



Interreg



Spolufinancovaný
Európskou Úniou

Slovensko – Rakúsko

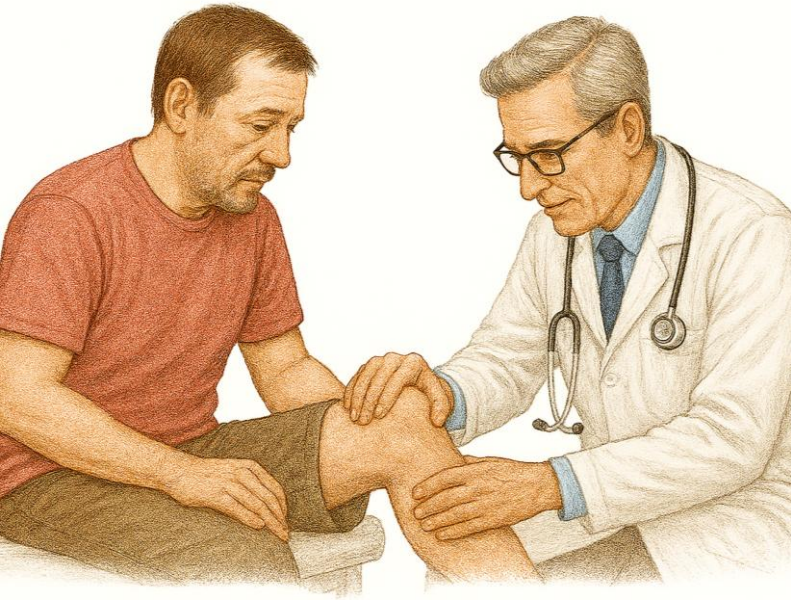
Socio-economic Effects of Pre-Rehabilitation in Knee and Hip Transplantation in Cross-border Cooperation

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Study Design and Data Collection



Demographic and Socioeconomic Data

Collected data included age, gender, BMI, living arrangements, and education level to capture patient background.

Subjective Health Assessments

DABQ, EQ-VAS, EQ-5D-5L and WOMAC instruments measured patient perceived health and quality of life across key dimensions.

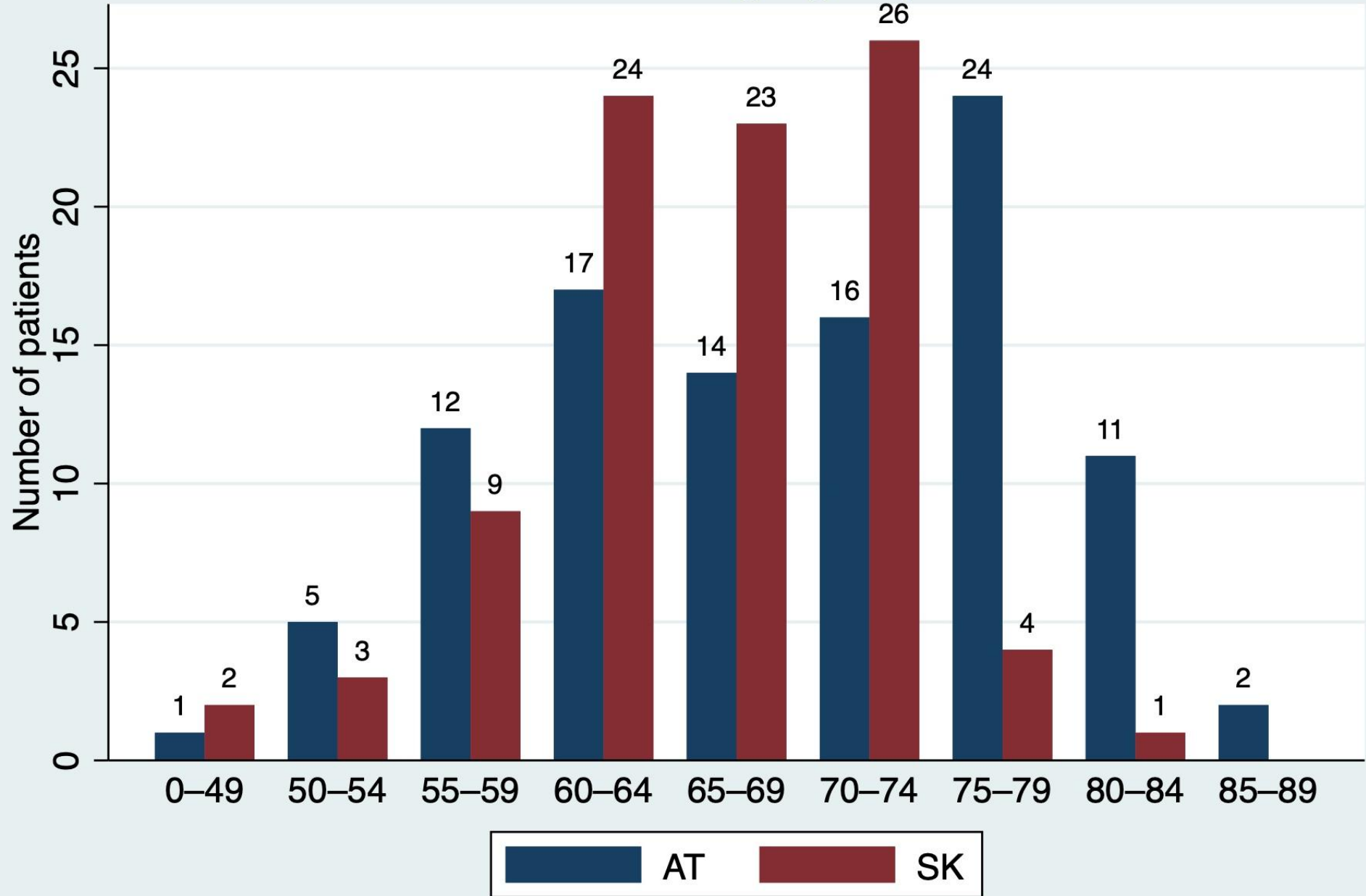
Objective Functional Tests

Functional capacity was evaluated using Timed Up and Go, Sit-to-Stand, and Hand Grip Strength tests for mobility and strength.

