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AMOS2: FIVE-YEAR MENTAL HEALTH OUTCOMES AFTER BARIATRIC SURGERY OR INTENSIVE TREATMENT IN ADOLESCENTS WITH SEVERE OBESITY – A RANDOMIZED CLINICAL TRIAL

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Disclosure

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Background

- Metabolic and bariatric surgery (MBS) is an effective treatment for adolescents.
- Adolescents seeking MBS often present with mental health vulnerabilities.
- Outcome data from randomized controlled trials beyond two years are lacking.

Objectives

- To assess depressive symptoms and self-esteem 5 years after randomization to MBS or intensive non-surgical treatment.

Methods

- AMOS2 – a Swedish multicenter study.
- Participants: Adolescents aged 13–16 years with a BMI >35 kg/m².
- Randomization (1:1) to MBS or intensive non-surgical treatment.
- Adolescents randomized to non-surgical treatment could be reassessed for MBS after the 2-year follow-up.
- Cross-over could occur earlier if medically warranted or upon turning 18.

Assessment

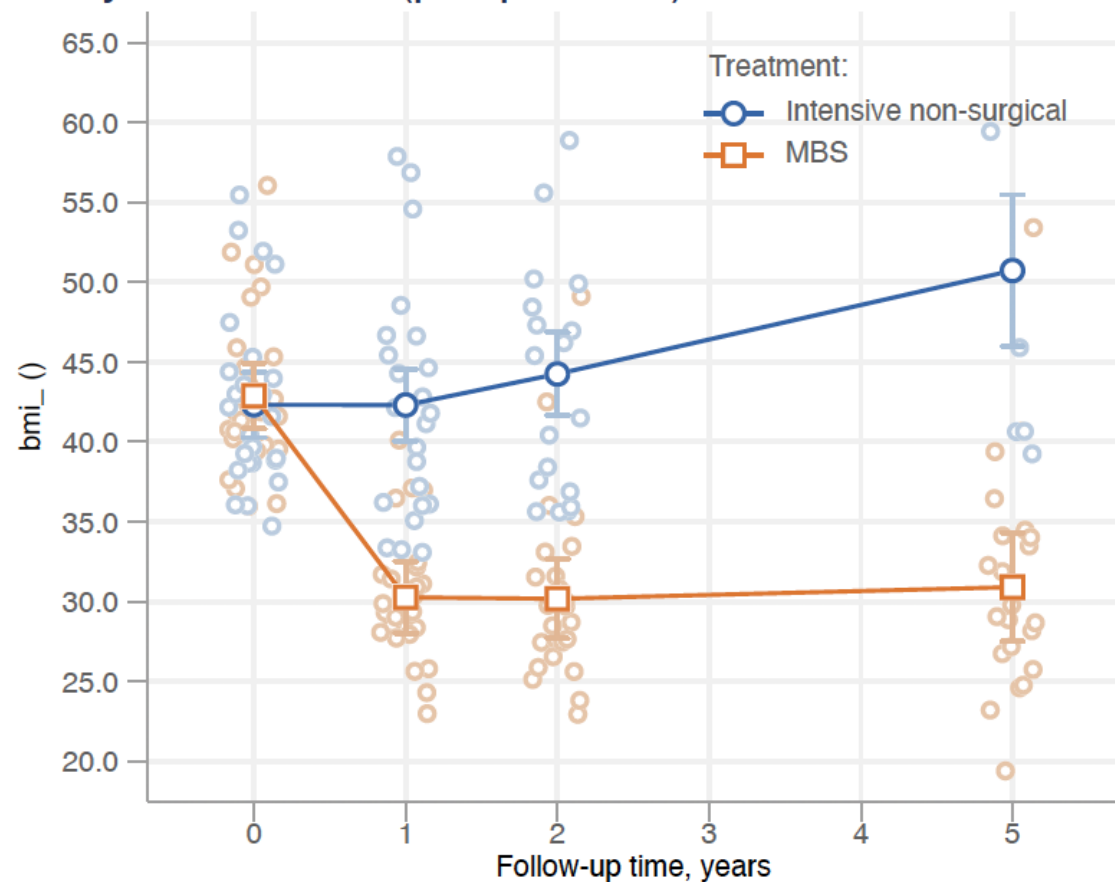
- Assessment at baseline and at 1-, 2-, and 5-year follow-ups.
- Depressive symptoms - the Beck Depression Inventory-II.
- Self-esteem - the Rosenberg Self-Esteem Scale.

