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The Mind Matters: How psychological factors influence subjective outcomes following Unicompartmental Knee Arthroplasty:

a prospective comparative study

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Background and Objectives

- The role of preoperative mental well-being in patient selection, counseling, and postoperative recovery is well recognized, yet its specific impact on the outcomes of unicompartmental knee arthroplasty (UKA) remains unclear
- To investigate how psychological factors, including pain catastrophizing (PC), anxiety, and depression affect preoperative and postoperative subjective outcomes in patients undergoing UKA

Methods

- Study design: a prospective cohort study among 150 patients undergoing UKA for isolated compartment osteoarthritis (OA) (Table 1)
- Patients were categorized into groups with PC, anxiety or depression, and those without, based on their preoperative PCS[1] and HADS[2] (PCS ≥ 30 and HADS ≥ 8)
- Patient-reported outcomes were compared between groups preoperatively and at 6-, 12-, and 24-months:
  - Numeric Rating Scale for pain (NRS-pain)
  - Knee injury and Osteoarthritis Outcome Score-Physical function Short-form (KOOS-PS)
  - EQ-5D visual analogue scale (EQ-5D-VAS)
  - Forgotten Joint Score (FJS)

Patient Demographics (n=150)	Value
Age (Y)	66.6 ± 8.9
Females	77 (52%)
BMI (kg/m²)	29.0 ± 4.7
KL grade IV	118 (79%)
PC	17 (11%)
Anxiety	21 (14%)
Depression	20 (13%)

Results

- PC was associated more pain, and inferior KOOS-PS, EQ-5D-VAS and FJS outcomes at 24-months (Fig 1, top row)
- Anxiety was associated with similar pain levels, but inferior KOOS-PS, EQ-5D-VAS and FJS throughout follow-up (Fig 1, middle row)
- Depression patients had inferior scores on all outcomes preoperatively and throughout follow-up (Fig 1, bottom row)
- Patients with anxiety and depression experienced longer hospital stays (2.3 vs. 0.8 days, p <.01

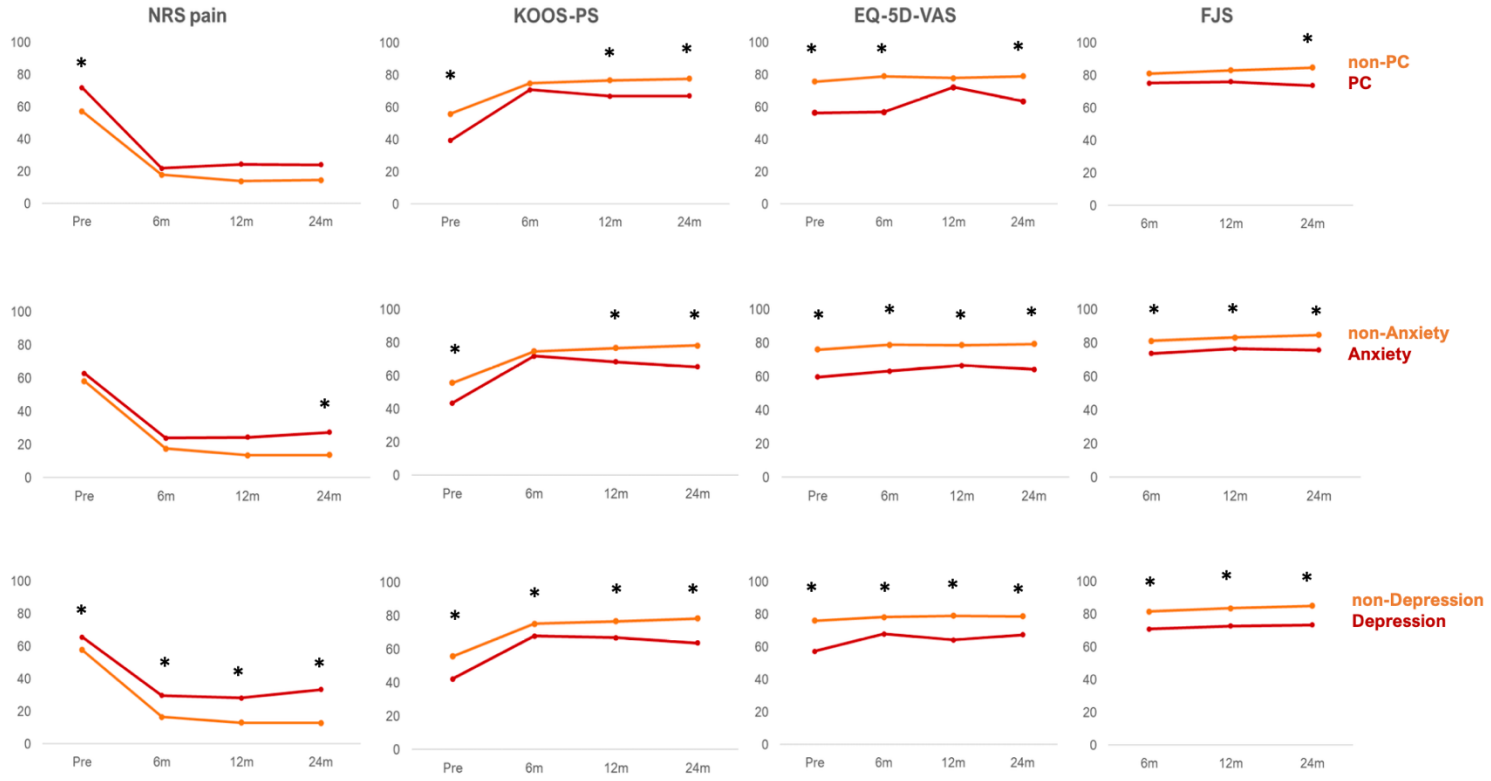

Figure 1. Progression of patient-reported outcomes among patients with and without PC (top row), among patients with and without anxiety (middle row), and among patients with and without depression (bottom row); * indicates significant difference (p<.05).

Conclusions

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- Preoperative PC, anxiety and depression are associated with inferior outcomes in subjective function, quality of life, artificial joint awareness, and pain both prior to and following UKA
- Among these factors, depression seemed to exert the most substantial adverse impact on outcomes following UKA
- Identifying these pre-surgical psychological factors can refine preoperative risk assessments and optimize expectations of patients electing to undergo UKA

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