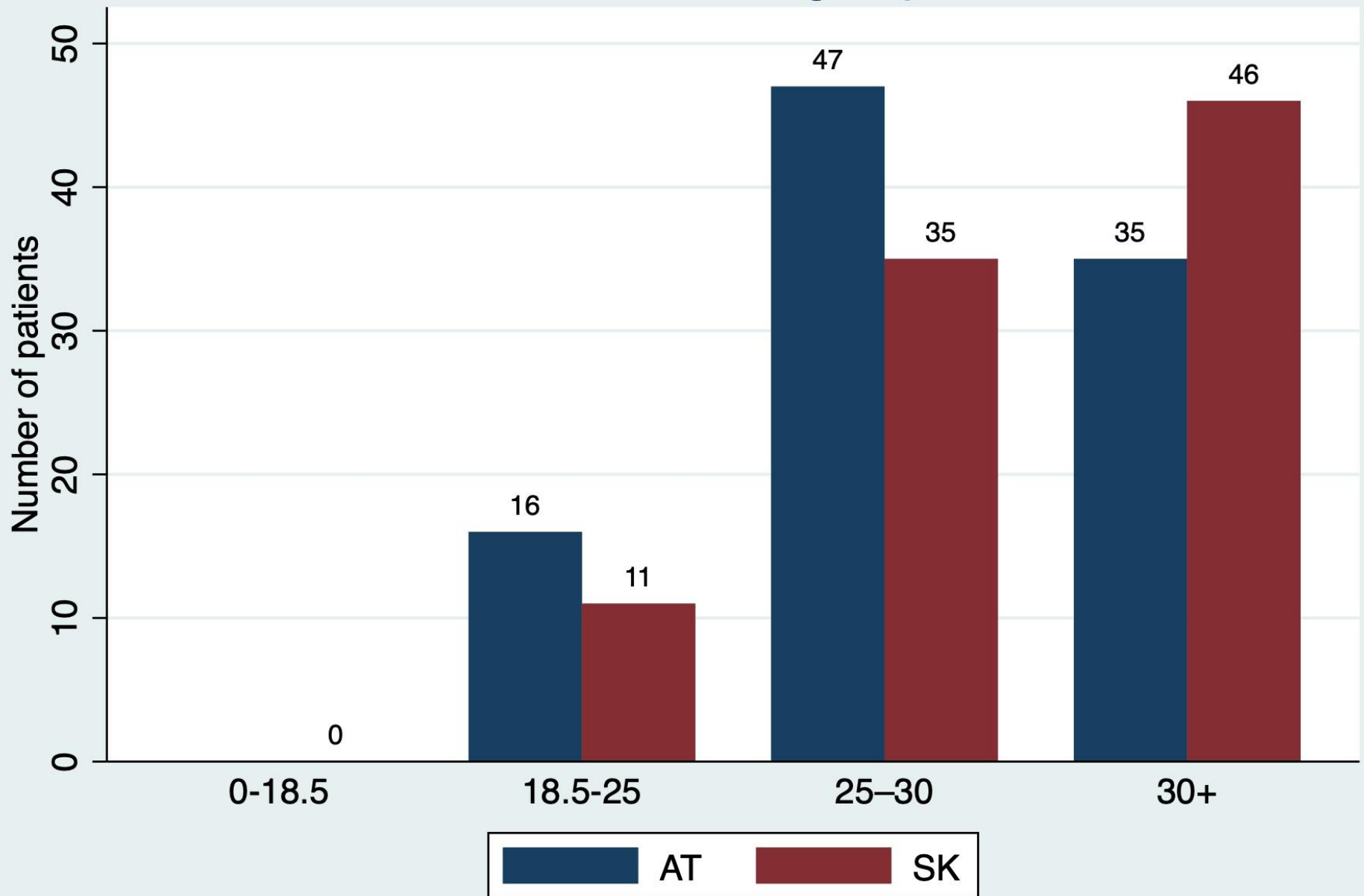


Demographic and Socioeconomic Data

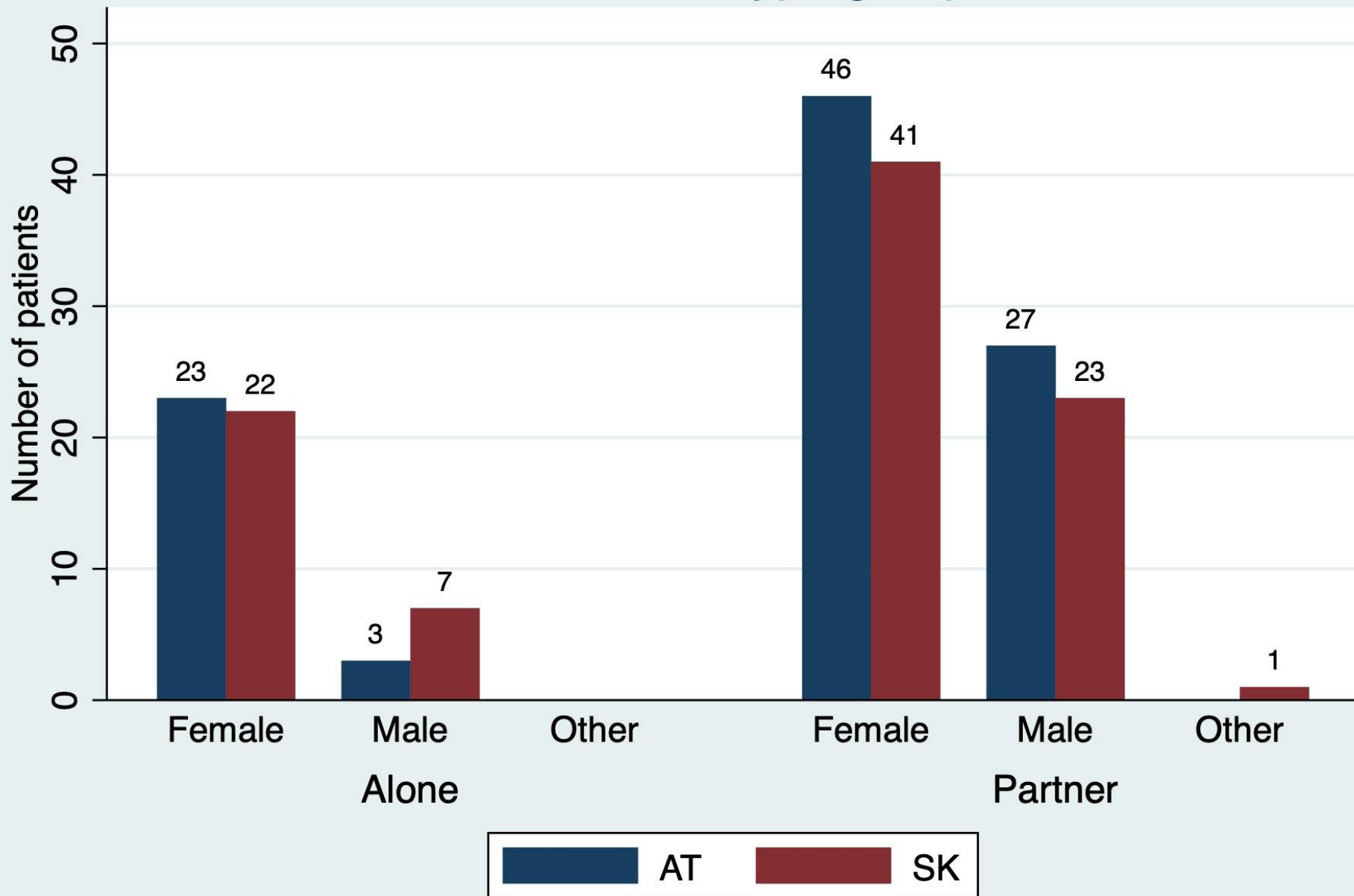
Patients age groups



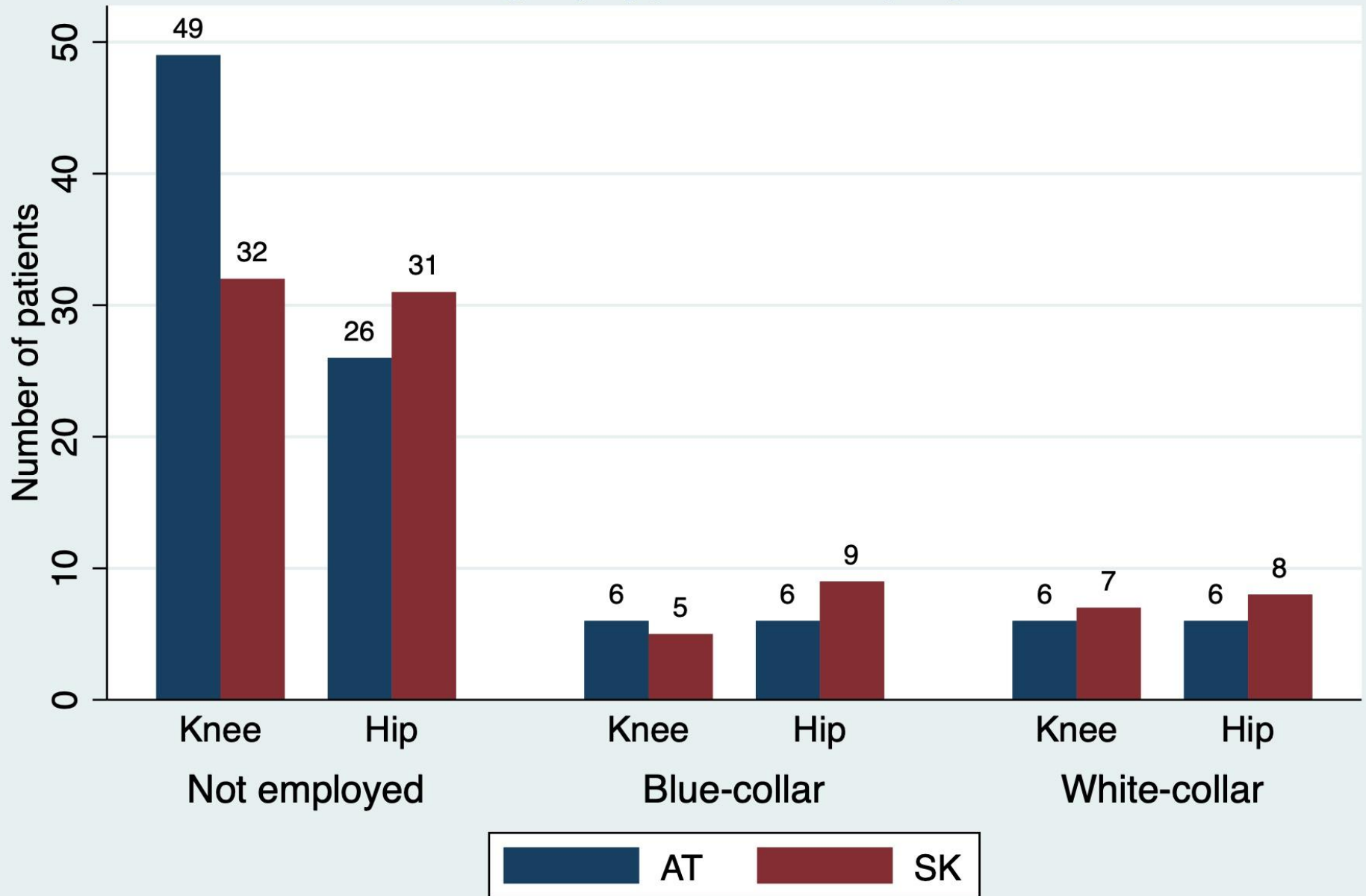
