Human Health

Concept Note

Childhood Cancer

Applying Nuclear Nutrition Techniques to Improve Outcomes for Childhood Cancer in Low and Middle-Income Countries
Coordinated Research Project (CRP)

THE RATIONALE

Survival rates for childhood cancer in Low and Middle-Income Countries (LMICs) are between 10-30% as opposed to 80% in High Income Countries. Other than the striking issues of misdiagnosis of cancer, inaccessible treatment and scarcity of specialized health professionals, malnutrition also plays a pivotal role in lower survival rates of children with cancer. Whereas new cancer therapies are not readily accessible and other solutions to improve survival may not be feasible in LMICs, a focus on nutritional management could serve to raise the standard of care and improve clinical outcomes with simple low-cost strategies, such as educating staff, identifying malnutrition, and providing low-cost nutrition interventions. To support LMICs in employing the most effective evidence-based nutrition care, quality research in LMICs is required to understand the interlinking relationships between cancer, nutritional status and clinical outcomes.

PROPOSAL OBJECTIVE

Support Member States in using nuclear techniques to generate evidence on how to improve survival rates in childhood cancer patients through understanding of how cancer affects nutritional status clinical outcomes and nutritional interventions.

KEY TECHNOLOGY

- Stable isotope dilution techniques to determine body composition and total energy expenditure.
- Dual Energy X-ray Absorptiometry to assess body composition and bone density.

PROPOSED ACTIVITIES

- Organization of coordination meetings to formulate the work programmes, share progress, and plan dissemination.
- Development of R&D network of participating institutions to ensure a collection of quality data and harmonization of nutrition nuclear assessment procedures among the partners.
- Development of guidance material on the nutritional and lifestyle support during childhood cancer treatment.

DURATION

Five years

BENEFICIARY COUNTRIES

All IAEA Member States

EXPECTED OUTCOMES

Improved understanding of the interlinking relationships between cancer, body composition, energy expenditure, interventions and clinical outcomes in childhood cancer. The project will also provide guidance to childhood cancer centres to implement and monitor nutrition supportive care programs to prevent premature deaths from childhood cancer in LMICs.

TOTAL ESTIMATED BUDGET

Budget (EUR) with 7% PSC included

Year 1	32 100
Year 2	74 900
Year 3	32 100
Year 4	32 100
Year 5	32 100
Total	**203 300**

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