Integrating Physical Activity into Clinical Nutrition Pathways to Improve Patient Outcomes.
The Dual Power Approach.

Project team: Izabela Łasińska, Dorota Mańkowska-Wierzbicka
Contact: Izabela Łasińska (lasinska.izabela@spsk2.pl, mobile +48515702636)

Description of the initiative

- **Background / context:** Cachexia and sarcopenia are common in cancer patients. Despite growing awareness, these conditions remain underdiagnosed and undertreated in everyday clinical practice.
- **Rationale for the initiative:** Appropriate nutritional support, combined with properly tailored physical activity, significantly improves treatment outcomes, including survival rates and a reduction in the adverse events of cancer therapy. Despite existing recommendations regarding physical activity, many patients do not engage in it due to concerns about straining their bodies or a lack of tailored guidance.
- **Objectives and scope:**The study evaluates two exercise-nutrition protocols regarding their impact on cancer patients' nutritional status, muscle function, and clinical outcomes.

Planned activities & deliverables

Outline the key steps of the project management plan: Patients undergoing systemic cancer treatment will be assigned to two groups based on their physical fitness (Group A – low intensity, Group B – higher intensity). Exercise programs will be individually tailored and modified monthly, following the principle of progressive load increase, depending on the patient's tolerance and clinical condition. Concurrently, nutritional education will be provided, covering the need for macro- and micronutrients, and in justified cases, nutritional therapy (ONS, enteral or parenteral nutrition) will be implemented. At the same time, systematic measurements will be conducted to assess the effectiveness of the intervention, including nutritional status, muscle function, and clinical parameters.

What are the concrete deliverables of the project? Patients will undergo a comprehensive assessment (body composition analysis using the BIA method, anthropometric measurements, assessment of calf muscle thickness via ultrasound, muscle strength and functional fitness) of their body composition and muscle function before the start of treatment and then monthly for a period of 4 months.

What progress and achievements are possible in the next 12 and 24 months? 12 months: the recruitment of patients to Group A and B, data collection and analysis; next 24 months: publication of article and preparation of two ready-to-use exercise progressive overload sets that patients can perform depending on their physical capability during oncological treatment.

Resources & enablers

- **Describe personnel, financial needs, and disclose any other fundings in relation to the project (confirmed, planned or potential) :** Expert-led team (oncologists, nutritionists, trainers).

Specify how the grant will be spent: purchase of a BIA analyzer – 8,700 EUR, purchase of a handgrip dynamometer – 300 EUR, data analysis and project management – 11,700 EUR, conducting visits and developing a protocol – 15,800 EUR, publication cost – 3,500 EUR. The total project budget is 40,000 EUR.

- **What factors will make the project successful?** multidisciplinary team: members of Polish Society for Parenteral, Enteral Nutrition and Metabolism, clinical oncologists and fitness trainers.

Results, expected outcomes & impact

- **How will the findings be implemented?** Project findings will be turned into two tailored online exercise programs for clinical implementation.
- **How will this project advance nutritional care in clinical practice in one or more of the following areas of clinical nutrition:**
- **Demonstrating effective nutritional care and implementation of clinical nutrition management pathways and therapies.** Synergizing physical activity with clinical nutrition therapies to enhance patient nutritional status, resilience and survival.
- **Strategies to implement and advance nutritional care in clinical practice.** Combining nutrition and exercise maximizes patient outcomes and should be implemented in clinical practice.
- **Evidence of improved patient outcomes, including patient reported outcomes.** Survival data, Quality of Life (QoL) and body assessment will be monitored.
- **Demonstration of health economic benefits.** Achieving longer survival and fewer adverse events.
- **Patient and carer initiatives demonstrating improved access to, or compliance with clinical nutrition therapy.** The study incorporates nutrition and physical activity education for patients and caregivers.
- **Education of medical students or healthcare professionals.** Integrating medical students and residents into clinical on-site patient visits.
- **Is the project transferable to other care settings?** The project is implementation-oriented and may serve as a care model adaptable to other centers.

X **Please tick to confirm the PEN letter of endorsement is attached. Incomplete submissions will not be considered.**