Patients BMI groups



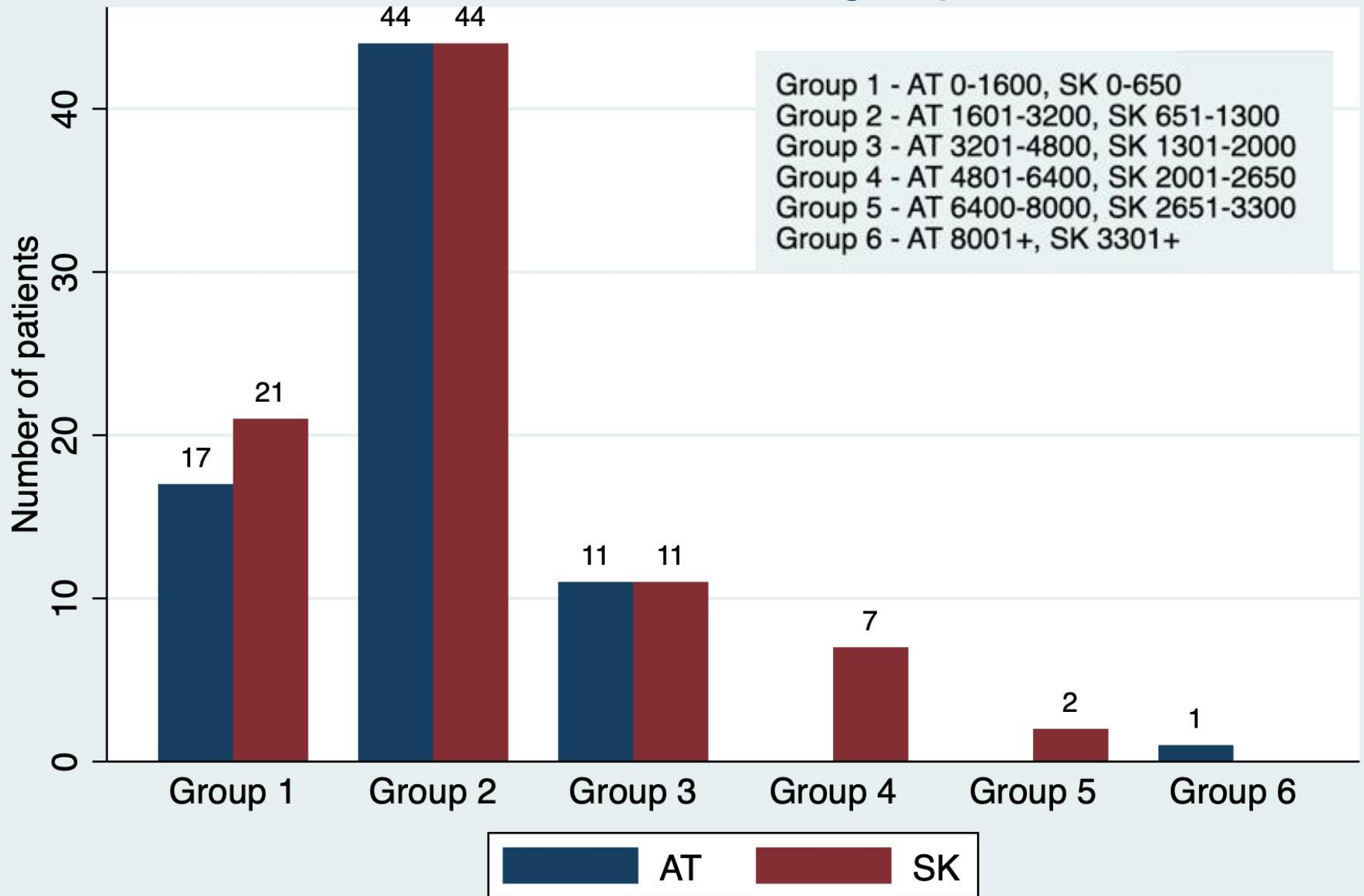
Patients life type groups



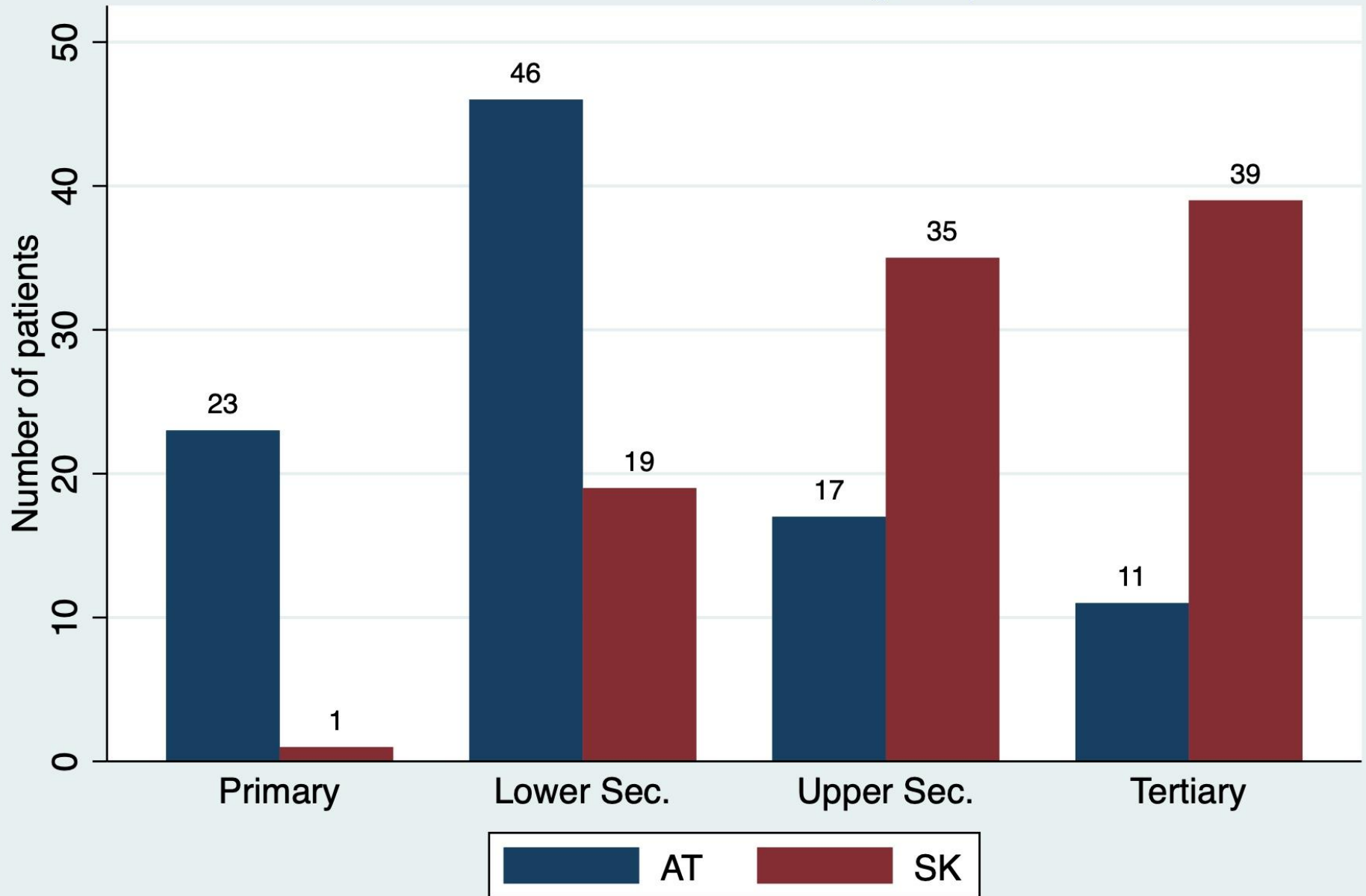
Patients surgery type and employment status