Participants

- 50 adolescents (74% girls)
- 25 randomized to MBS and 25 to non-surgical treatment
- 23 RYGB and 2 SG
- Mean age of 15.8 (± 0.9) years
- Mean BMI 42.6 (± 5.4) kg/m²
- 18 (72%) participants in the non-surgical group crossed over to MBS before the 5-year follow-up.
 - Median time from inclusion to surgery: 2.2 years (IQR 1.5).

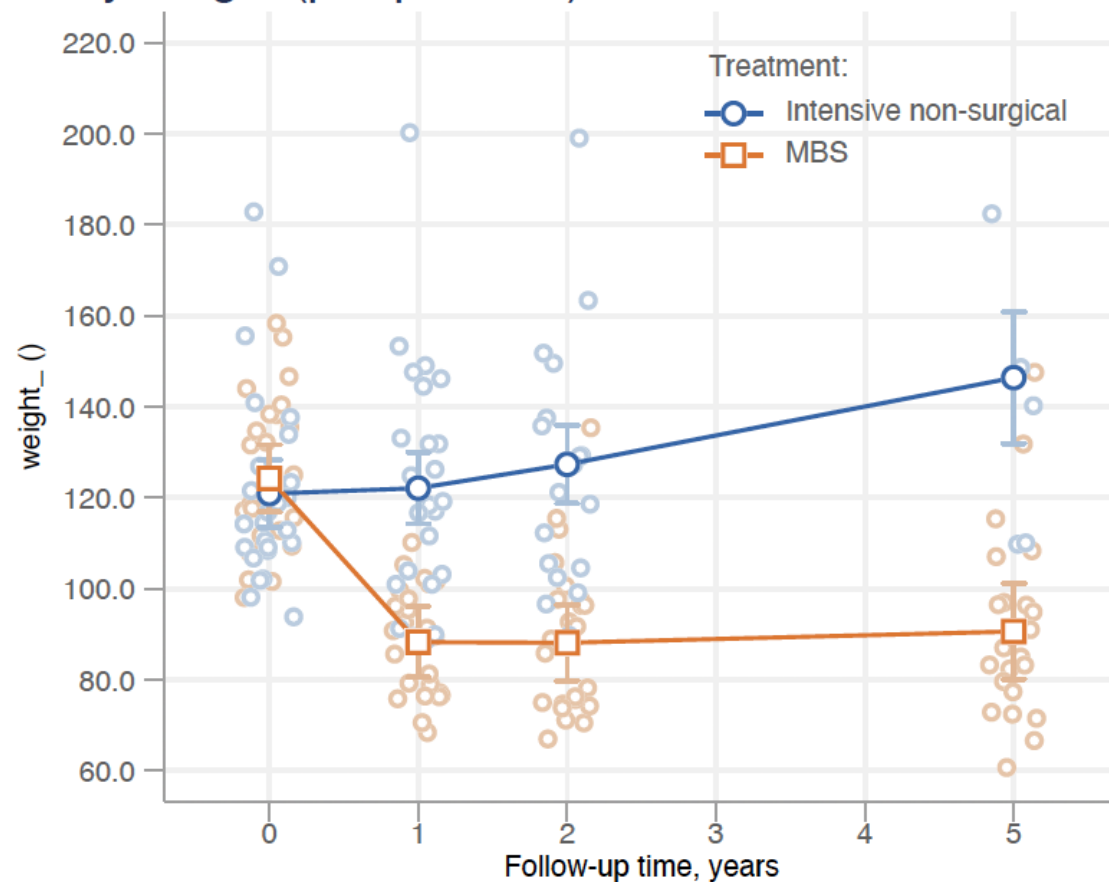
AMOS2- per protocol 5y

Body mass index (per-protocol)



Difference at year 5, adj. for baseline; surgery vs control: -20.3 (95% CI: -25.4 to -15.3); $p < 0.001$.

