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CORR Insights®: What General and Pain-associated Psychological Distress Phenotypes Exist Among Patients with Hip and Knee Osteoarthritis?

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Where Are We Now?

Phenotype is the observable traits that arise from a genetic code modified by environmental influences. Diseases such as palmar fibromatosis make us aware that one can have genes for Dupuytren disease and have observable pathologic findings that vary from none to severe.

There is similar variation in the degree of illness for a given degree of verifiable objective pathophysiology and impairment (disease). The word "phenotype" is increasingly used in this context. In the case of illness phenotypes, the genes are measures of both pathophysiology and mental and social health factors. The observable traits are symptom intensity and magnitude of activity intolerance. The hope is that identifying the illness phenotype will point us to the best opportunities for helping people get and stay healthy.

Reading through the various techniques used to date, I notice that some groups identify illness phenotypes by analyzing mental health on its continuum (for example, in a cluster analysis) [2] and others by categorizing mental health (for example, in a latent class analysis) [4]. I prefer to analyze mental health on its continuum. Any amount of despair or cognitive bias can represent a health opportunity. Categorization of mental health reinforces arbitrary and unhelpful categories that can contribute to social stigma (setting aside or marginalizing a person as less than a full member of society). Given that I believe the stigma associated with mental health may be the single largest barrier to the adoption of well-supported evidence-based treatment strategies, efforts to reduce stigma are a priority.

The evidence regarding illness phenotypes in osteoarthritis provides unequivocal support to the idea that musculoskeletal health strategies should address mental and social health [2, 4, 5].

In this month's *Clinical Orthopaedics and Related Research®*, Lentz et al. [5] found that nearly three-fourths of patients in their hip and knee arthritis program had illness phenotypes that indicate important mental and social health opportunities. My interpretation of these data is not "some people have mental health opportunities." For me, this is evidence that everyone can feel better if they attend to mental and social health. Illness phenotypes can be valuable if they direct us to specific foci of treatment such as cognitive bias or symptoms of distress.

Where Do We Need To Go?

I hope every orthopaedic surgeon who reads this article [5] thinks, "my treatment strategies may have some important gaps." The ways our current system carves up musculoskeletal health conceptually, professionally, and financially are inconsistent with the best evidence and create barriers to optimal health. The first thing a clinician should

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become curious about when a person says, "I hurt" is the degree to which the pain is worse because of common misconceptions (cognitive bias), psychological distress (symptoms of anxiety and depression), and stress (such as insecurity in relationship, financial, home, or job roles). The physician should get to know the person who was sufficiently unsettled by his or her symptoms that he or she made the effort to seek out care.

Surgery, medicine, injections, and exercises are parts of a much larger overall strategy of comprehensive, whole-person care. If we limit ourselves to these biomedical options, our patients will miss out on important opportunities.

Attention to mental and social health—to which we are directed by solid evidence—represents a transformation in musculoskeletal care. How do we implement the evidence that reorienting common misconceptions and alleviating stress and distress may be some of the most beneficial interventions for a person with illness related to osteoarthritis?

How Do We Get There?

As I encountered data pointing to the importance of mental and social health to musculoskeletal health, I began to consider the potential role of the orthopaedic surgeon as one of the most-important arbiters of what matters and what's worthwhile. That led me to an appreciation of the importance of effective relationships in guiding people to the best opportunities for improved health. In medical school and residency, we sometimes touched on these points, but I thought I already knew how to talk to people, be friendly, and share medical decisions. I was unconsciously incompetent. I didn't know about the non-technical skills I lacked, such as active listening, empathic noticing, and other relationship-building and trust-building skills; emotional self-awareness and regulation; and guiding rather than directing expertise transfer, to name a few [6]. I now understand these skills are as important and require as much training and practice as my first love, surgery. I am now consciously incompetent, working every day towards conscious competence.

Surgeons are taught to think formulaically: interview, examination, differential diagnosis, tests, and treatments. The experience of people in our care is more narrative. They are living and experiencing their story. The evidence from placebo and nocebo studies (studies of the body's physiologic and subjective response to inert treatments based on their perceived meaning and context) manifests the importance of relationships [3]. Specifically, the evidence shows that a warm, trusting relationship with a clinician can increase the benefit of effective medications and accounts for the benefit of inert medications. The converse is also true; ineffective relationships and negative words and concepts can make people feel worse [1]. With a good relationship and a guiding, motivational, interview-based interaction, we can nudge people towards the healthiest inner narrative about their symptoms.

We get there by investing in personal growth, cultivating healthy words and concepts, training in effective communication strategies, and partnering and coordinating with non-specialists and experts from other disciplines such as psychology and social work. We get there by testing and improving new strategies based soundly in the biopsychosocial paradigm of human illness.

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