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Influence of Preoperative Anxiety and Depression on Subjective Function, Pain and Revisions after Total Knee Arthroplasty

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Faculty Disclosure Information

- Nothing to disclose



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BACKGROUND

- 15 – 20% of Total Knee Arthroplasty (TKA) patients are dissatisfied after surgery¹⁻³
- Despite: well-functioning prostheses, improvement of subjective function and pain postoperatively, and successful survival rate (87-99%)⁴⁻⁶
- Prior literature shows: preoperative psychological status – anxiety and depression – as important predictor of high dissatisfaction⁷⁻⁹
- Prior literature lacks: anxiety and depression assessment in large prospective cohorts with a follow-up of 2 years, including revision rates^{1,7,10-12}

Aim: Assess the role of anxiety and depression on TKA outcomes in a large prospective cohort and a minimum follow-up of 2-years

Hypothesis: Preoperative anxiety and depression are associated with inferior preoperative and postoperative pain and subjective function, and higher aseptic revision rates.



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METHODS



Single-center, prospective comparative cohort study, with a minimum follow-up of 2 years



349 patients, fulfilling inclusion criteria (table 1),

19% classified as "Anxiety patients" & 20% as "Depression patients" (figure 1)

Anxiety & Depression assessment: preoperatively Hospital Anxiety and Depression Scale, scores ≥ 11 (on subscale 0-21) considered either Anxiety or Depression patients



Primary outcomes: subjective function and pain PROMs: HOOS-PS, OHS, NRS-pain,

including MCID and PASS

Secondary outcomes: aseptic revision surgery and length of hospital stay

Follow-up: preoperatively and 3 months, 1 year and 2 years postoperatively



Statistical differences in outcomes between Anxiety/ Depression vs non-Anxiety/ non-Depression pts



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Figure 1. Flowchart of study population

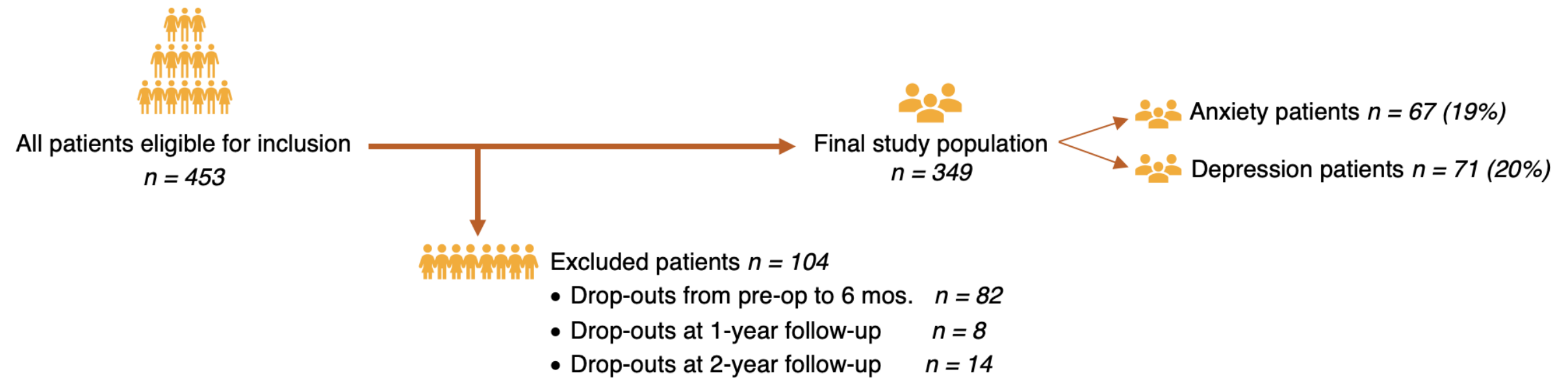


Table 1. Inclusion criteria for eligibility

Primary unilateral TKA for symptomatic end-stage osteoarthritis (KL 3-4)
Mastered the Dutch language
Completed all preoperative questionnaires
Provided informed consent to participate in the study

RESULTS

- Anxiety & Depression patients:
 - ↓ preoperative scores for all PROMs
 - ↓ KOOS-PS and OKS, at all time points postoperatively
 - ↓ % reached the PASS for KOOS-PS, OKS and pain at 2-years
 - No difference in aseptic revisions & Longer lengths of hospital stay
- Depression patients:
 - ↑ Pain at all time points postoperatively
- Anxiety patients:
 - Similar pain levels postoperatively



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Figure 2. Anxiety and non-anxiety patients: Course of subjective function (A: KOOS-PS and B: OKS) and joint pain (C: NRS Pain), from preoperative to all follow-up moments, for **Anxiety** and **Non-anxiety** patients.

