



# Association of frontal lobe function with physical function and quality of life in older hematological malignancies patients.

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## Introduction

- ✓ Cancer treatment for older adults emphasizes **physical and cognitive function**, and cognitive impairment from chemotherapy has been studied.
- ✓ However, research on **frontal lobe function**, which influences both motor and emotional functions, remains limited.
- ✓ This study evaluated frontal lobe function in patients with hematological malignancies and its association with physical function and quality of life (QOL).

## Methods

### Participants

- Twenty older patients (**≥65 years**) with **hematological malignancies undergoing inpatient chemotherapy** at Matsushita Memorial Hospital.
- All patients had an ECOG performance status (PS) of 0–2 and a mini-mental state examination (MMSE) score of ≥24.

### Measurements (Assessed before chemotherapy)

**Frontal lobe function** Frontal assessment battery (**FAB**, cut-off: 11points)

**Cognitive function** MMSE

**Physical function** ECOG PS, body mass index (BMI), handgrip strength, knee extension strength, short physical performance battery (SPPB), one-leg standing time (OLST), timed up and go test (TUG)

**QOL** EuroQol 5-Dimension 5-Level (EQ-5D-5L)

**Fatigue** brief fatigue inventory (BFI)

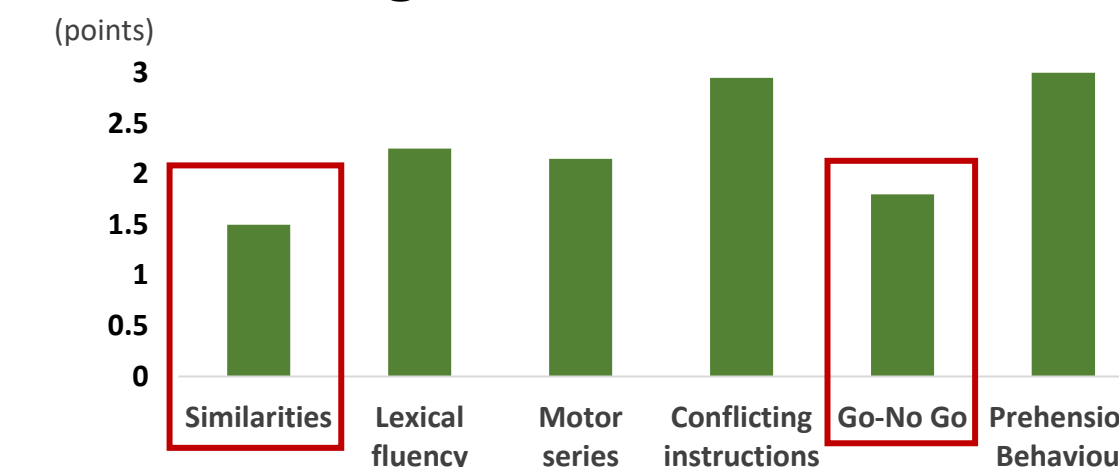
### Statistical Analysis

The average score for each FAB category and the total score were calculated. Correlations between the total FAB score and each assessment item were analyzed using Spearman's rank correlation coefficient in EZR (Ver. 1.64) with a significance level of 5%.

