Competency-based education of RTTs in Romania: changing the paradigm to prepare the future

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Brief history of RT centers in Romania

- The network of public radiotherapy centers was established between 1970-1987 taking into account:
  - Epidemiologic criteria
  - Geographic criteria
  - 16 RT centers generally equipped with ROKUS M cobalt machines of soviet production
  - 1998-2000- reequipment of this centers with 10 new Co machines, and 6 LINACS, brachitherapy units, dosimetry equipment
  - 2009- Oncology Institute Cluj 1 new modern RT Chain (LINAC, CT scanner, planning system)
  - 2010- 3 new LINACS in Bucharest
  - 2013, 2 LINACS Oncology Regional Institute Iasi
  - Actually we have only 12 functional RT centers in public sistem with 16 LINACS and 3 Co

- PRIVATE RT CENTERS- 7 centers (6 LINACS, 1 Tomotherapy)
  - 3 Bucharest, 1 Brasov, 1 Sibiu, 1 Cluj, 1 Timisoara

2015- 19, 8 Mil. inhabitants
Public 19 MV units
Private 7 MV units
RT in Romania vs international standards

• International standard: >65% of cancer patients need RT during their disease

• Romania:
  • 1994: 42,297 new cancer patients
    • Megavoltage RT- 7,000= 16,5%
  • 2011: 72,000 new cancer patients,
    • Megavoltage RT-19,490= 39,7%
  • 2015: 73,500 new cancer patients,
    • Megavoltage RT-17,159= 23,5% !
  • Optimal RT utilisation rate for Romania- 52%

Radiotherapy Romania: workforce evolution
Status of RTTs formation in Romania

- Extremely heterogeneous
  - UMF Cluj the only university with a bachelor degree program - 3 years 180 ECTS (ARACIS accreditation 2016)
- Post-secondary schools, some allow entrance without the student having passed the final examinations – **baccalaureate!!**
- Very frequently the practice is of “on the job training”
Prerequisites for curriculum review at UMF Cluj

• Revision for the RT curriculum had taken place in the context of:
  • Major technological advances in radiotherapy over the last decades
  • Shortage of good formed RTT’s able to cope this challenges
  • Development of technical infrastructure in Romania: 6 RT centers have to be retrofitted by the end of 2018

• Aim:
  • Building on a comprehensive and well qualified practitioner
  • Acquiring adequate skills:
    • Technical
    • Clinical
    • Psychosocial
    • Ethical
    • Team work
  • Standardization of Romanian training system according to EU practices
  • Continuing training!!
Guidelines used to improve RTT’ training

• **ESTRO vision 2020:**

  “Every cancer patient in Europe, will have access to state of the art radiotherapy, as part of a multidisciplinary approach where treatment is individualised for the specific patient’s cancer, taking account of the patient’s personal circumstances”

• **ESTRO guidelines:**


• **The IAEA CORE Curriculum:** A handbook for the education of radiation therapists (RTTs), training course series 58.
UMF Cluj Curriculum Modifications 2016

• 180 ECTS, allocated over 3 years of study
• Explicit subjects for radiation oncology – 22 (ECTS) >50% practical work

  • 1st year - basic sciences, but also specific (radiology/radiotherapy) disciplines that sum up 14 ECTS
  • 2nd year - specific subjects 48 ECTS
  • 3rd year - Specific subjects 51 ECTS
Continuous medical education for RTTs

• Formal postgraduate education
• Structured (inter)departmental education programmes
  • Practical Training Course for RTTs- sustained by UMF Cluj yearly from 2005 (last in April 2017)
• ESTRO school activities
• Continuing professional development
  • Journal clubs
  • Writing groups
  • Critical incident analysis
  • Case presentation/analysis
Training development - perspectives

• Increasing the number of credits for radiotherapy at bachelor degree
• Launching a 2 year Master's program for RTT’s
• Launching a doctoral program in order to have qualified trainers among the technicians
• The development of a “VERT” center
• Constraints:
  • Limited number of seats (30/year) due to limited technical infrastructure
  • The current academic staff which is now insufficient
Discussion/conclusions

• Therapeutic radiographers are at the forefront of cancer assistance, playing a vital role in providing high quality radiotherapy services.

• The development of technical infrastructure of radiotherapy departments in Romania requires adapting the educational offer to the needs of the labor market. RTT’s must have knowledge and practical abilities to adapt to a complex work environment.

• At the University of Medicine and Pharmacy in Cluj Napoca there is a study program of 180 ECTS that has been modernized starting with academic year 2016 to include an increased number of courses and practical activities dedicated to radiotherapy.

• A master degree program for RTTs is scheduled from the academic year 2017-2018.

• It is so far the only University in Romania that offers such a program of study. UMF Cluj take the leadership role to extend such programs to other universities.