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## Radiotherapy in cancer treatment in Ghana: from the past to present

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Cancer is a complex disease and should be a concern for all since we are all at risk of any type of cancer at a point in our lives. Early detection coupled with effective treatment is almost impossible without the existence of the requisite equipment and trained personnel. The world has made a huge progress in cancer treatments, research and advocacy and Ghana is no different. Radiotherapy is a form of treatment for cancer that uses carefully measured and controlled high energy X-rays to kill cancer cells. Radiotherapy forms a greater percentage of cancer treatment, which is one of the most cost-effective. Although the number of radiotherapy facilities in the country are inadequate, Ghana has made some strides in the development of its radiotherapy facilities.

According to the World Health Organisation, over 50% of all cancer patients require Radiotherapy at one stage or the other in the course of the disease for treatment and 40% of all the cancer cures result directly from the use of Radiotherapy. In Ghana, cancer of cervix is currently the most common cancer among women, and Radiotherapy plays a major role in its management.

Radiotherapy is a specialised treatment and is not available in every hospital. In Ghana, Radiotherapy Services can be assessed at Korle-bu Teaching Hospital in Accra, Komfo Anokye teaching Hospital in Kumasi, both public facilities and the Sweden Ghana Medical Centre in Accra which is a private centre.

Radiotherapy was introduced to Ghana in 1992 when the first radium brachytherapy was performed with the aid of the German Government. Before this, there had been unsuccessful attempts to establish a radiotherapy centre in Ghana since 1960. During that period a cobalt machine was donated by the Canadian Government to be used for medical purposes. However, because of lack of funds to house it, the machine was donated to the Lagos University Hospital in Nigeria. Korle-bu Teaching Hospital radiotherapy centre became operational in 1997 and the Komfo Anokye Teaching Hospital radiotherapy centre started treatment in June 2005 both with a strong support from the International Atomic Energy Agency through the Ghana Atomic Energy Commission. Presently, external and internal radiotherapy are available at both hospitals with low dose rate (Cesium-37) in Kumasi and high dose rate (cobalt-60) in Accra.

The Korle-Bu and Komfo Anokye Teaching Hospitals' Radiotherapy Centres now provide a comprehensive service, treating over 1000 patients a year. A lot of patients have been treated so far with radiotherapy in Ghana, over a quarter of whom are women with cervical cancer. Many of them are farmers especially at the Komfo Anokye Teaching Hospital. The high number of patients is further exacerbated by the fact that the neighbouring countries of Côte d'Ivoire, Burkina Faso, Togo, Benin and Sierra Leone have no Radiotherapy treatment facilities of their own. Hence most of their cancer patients who require radiotherapy are referred to Ghana for treatment. The establishment of these centres have also reduce the number of patients who travel abroad for radiotherapy services. Ghanaians can therefore have the luxury of being treated in the country by fellow Ghanaians.

Due to the high cancer cases coupled with lack of accessibility and modernisation in Radiotherapy practice there is the need for further development in this specialty. The Population of Ghana has since increased from the time this centres were established. The population of Ghana is currently estimated to be approximately 25million, with a male to female ratio of 49:51. Where a 70% of this population is living in the south of the country with the majority of these, living in the Ashanti and Coastal regions. The two major radiotherapy centres are 250km apart making accessibility a challenge.

In response to this challenge the Government of Ghana recently acquired a \$13.5 million from the OPEC Fund

and the Arab Bank for Economic Development in Africa for the upgrading and expansion of the two radiotherapy centres in Accra and Kumasi. Under this expansion project, the old cobalt units are being replaced with 2 Linacs and a new cobalt unit. A 6 MV Linac along with the new cobalt unit are being installed in Accra, while a dual energy 6/10 MV Linac is being installed in Kumasi. Due to the advancement in radiotherapy, linacs are mostly the standardised machines used in all modern Radiotherapy Centres in the World. Moreover, other obsolete equipment will be replaced and the human resource will be strengthened.

In all these the IAEA has been very instrumental with a lot of projects in the country. Currently two staffs of Komfo Anokye Teaching Hospital are currently on International Atomic Energy Agency fellowship on advanced radiotherapy training in partnership with the International Centre for theoretical physics(I.C.T.P) in Italy.

## **Country**

Ghana

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