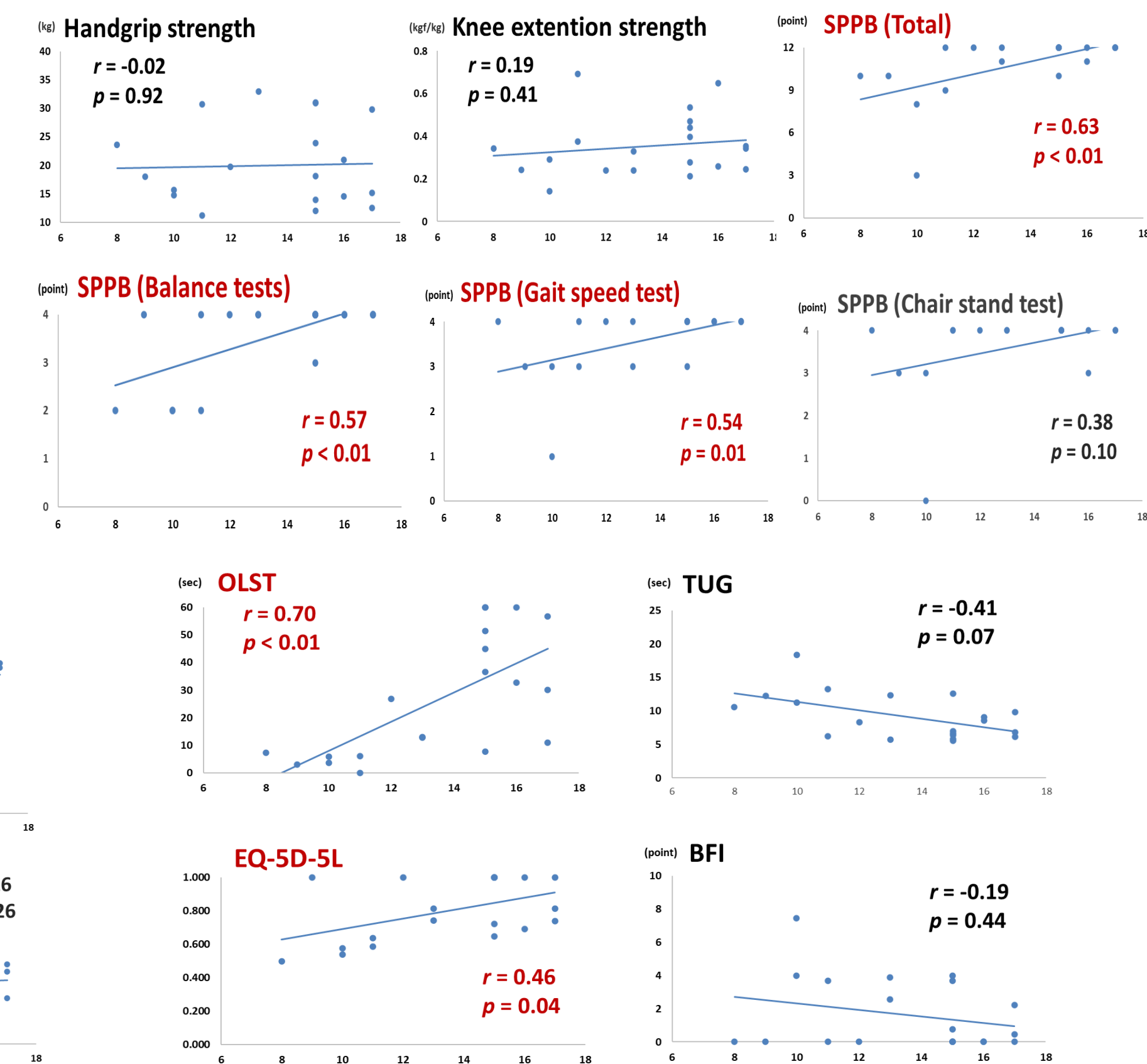
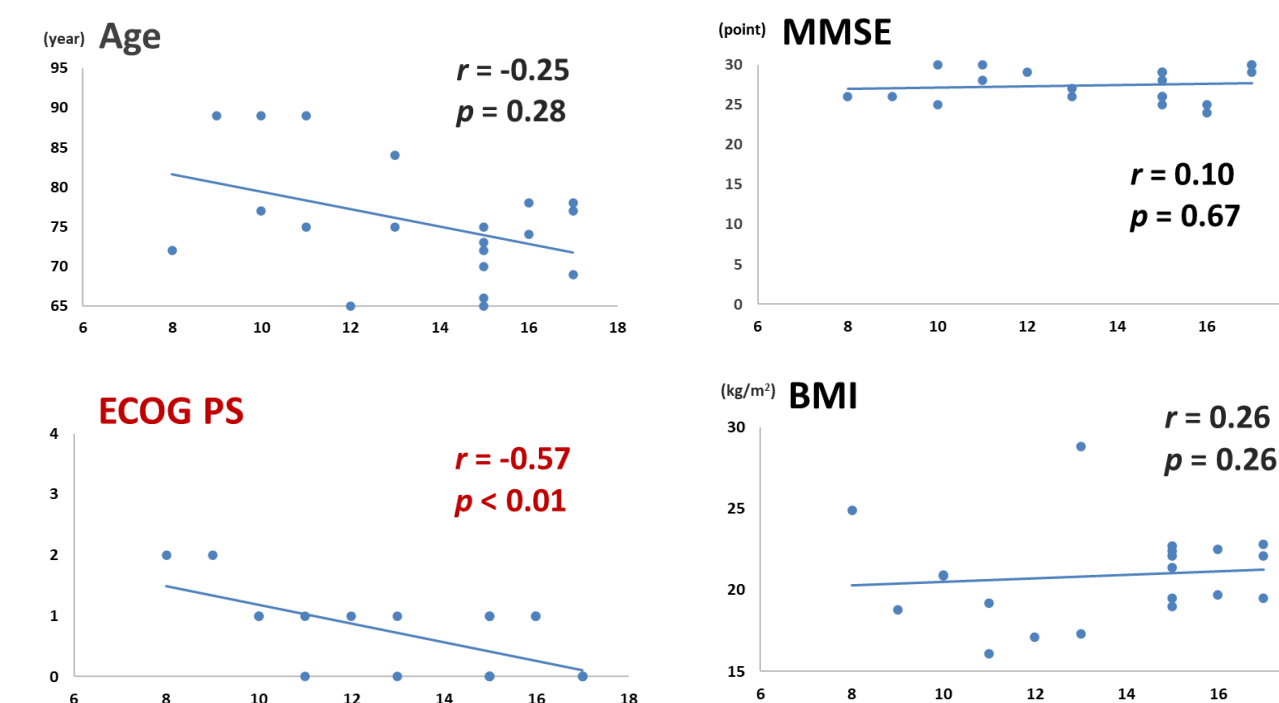
## Results

### Total FAB score and score for each category

- The median FAB score: **15.0 points**
- Percentage below cut-off: **30%**



### Correlation between each assessment and FAB score



## Conclusions



About 30% of older hematological malignancies patients had reduced frontal lobe function.

Frontal lobe function correlated with **PS, balance ability** and **QOL**.

👍 Frontal lobe function may be involved in balance function

Mechanisms for the association between frontal lobe function and quality of life are unknown.



The need for **fall prevention** and **rehabilitation strategies** considering frontal lobe function