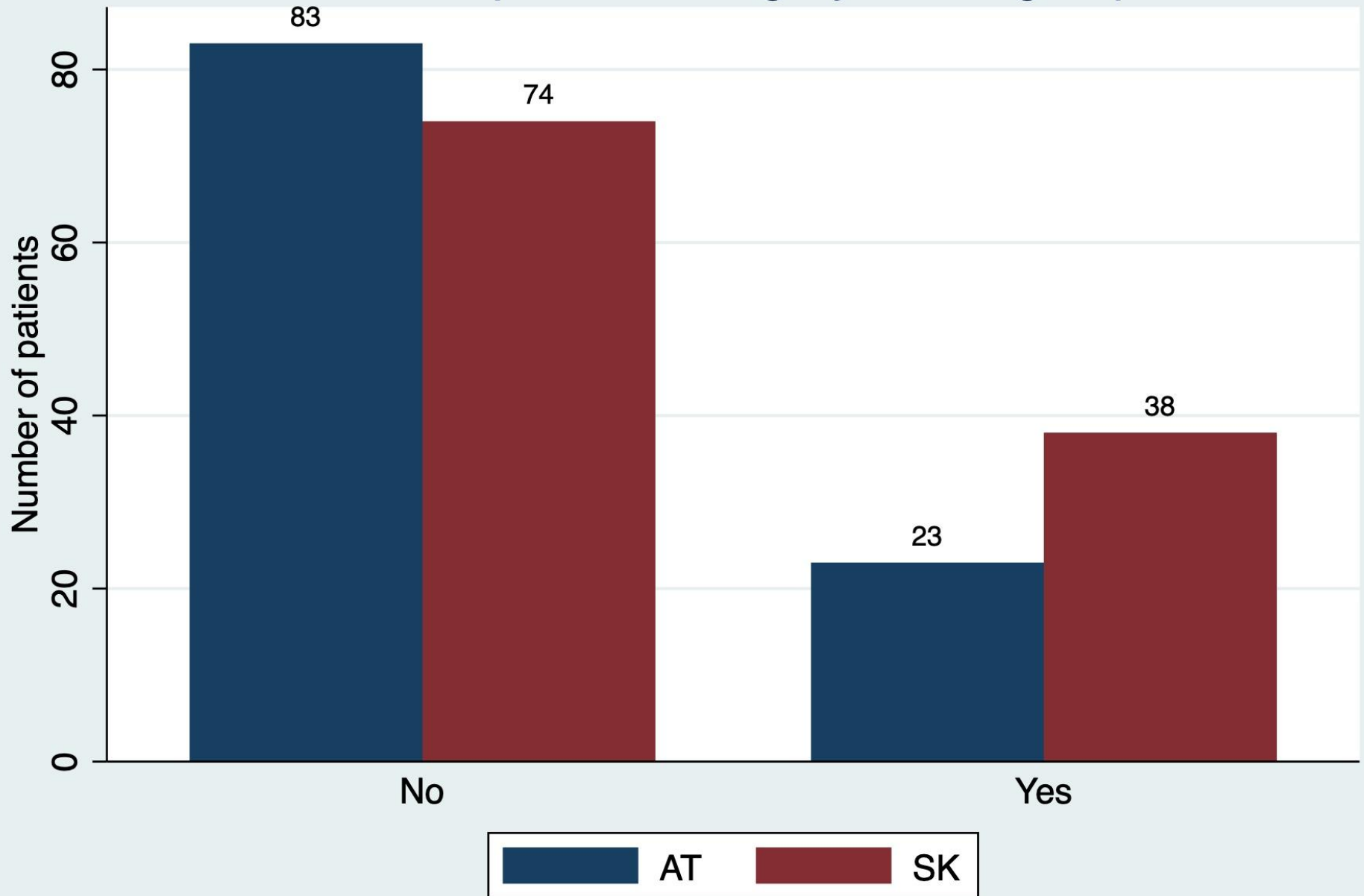
Patients income groups



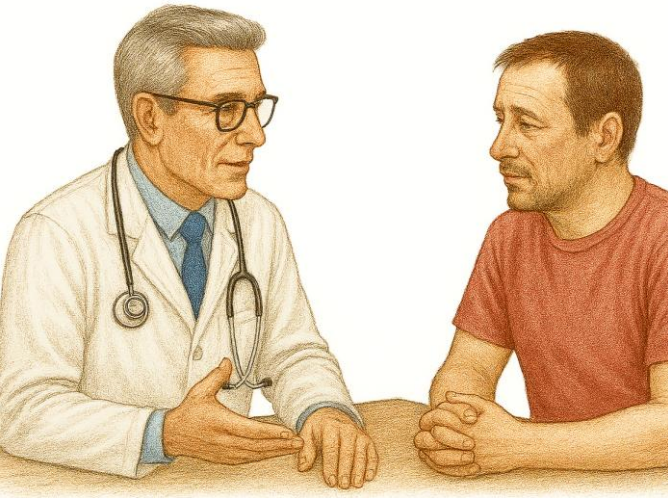
Patients education groups



Patients previous surgery status groups



Demographics and Socioeconomic Characteristics



Gender Distribution

Both cohorts were predominantly female, with women making up about 67% of participants.

Age and BMI Comparison

Average age was higher in Austria (68.3 years) than Slovakia (65.7 years), with similar BMI (30) values in both groups.

Living Arrangements

Most participants lived with a partner, reflecting stable living situations among elderly cohorts.

Employment Status

Majority were retired or non-working, typical of the age group for total endoprosthesis candidates.



