Editorial Commentary: Mental Health and Tobacco Use Influence Functional Outcomes—Quod erat demonstrandum, or Not?!?

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Abstract: Why does one patient achieve better results than another with nonoperative orthopaedic treatment? Aside from the specific underlying pathology of knee pain, there are demographic factors, including mental health, body mass index, tobacco use, and pain perception, that influence the clinical results and should be considered as part of the equation.

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Orthopaedic physicians do their best to improve patient's quality of life using nonoperative and operative treatment forms. But especially with the nonoperative modalities, the individual outcomes vary greatly. Why is that? What is influencing the results aside from the specific pathology? Could it be that some patient's personal factors are the key in the search for the answers to these questions?

In daily practice, we, as experienced orthopaedic surgeons, all might answer these questions promptly, because subjectively (our gut feeling) we are painfully aware that there are multiple "special factors" out there that influence our even most sophisticated efforts to heal our patients. But could we prove this scientifically? Sometimes we can even foresee what clinical results would trouble us down the road. But could we measure this ahead of time?

The work by Fidai, Tramer, Meldau, Khalil, Patel, Moutzouros, and Makhni, titled "Mental Health and Tobacco Use Are Correlated With Physical Function Outcomes in Patients With Knee Pain and Injury," gives us valuable results that support our expectations in nonoperative treatment of knee pain.[1]

Using their easy-to-use PROMIS (Patient-Reported Outcomes Measurement Information System), the group examined several factors that impact the functional outcomes. The PROMIS questionnaire was established in 2004 to obtain a broad and fast overview on patient-related factors regarding orthopaedic treatments.[2] Especially in cases with pathologies of the lower extremities, the PROMIS domains have a high correlation with other legacy measures.[3]

This paper clearly documents what the experienced physician has "known" all along—high depression and pain interference scores lead to low physical function levels and therefore reduce patient satisfaction following nonsurgical orthopaedic treatment. In addition, the use of tobacco at any time has a negative effect on the outcomes. Other factors, such as an increased body mass index, also have a significant negative impact on the results. Sadly, this observational study could not show an impact of specific orthopaedic treatment forms on the outcome.

Interestingly, these research results finally confirm our honest expectations in the individual outcome in treatment of knee pain. Generally, mental health is a significant, if not predominant, contributor to patients' symptoms.[4]

The findings of Fidai et al.[1] will probably not change the treatment algorithms in our daily practice for the patients with knee pain, but they confirm our long-held expectations and offer us valuable background information. They could help us to stratify our patients regarding follow-up examinations and offer a new perspective when interpreting our clinical results.

Further studies will have to clarify why and how these factors are impacting the clinical results in

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nonoperative orthopedic treatment. This study only shows the correlation of these factors but does not offer an explanation for these outcomes. In the future we might be able to react specifically to these patient-related factors. In addition, we would probably have to change our treatment strategy substantially for these special groups of patients. One can only hope that we will find answers to these questions soon.

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