Global Center Challenges and Role of RT

Challenges and Solutions of Establishing Advanced Radiation Oncology Services in low and Middle Income (LMI) countries

Shada Wadi-Ramahi¹, Belal Moftah¹, Jamal Khader², Zeinab Alhaddad³, Layth Mula-Hussain⁴, Zeinab Hassan⁵

¹Biomedical Physics Department, King Faisal Specialist Hospital and Research Center (KFSH&RC), Riyadh, Saudi Arabia
²Radiation Oncology Department, King Hussein Cancer Center (KHCC), Amman, Jordan
³Radiation Oncology Department, King Hamad University Hospital (KHUH), Manama, Bahrain
⁴Radiation Oncology Department, Zhianawa cancer Center (ZCC), Sulaymaniyah, Iraq
⁵Medical Physics Department, National Cancer Institute (NCI-Egypt), Cairo, Egypt
Introduction

• LMIC face many challenges, the least of which is monetary.
• The clinical and administrative challenges can be summarized in 4 categories:
  1. Number of qualified radiation oncology service (ROS) professionals,
  2. Academic education and clinical training,
  3. National regulations including official recognition of the ROS professions,
  4. Availability of modern equipment and required maintenance.

  The first two are most important from clinical point of view, whereas the remaining two show the level of maturity and awareness of the ROS professions in the country.
Facing Challenges – lack of qualified professionals

The authors have resorted to collaborative agreements with reputed regional or international cancer institutions to overcome this challenge.

Example of International agreements include:

1. Jordan’s King Hussein Cancer Center (KHCC) and Egypt’s National Cancer Institute (NCI) with MD Anderson Cancer Center (MDACC).
2. Zhianawa Cancer Center (ZCC) and West Virginia University.
3. King Hamad University Hospital (KHUH) and Turkey’s Erciyes hospital.

Example of regional collaboration includes:

1. Iraq’s ZCC using the medical physics and radiation oncology expertise in both Jordan’s KHCC and Saudi KFSH&RC medical physics experts in certain clinical and teaching aspects.
Facing Challenges – lack of academic and clinical training programs

Multi-sourcing and out-sourcing by LMIC pulling resources together and recognizing programs in respective countries for professionals’ education and training.

Programs/services that have regional outreach:

1. IAEA-sponsored Jordan’s graduate program in medical physics at the U. of Jordan.
2. IAEA-sponsored Saudi’s residency program in medical physics (radiotherapy and nuclear medicine) at KFSH&RC. These two programs have graduated medical physicists who have gone to work in the region in various capacities.
3. Jordan’s radiation oncology residency program at KHCC have graduated many certified radiation oncologists who have gone to work in the region in various institutions.
4. Saudi’s designated secondary standard lab and IAEA collaborative center at KFSH&RC, that provides regional hospitals with calibration services.
Discussion/conclusions

- While it is true that many challenges in LMIC require governmental intervention and heavy financial resources, yet many others can be overcome with limited resources;
  - Lack of qualified professionals in certain areas can be overcome by collaborative agreements between regional institutions and individual expert visits.
  - Lack of academic and training programs can be overcome by recognizing programs in other countries and using them for the greater benefit of the region.