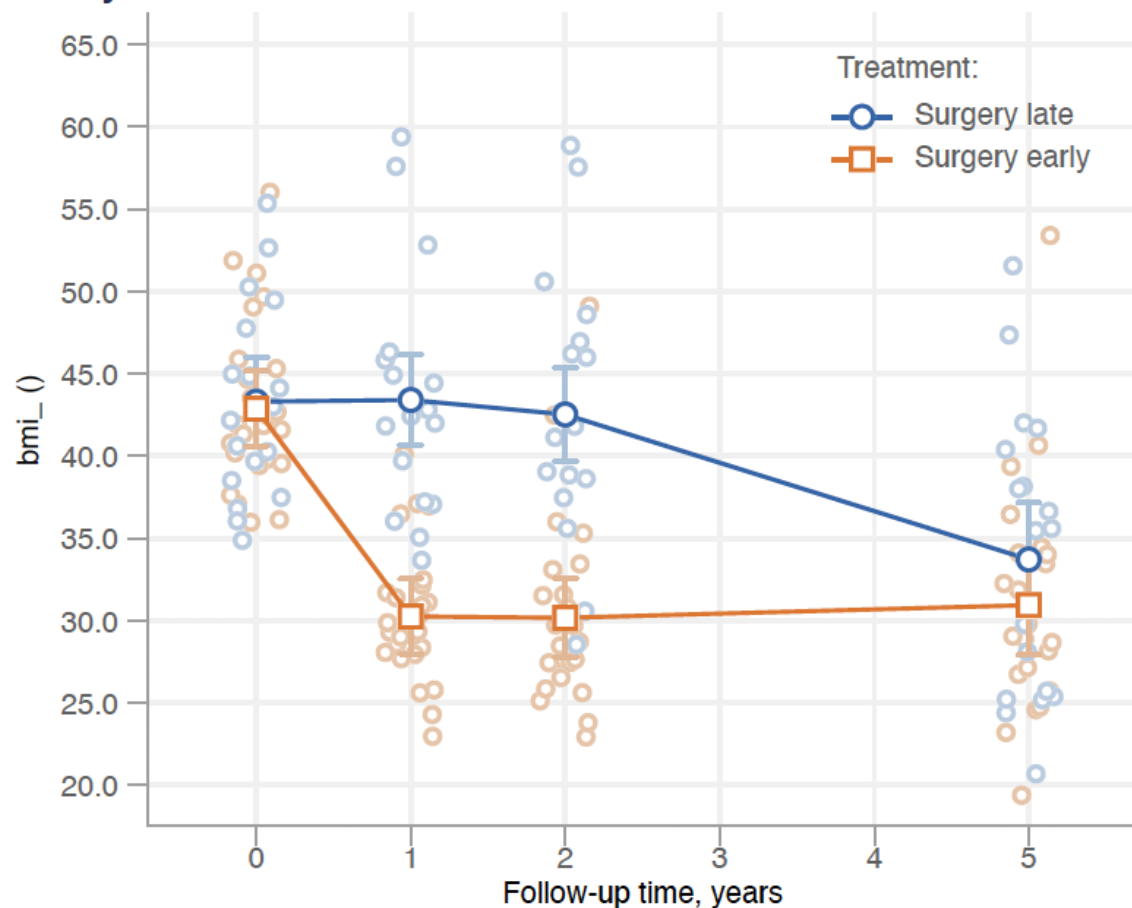
Body weight (per-protocol)



Difference at year 5, adj. for baseline; surgery vs control: -60.1 (95% CI: -74.7 to -45.5); $p < 0.001$.