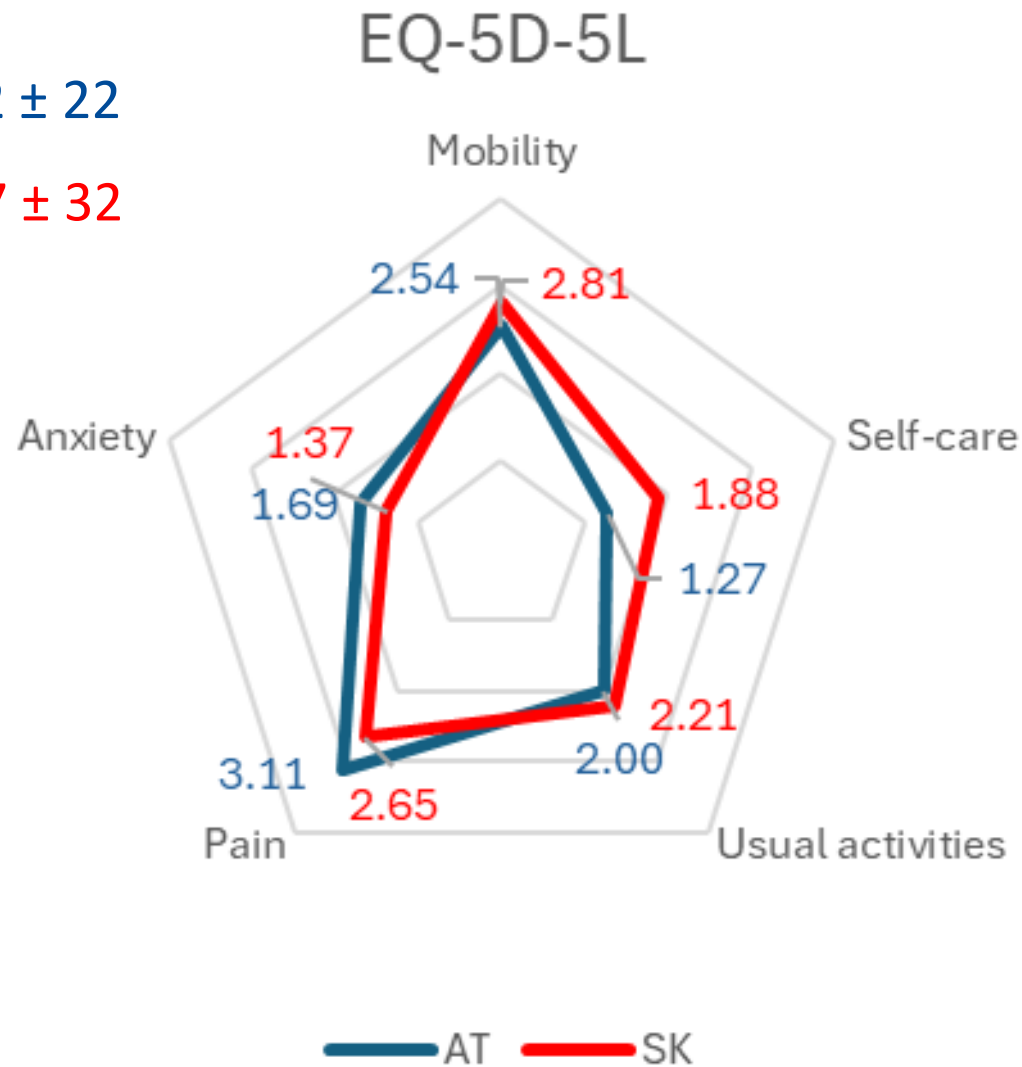
Subjective and Objective Health

Daily Activity Behaviors Questionnaire (DABQ)

	Austria 	Slovakia 
Sleeping time 	4h 20min	5h 45min
Rest time 	28%	43%
Active days 	3	4
Daily active hours 	1h 28min	2h 26min

AT: EQ VAS: 62 ± 22

SK: EQ VAS: 47 ± 32



Osteoarthritis Index (WOMAC)

	Austria 	Slovakia 
Pain 	40%	40%
Stiffness 	45%	44%
Daily activities 	37%	43%
Total	38%	41%

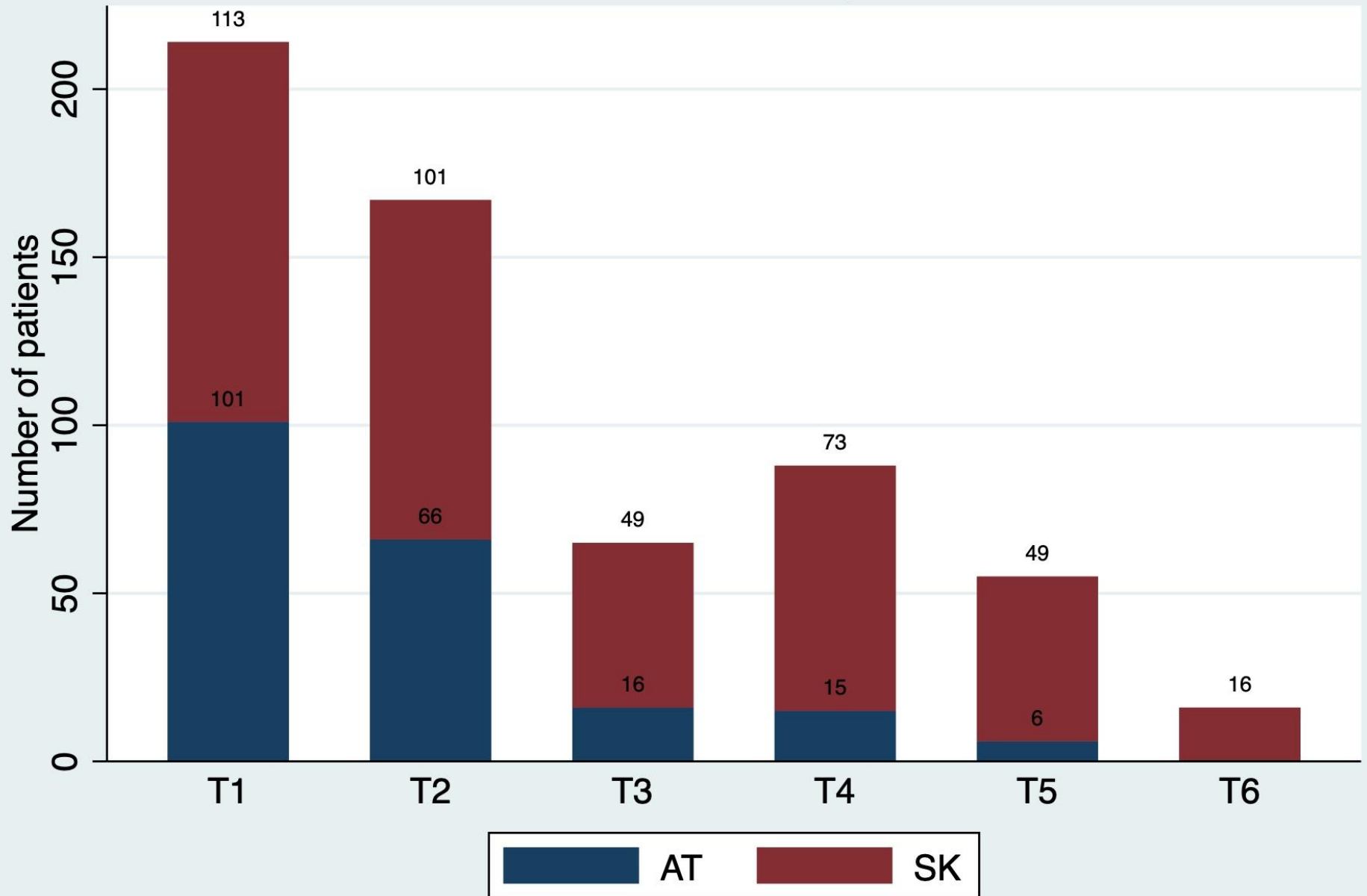
Functional Performance Comparison

TEST	Austria 	Slovakia 
Timed up and go (3m) (seconds)	10.7	11.3
Sit-to-Stand (30s) (reps)	11.7	9.3
Hand grip (kg)	33.7	28.1



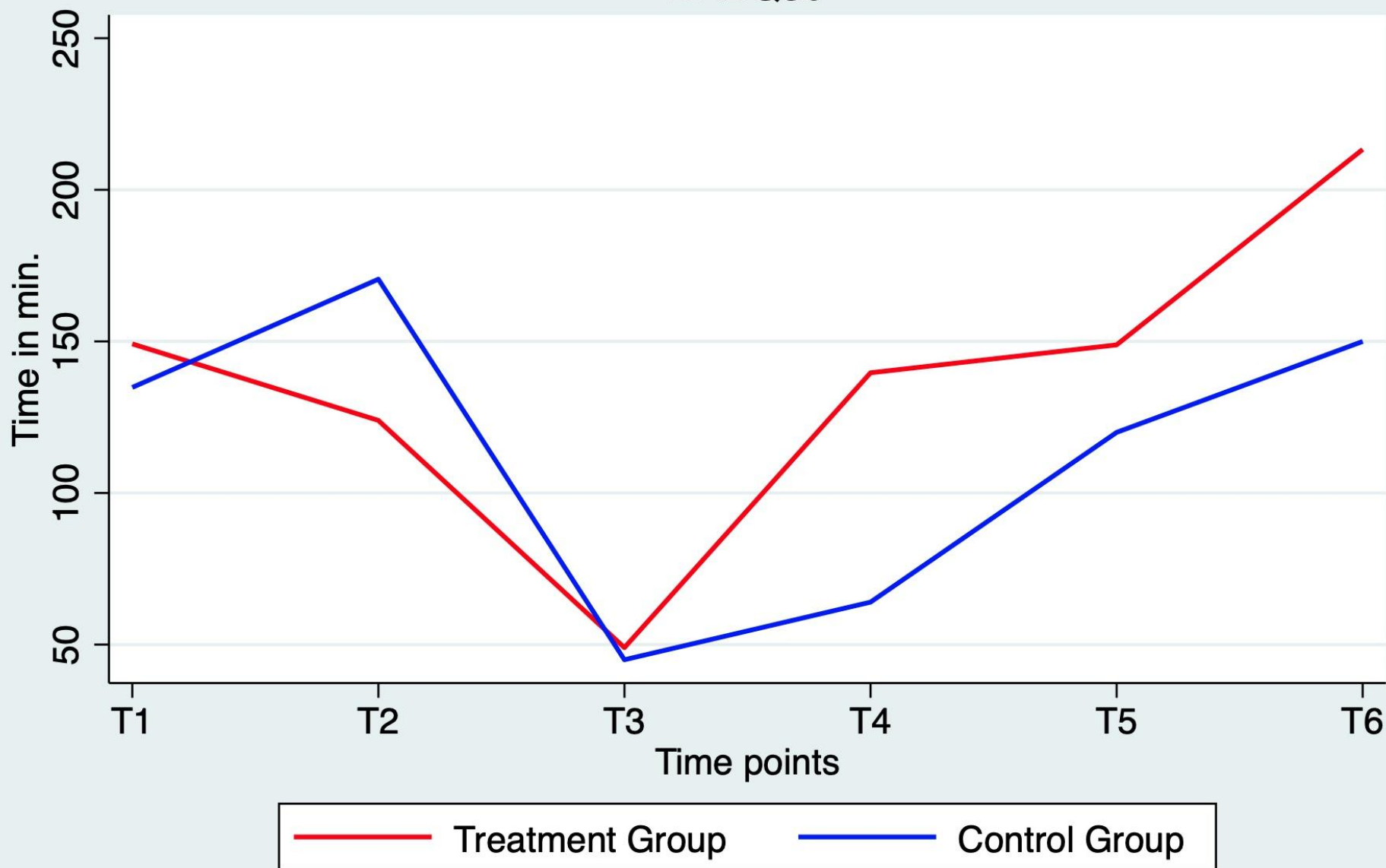
Longitudinal Results – Performance in Time

