

INTRODUCTION

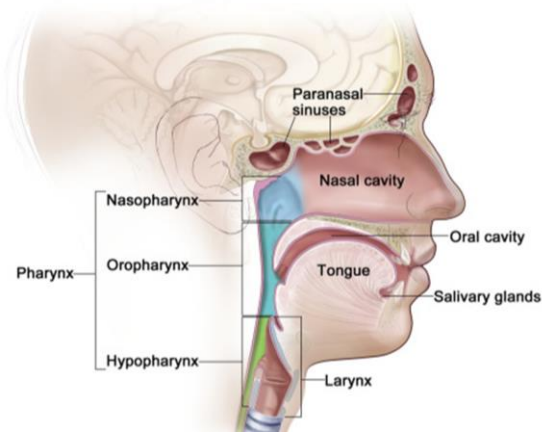
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Physical activity (PA) is crucial for recovery & well-being in head and neck cancer (HNC) patients.
- ▼

Only 9–17% meet WHO PA guidelines before treatment.
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Pre-treatment PA is limited... due to fatigue, muscle wasting, reduced physical capacity, nutritional issues. especially in older adults, higher tumor stage, and lower education groups.
- ➡

Accurate PA assessment is essential given the low baseline and benefits of PA.



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Only one prior study combined objective and subjective PA assessment methods before HNC treatment, without comparing them.
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1. How well do objective and subjective PA assessments agree?
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2. To what extent are these differences explained by psychological factors/physical capacity?
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3. How is PA related to Quality Of Life?

METHODS & RESULTS

👥 68 HNC patients starting curative radiotherapy

AIM 2. Psychological and physical determinants of obj and subj PA?

Psychological factors:
autonomous motivation, self-efficacy, readiness to change behavior (*questionnaires*)
Physical capacity:
6-minute walk distance (*6-minute walk test*)
📊 Regression analyses adjusted for age and BMI

- **Motivation** explained more variance in subjective PA.
- **Self-efficacy** = strongest predictor of subjective PA
- **Readiness to change** = strongest for objective PA
- **Physical capacity** explained 8% of objective PA.

AIM 3. Relationship between PA and Quality Of Life (QOL)?

QOL measured by *EORTC QLQ-C30 v3.0*
📊 Spearman correlations

📉 **Weak** and mostly **non-significant** correlations between PA and QOL.

Figure 2: Heatmap of the relationship between the different dimensions of QOL (EORTC QLQ-C30 v3.0) and objective/subjective PA, based on Spearman correlation coefficients and their p-values.

EORTC QLQ-C30 v3.0	Accelerometry						IPAQ-L				
	Sedentary	Steps	Light PA	MVPA	Vigorous PA	Total PA	Sedentary	Walking	MVPA	Vigorous PA	Total PA
Quality of life	-0.15	0.24	0.08	0.26	0.19	0.18	-0.09	0.21	0.14	0.07	0.22
Physical functioning	-0.07	0.18	0.03	0.28	0.19	0.13	0.00	0.28	0.02	0.21	0.20
Role functioning	-0.14	0.05	0.18	0.09	0.09	0.21	-0.07	0.20	0.06	0.08	0.13
Emotional functioning	-0.10	0.07	0.24	0.00	-0.05	0.22	0.03	0.23	0.06	0.08	0.20
Cognitive functioning	-0.11	0.00	0.24	0.03	0.19	0.26	-0.09	0.06	-0.15	0.07	0.01
Social functioning	0.01	0.11	0.28	0.11	-0.34	0.29	-0.07	0.12	0.10	0.02	0.18
Fatigue	0.12	-0.11	-0.13	-0.13	-0.05	-0.17	0.13	-0.23	-0.09	-0.04	-0.23
Pain	0.00	-0.10	-0.04	-0.15	-0.10	-0.10	0.01	-0.19	-0.02	-0.03	-0.17
Insomnia	0.16	-0.02	-0.08	-0.02	-0.03	-0.07	0.19	-0.19	0.01	-0.33	-0.15