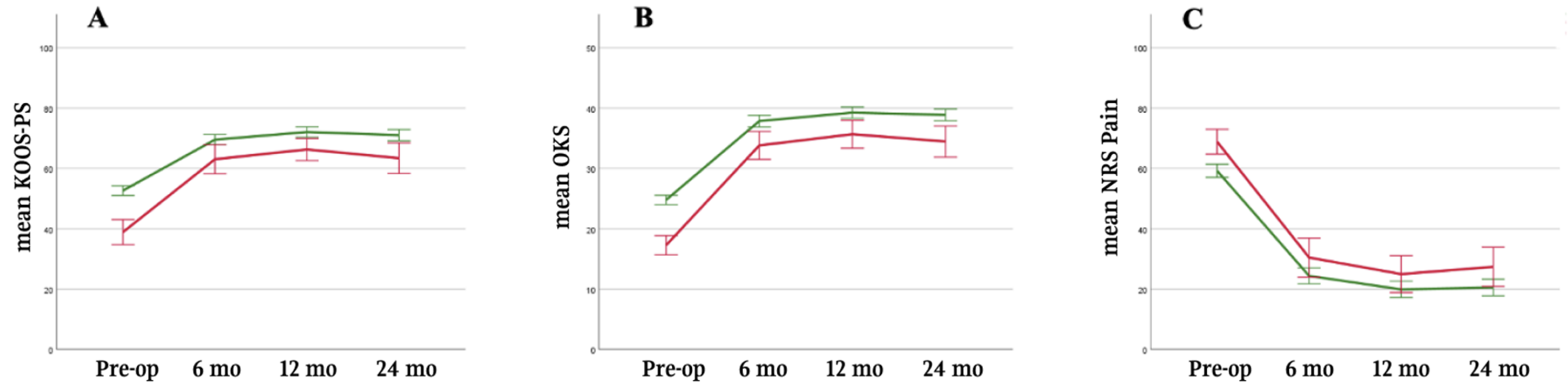
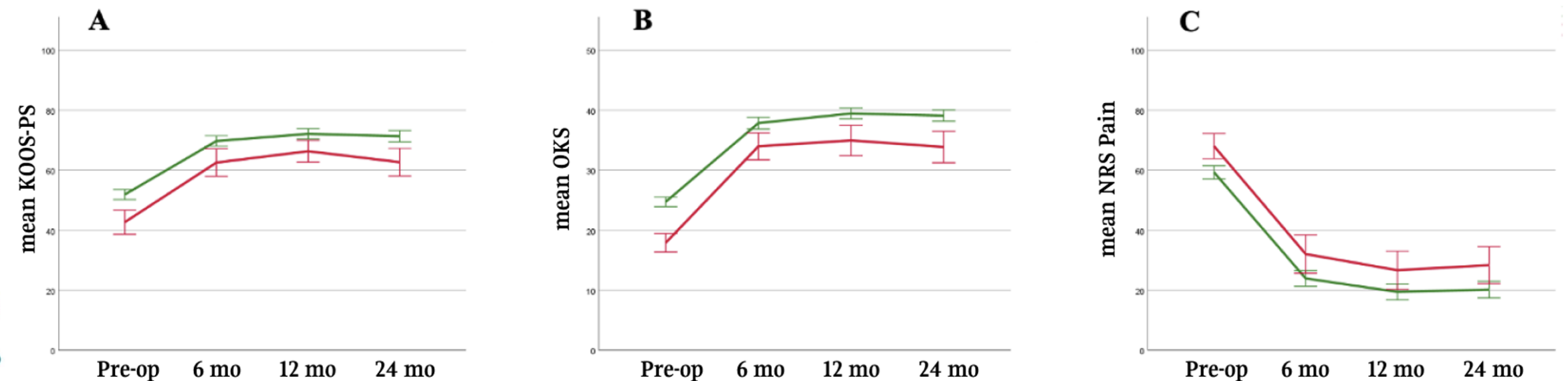


Figure 3. Depression and non-depression patients: Course of subjective function (A: KOOS-PS and B: OKS) and joint pain (C: NRS Pain), from preoperative to all follow-up moments, for **Depression** and **Non-depression** patients.



CONCLUSION

- Preoperative Anxiety and Depression negatively influence subjective function and pain preoperatively and up to 2-years after TKA.
- Patients with preoperative Anxiety and Depression have longer lengths of hospital stay.
- Revision rates are similar between groups and no relevant differences in clinical improvement of function and pain exist.



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