Patients in time points



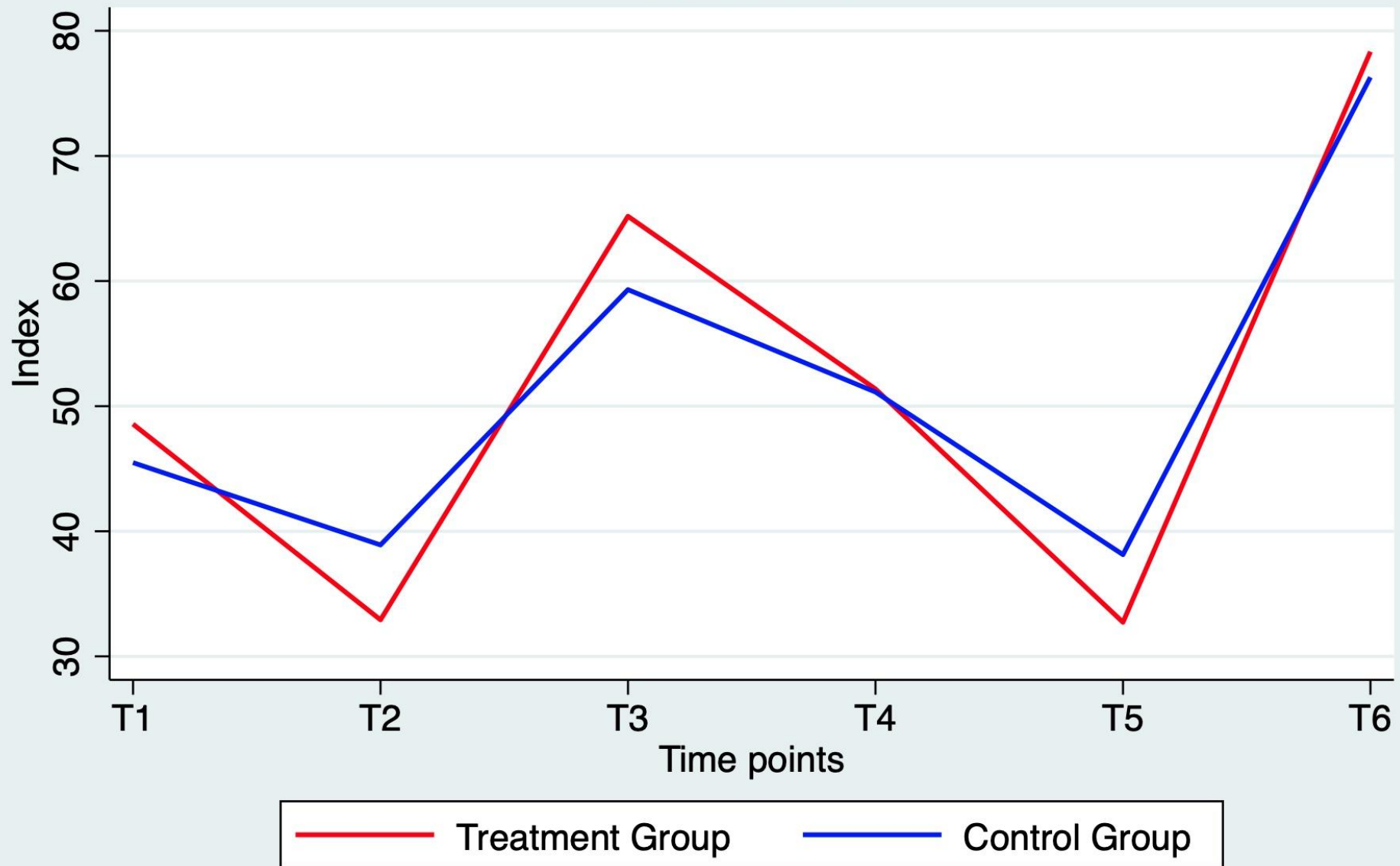
Physical activity

DABQ3b

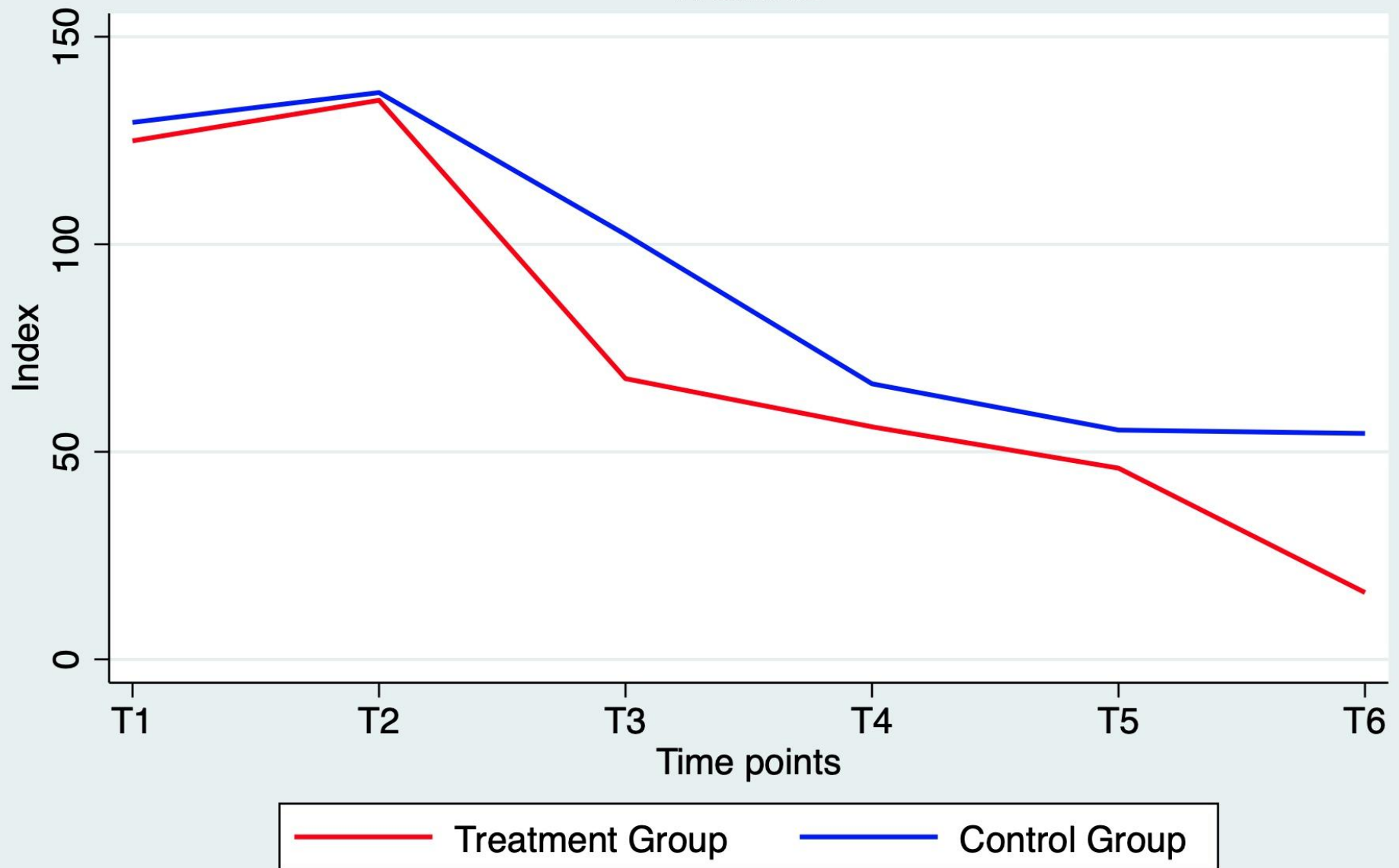


Subjective physical fitness

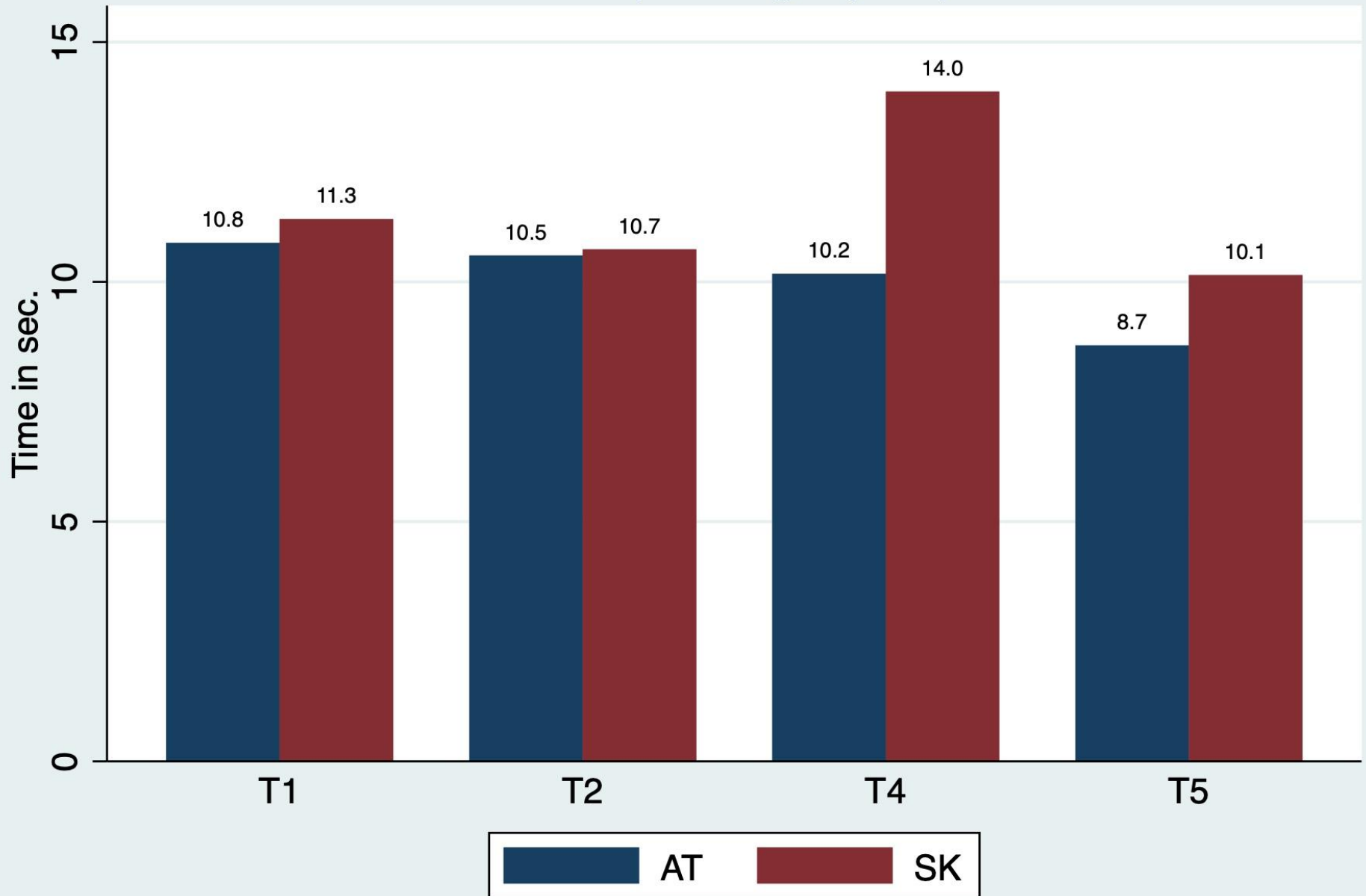
EQ-5D-5L-S



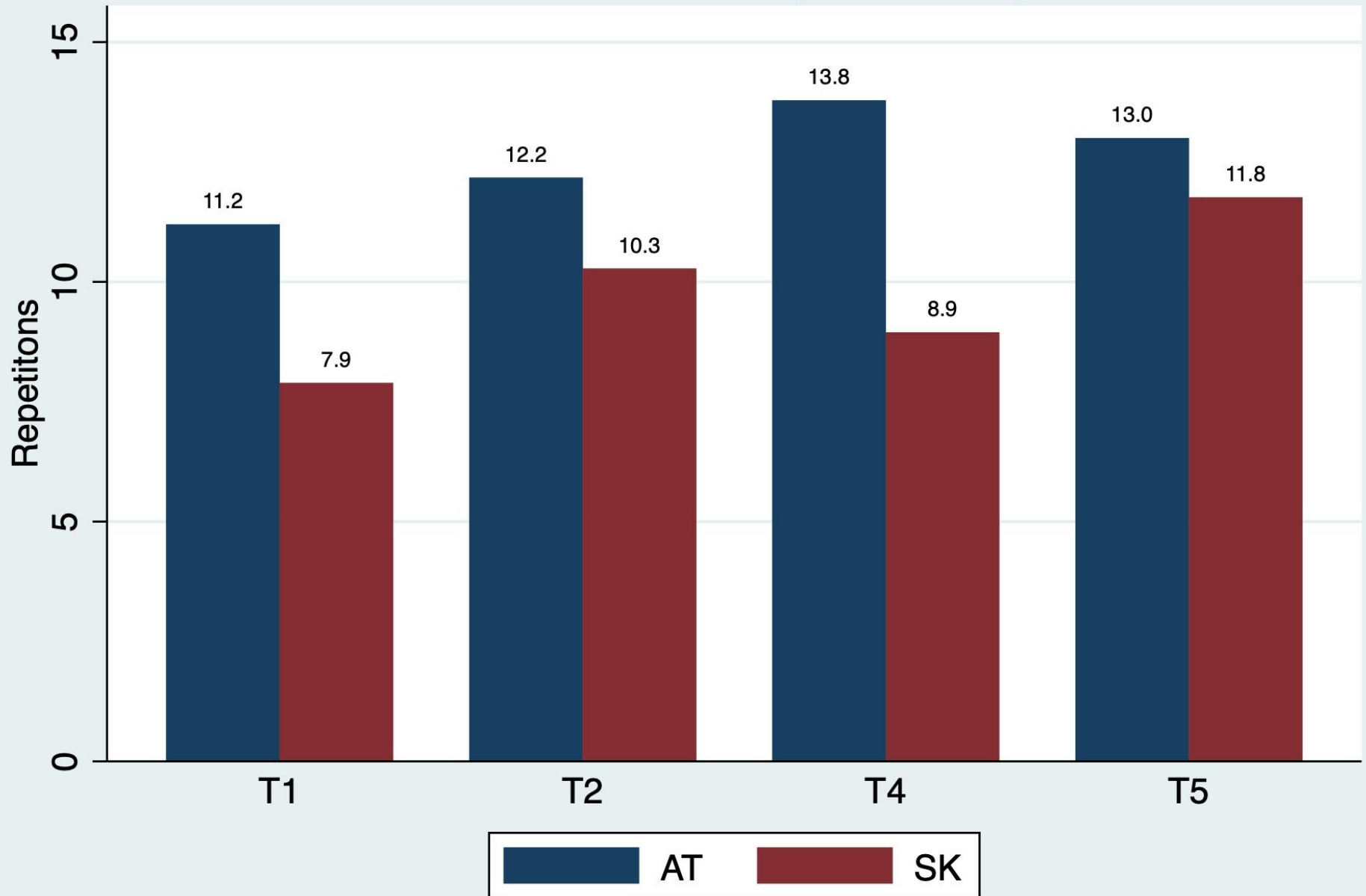
Arthritis index WOMAC



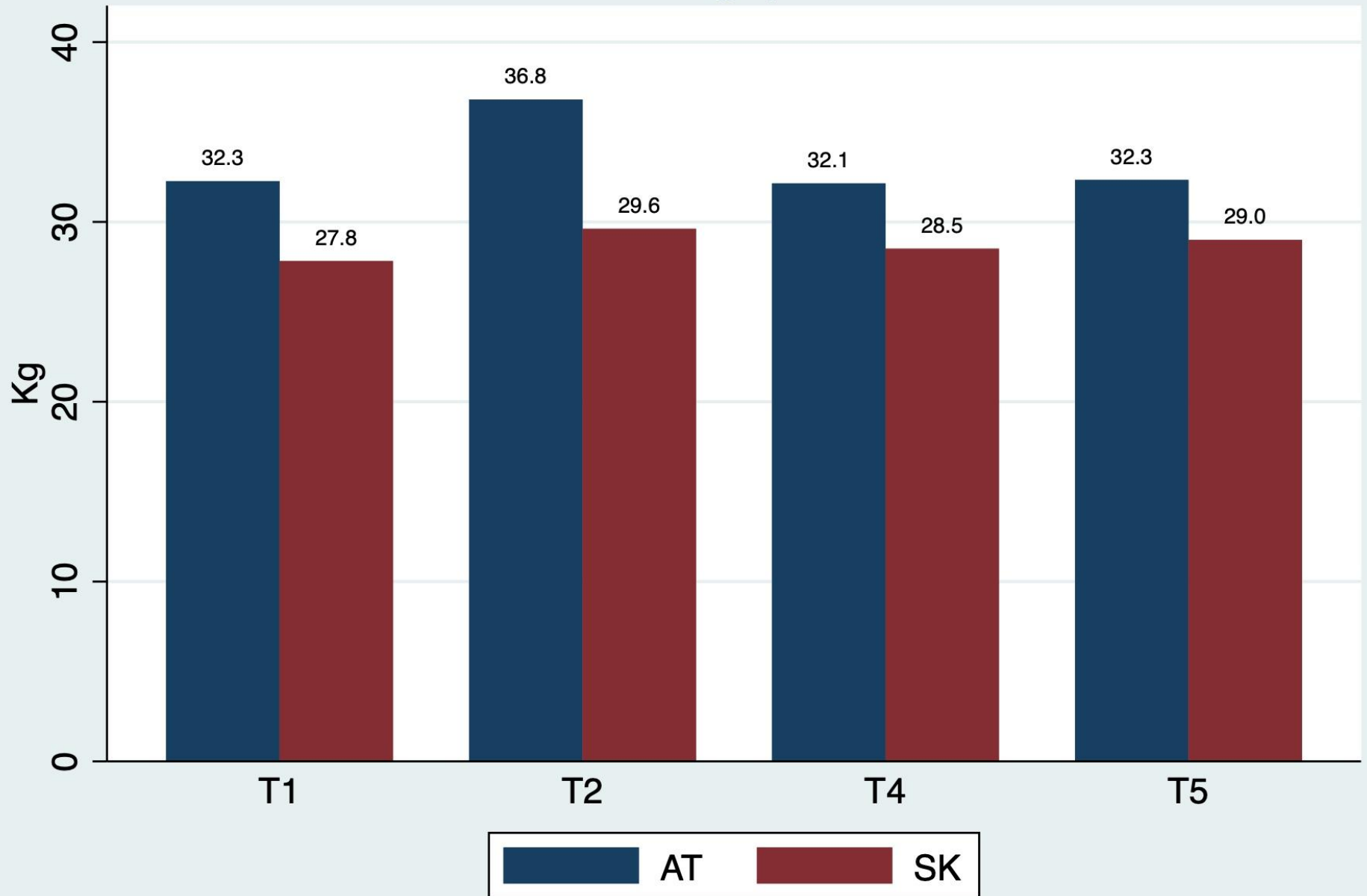
Time up and go (3 m)



Sit to stand test (in 30 sec.)



Hand grip test

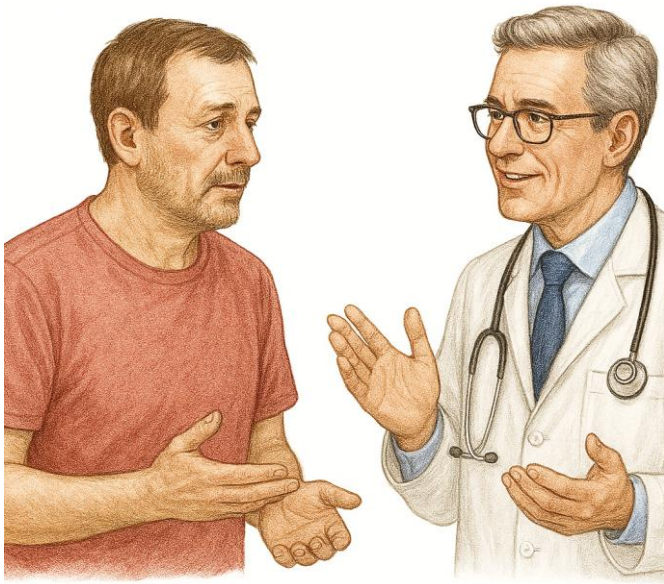




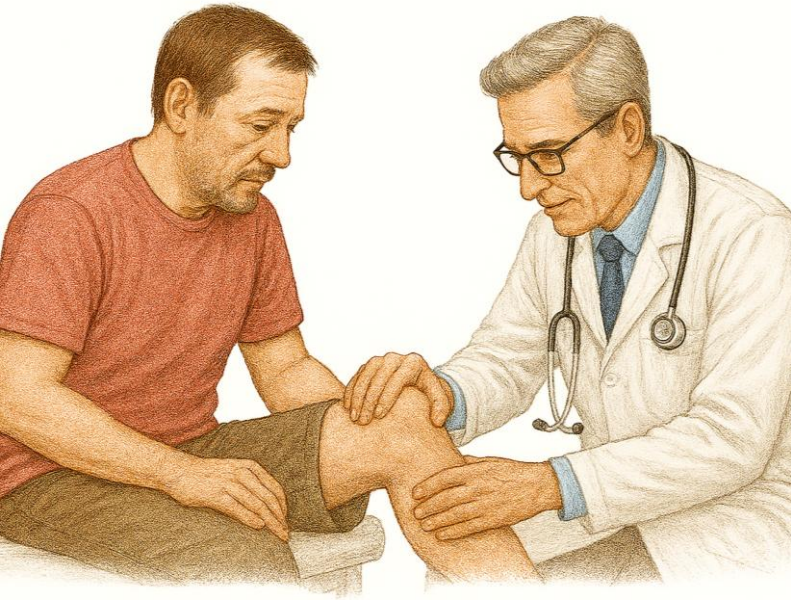
Linear regression – marginal effects estimation

First Insights

- completion each part of the PREHAB program reduces the **arthritis index** two weeks post-surgery by 14.66
- **adequate rest**
 - slightly improves patients' condition prior to entering the program
 - reduces the arthritis index by -0.086
 - very slightly increases the EQ-VAS subjective health status index just before surgery and 6 weeks after surgery



First Insights



- every one-point **increase in BMI** reduces the index of **subjective health perception** by approximately one point (-1.034) six weeks after surgery
- in the **Sit-to-stand test**
 - **age** plays a significant role
 - other factors differ significantly: in pre-operative period, the higher Prehab program, the more repetitions they can manage;
 - **gender** is the most significant factor three months after the surgery
- **Handgrip test** – the most significant factor is **gender**

Conclusions



Subjective and objective outcomes

- age structure (AT older but fitter),
- Slovak patients enter pre-rehab in worse condition
- Austrian patients perform better objectively

One major inconsistency

Slovak patients report higher activity levels yet perform worse objectively. This suggests:

- higher functional demands at home
- reduced access to supportive services
- cultural tendencies to overestimate activity
- socioeconomic pressures requiring more self-care

Pre-rehabilitation is effective

- improves mobility and strengthens muscles
- reduces pain
- enhances subjective well-being
- the effect increases in time