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## Toward targeted exercise and dietary interventions for adolescents and young adults with cancer

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**Background:** Adolescents and young adult (AYA) cancer survivors (18-39 years at diagnosis) face unique long-term challenges following treatment. Fatigue is among the most persistent problems, impairing health-related quality of life (HRQoL) and reducing workability. Many AYAs also engage in unhealthy lifestyle behaviours. My recent analyses from the Dutch SURVAYA data (~4000 AYA cancer survivors >5 years after diagnosis) revealed that only 28% maintained a healthy body weight, 25% met the fruit and vegetable intake recommendations, and 35% achieved physical activity guidelines. Importantly, lower adherence to these lifestyle recommendations was associated with higher levels of fatigue and poorer HRQoL.

**Problem:** Existing trials confirm that exercise and diet reduce fatigue, but they focus on adults aged 40 years and older, and typically examine exercise and diet in isolation. Furthermore, current programs rarely address the unique psychosocial, developmental, and behavioural characteristics of AYAs. Integrated, age-specific lifestyle interventions remain scarce.

**Solution:** This project represents the first steps toward a targeted multimodal lifestyle intervention for AYAs, with three integrated aims:

1. Trajectory analysis: Map exercise and dietary behaviours from diagnosis to 2 years, identifying high-risk groups –using COMPRAYA, a large longitudinal AYA cohort in the Netherlands
2. Intervention evaluation: Assess the combined effects of exercise and dietary support on fatigue and HRQoL and explore variations by patient and clinical characteristics –using the POLARIS database, which includes data from 52 RCTs and 425 AYAs.
3. Needs assessment: Identify AYA's preferences and requirements for lifestyle support to ensure interventions are relevant, acceptable, and sustainable. –via focus groups.

Results from all aims will be presented at ISEO.

**Impact:** By laying the groundwork for a dietary and exercise trial in AYAs, this project aims to deliver a targeted exercise and dietary intervention that reduces fatigue, enhances quality of life, and improves workability.

### Keywords

Adolescents and young adults with cancer; exercise and dietary intervention; fatigue; quality of life

### Conflict of Interest & Ethical Approval

yes

### Abstract submitters declaration

yes

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