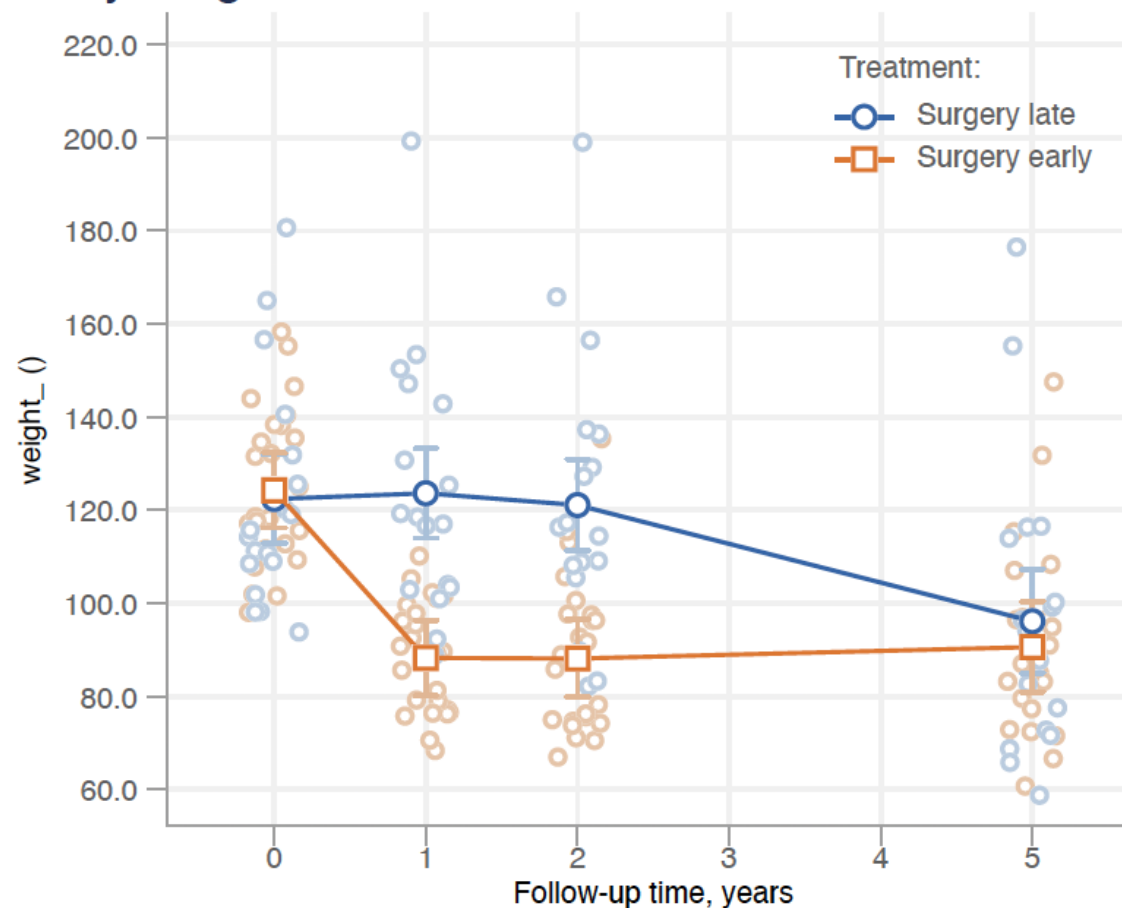
AMOS2- Early vs. Late

Body mass index



Difference at year 5, adj. for baseline; early vs late: -2.4 (95% CI: -6.4 to 1.6); p=0.240.