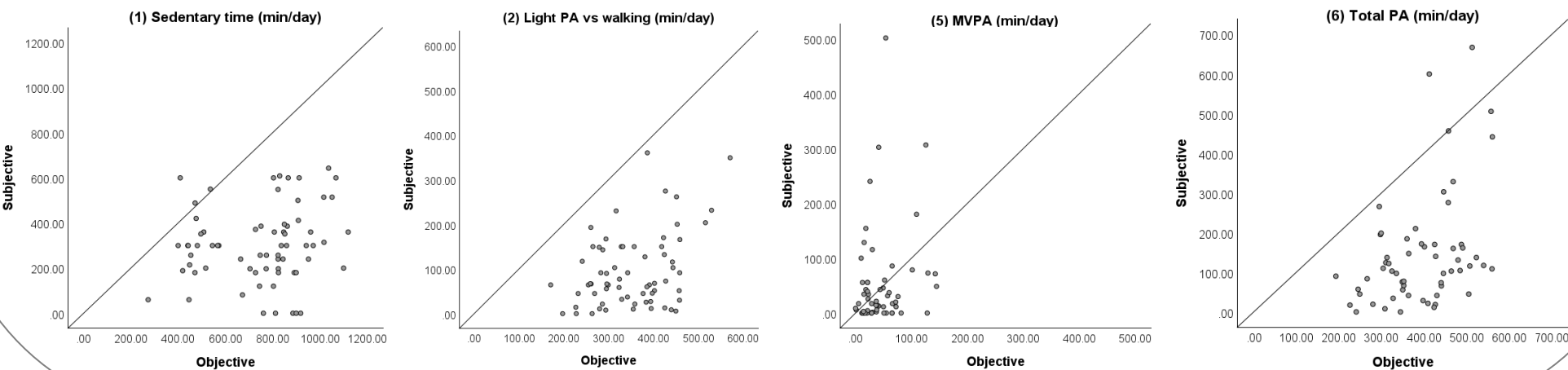
PA = physical activity; MVPA = moderate-to-vigorous PA; Correlation is **significant** when p<0.05. Correlation is **significant** when p<0.01.

AIM 1. Agreement between obj and subj PA?

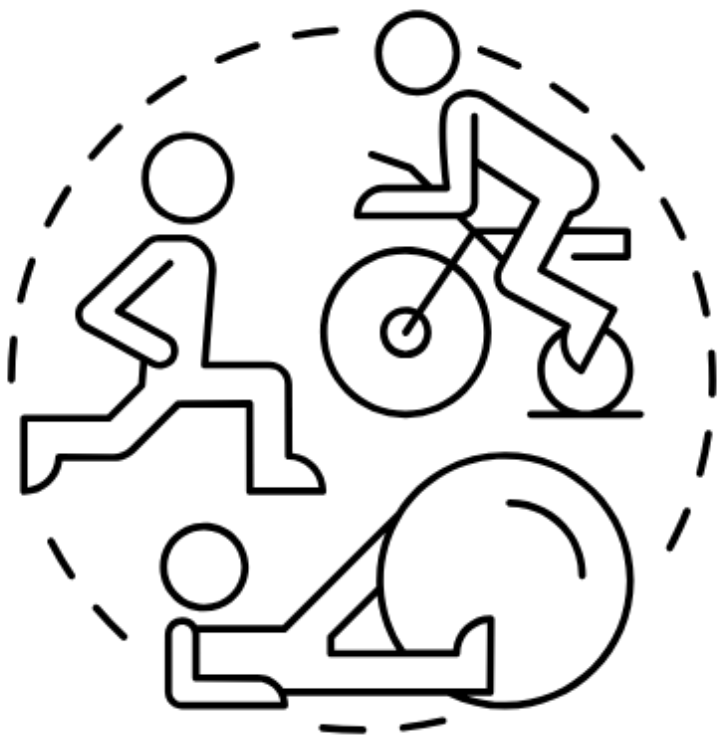
📊 Intraclass Correlation Coefficients

📉 **Low** agreement between objective and subjective PA → ICC range: 0.00–0.44

Figure 1: Scatterplots to visualize the agreement between objective (accelerometry) and subjective (IPAQ-L) PA assessments. PA = physical activity; MVPA = moderate-to-vigorous PA



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CONCLUSIONS

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Subjective and objective PA assessments are not interchangeable ➡ They capture different aspects of PA.
- ✓

Subjective PA is primarily shaped by psychological factors, while objective PA is more dependent on physical capacity and readiness to change.
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No clear link between PA and QOL at treatment start:
 - Likely influenced by high disease burden, overshadowing PA’s role.
 - Suggests that other factors may drive QOL in this early stage of treatment.

