Financial implication of breast cancer hypofractionated radiotherapy

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Background-
Breast cancer is the most common cancer in female, worldwide. Radiation is an integral part of treatment for local control & most patients need it, except selective early stage patients undergoing modified radical mastectomy or elderly patients who were operated & fitting to PRIME II trial criteria. 50 Gy in 25 # was the age-old radiation dose regimen as given by NSABP trial.

In 2008, UK START B trial had shown non-inferiority of 40 Gy in 15 # regimen. The 3-week hypofractionated radiation saves substantial money of patients which was subject of this study.

Method-
In 2019 at HCGCCK Cancer Centre, Nairobi I had started the shorter 3-week regimen for all breast cancer patients needing radiation & the expenditure, both direct as well as indirect was calculated. Direct cost includes cost of radiation, treatment planning & was obtained from hospital bills. Drug cost was excluded as the amount was too small & insignificant. Indirect cost includes the cost of staying in Nairobi, food & the cost of commuting (local patients) which were obtained from each patient. Total cost during radiation was compared for both 5 week & 3-week regimen.

Result-
Direct cost had reduced from 1750 USD to 1100 USD favoring the shorter 3-week regimen. This translates to 37% cost reduction. Indirect cost was reduced by 42% as the duration of stay reduced from 33 days (5 weeks RT) to 19 days (3 weeks RT) for patients who are from other cities. Those from Nairobi had informed similar figure of commuting cost reduction. (40%)

Overall, the total cost (direct & indirect) of radiation treatment was reduced by 40%.
Conclusion-
All patients were glad to know the reduced duration of radiation treatment & 40% cost saving. The time factor has not been taken into account, few patients on job were able join their workplace 2 weeks earlier. A second study was being planned to calculate the financial implication of ultra-hypo-fractionated radiation (26 Gy in 5 #) as proposed & proven in Fast Forward trial published in 2020.