Body weight

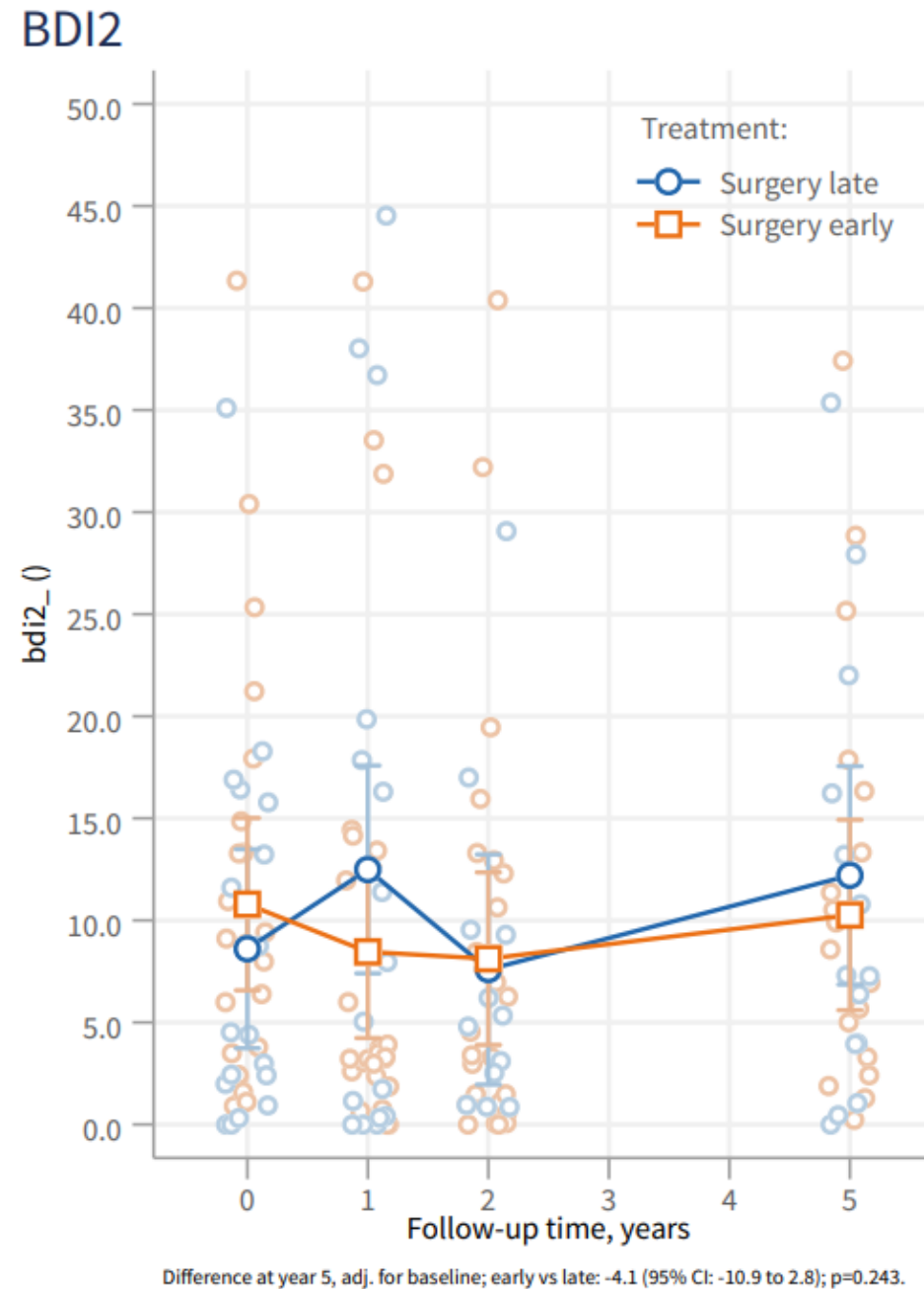


Difference at year 5, adj. for baseline; early vs late: -7.2 (95% CI: -18.5 to 4.2); p=0.217.

