. Waiting times remain a significant issue in oncology. In addition, the systems for providing services to patients will continue to be reviewed on an ongoing basis, in order to improve the patient experience. Sufficient seats need to be available to accommodate both patients and relatives. A mix of seating types (high and low; soft and firm) is needed. In addition, reclining chairs and trolleys are important for patients who need to lie down. Small changing rooms attached to the radiotherapy bunkers are required (either inside or outside of the bunkers), to ensure patients' privacy. There should be easy access to drinking water, tea/coffee and toilet facilities. There should be separate waiting areas with and without TV. In addition, background music might help to relax patients. Catering facilities - providing good-quality, healthy food - should be easily accessible. However, the.café.needs.to.be.separate.from.the.Waiting.areas[3].

CONCLUSION

There is a need to make the radiotherapy bunkers more users friendly and the patients comfort have to be of utmost importance. It is preferable to interact with some previously treated radiotherapy patients and the currently patients on treatment, to designs a functional spatial organization and patient friendly interior environment in a Teletherapy bunker as seen in our study.

It was observed that, A good design contributes directly to the therapeutic success by reducing patients' negative agitation and fears and giving them a sense of security at the same time. As a result, the patients are supported in their determination to recover. There is also an indirect effect of the building's architecture, since it increases the staff's well-being and thus brings the medical staff to identify with their work places. As a result, the staffs enjoy their work more and their well-being is transferred to the patients as well. The fact that the relationship between patients and the staff is of utmost significance for the well-being of the Hospital Care[1,2].

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