Results – depressive symptoms

- No significant differences in depressive symptoms were observed at 5 years between the initial MBS group and the cross-over group.
 - Mean difference: -4.2 (95% CI: -11.0 to 2.7), $p=0.230$.
- No significant differences in depressive symptoms were observed between the initial MBS group and non-operated controls in the per-protocol analysis.
 - Mean difference: 4.5 (95% CI: -5.3 to 14.2), $p=0.368$.

AMOS2

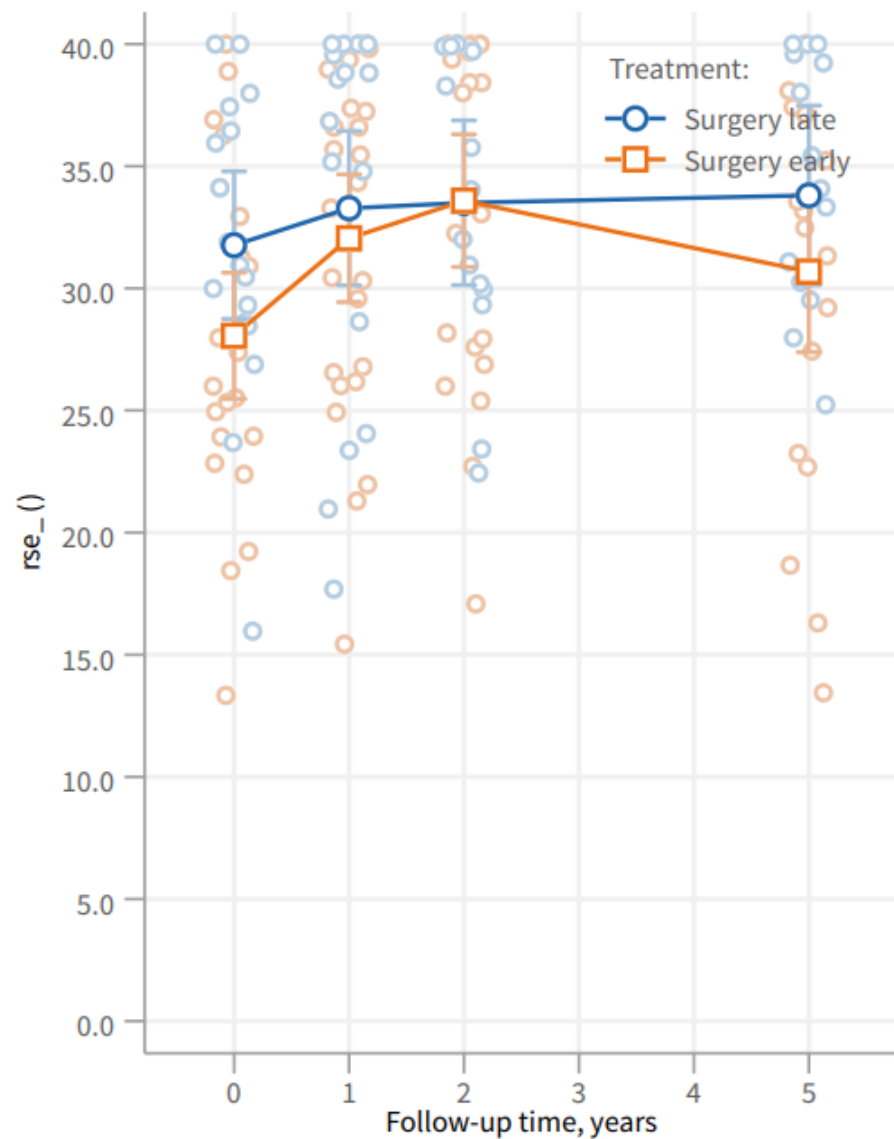


Results – self esteem

- No significant differences in self-esteem were observed between the initial MBS group and the cross-over group.
 - Mean difference: -0.8 (95% CI: -6.1 to 4.5), $p=0.775$.
- No significant differences in self-esteem were observed in the per-protocol analysis between the initial MBS group and non-operated controls.
 - Mean difference: 2.4 (95% CI: -6.4 to 11.2), $p=0.590$.

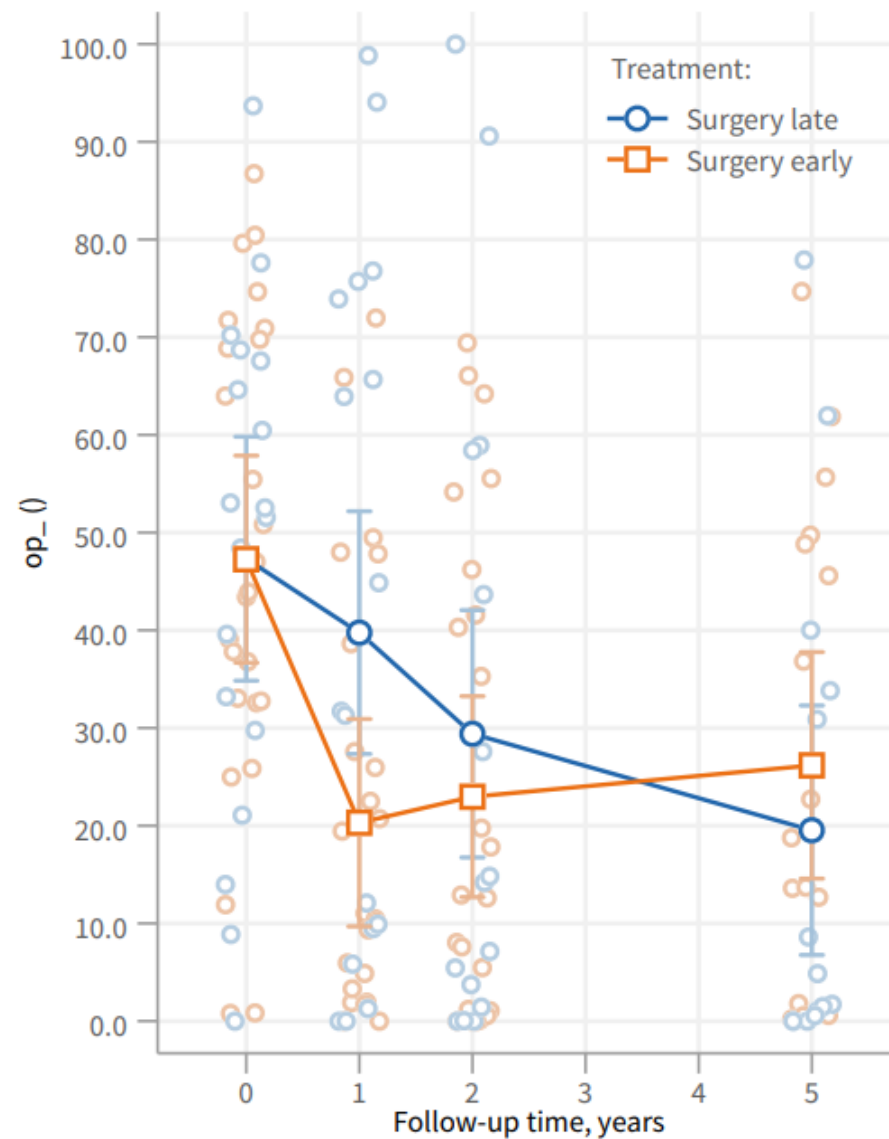
Surgery early vs late 3

RSE



Difference at year 5, adj. for baseline; early vs late: -0.8 (95% CI: -6.1 to 4.6); p=0.784.

OP



Difference at year 5, adj. for baseline; early vs late: 6.1 (95% CI: -13.6 to 25.9); p=0.541.

The results should be interpreted with caution, as the study was not powered to detect differences in mental health outcomes.

Conclusions

- Findings suggest that MBS is neither beneficial nor detrimental to long-term general mental health in adolescents.
- The timing of surgery does not appear to be critical for long-term mental health outcomes.

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Kajsa Järvholm
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