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The Elephant in the Room: Too Much Medicine in Musculoskeletal Practice

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Advances in assessment and management of musculoskeletal conditions (eg, fracture management) have improved care for many people. We contend that there have been other, less beneficial developments in the provision of care for people with musculoskeletal pain conditions—one is the worrying tendency to provide too much medicine.

There are overlaps and confusion regarding the usage and definitions of terms.[8] In this Viewpoint, we will use the term "too much medicine" as an umbrella term that includes overdiagnosis, misdiagnosis, false positives, diagnostic overmedicalization, and overdetection. Too much medicine has led to overtreatment, overutilization, interventional overmedicalization, and low-value care.[1,2]

Many musculoskeletal conditions require a level of investigation and intervention. Too much medicine occurs when the provision of either (or both) is unjustifiably excessive, for example, referring an individual experiencing nonspecific low back pain with no red flags for magnetic resonance imaging. Another concern in musculoskeletal health care is medicalizing normality—when a normal human function or condition is labeled as abnormal.[10]

In this Viewpoint, we argue that too much medicine and medicalizing normality in contemporary musculoskeletal practice have become the "elephant in the room." Medicalizing normality creates health concerns where none exist. Too much medicine involves provision of care where benefits do not outweigh harms, and wastes precious health care resources. We (1) list 2 common examples of too much medicine, and 2 examples of medicalizing normality, relevant to physical therapy practice; (2) outline the drivers of too much medicine and medicalizing normality; and (3) make suggestions for change.

Two Examples of Too Much Medicine Relevant to Physical Therapy Practice

Nonsurgical Interventions for Pain Musculoskeletal pain management costs continue to rise. Individuals may have been misinformed that myriad nonsurgical health care options, including acupuncture, manual therapy, myofascial trigger point therapy, injections, pharmacology, among others, will, in isolation, "fix" the problem. Use of opioids has been at the forefront of the drive to eradicate pain. Worldwide, use of prescription opioid analgesics more than doubled between 2001 and 2013, leading to an opioid epidemic in many countries.[14] In the United States in 2017, health care providers (principally general practitioners) prescribed opioid pain medication 191 million times (59 prescriptions per 100 people). Twenty-nine million people were taking nonsteroidal anti-inflammatory medications, accompanied by 100 000 hospitalizations and 17 000 related deaths.[4,19]

Orthopaedic Surgery Many surgical procedures perform no better than skin in-

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cisions and arthroscopy without the "fix" (sham surgery), especially when the patient's main complaint is pain.[7] Examples include repairs for nontraumatic medical meniscal tears, arthroscopic debridement for knee osteoarthritis,[13] type II superior labral tear from anterior to posterior lesions,[20] biceps tenodesis for long-head-of-biceps pathology,[20] and acromioplasty for subacromial impingement.[16]

Prioritizing expensive surgical procedures when cheaper, equally effective alternatives exist is concerning. Nonsurgical management, principally in the form of graduated activity and exercise, is consistently as effective as surgery for shoulder pain, knee pain, and the majority of grade I to III ankle sprains. Surgery may be a reasonable treatment option, but it is associated with increased clinical risk and increased costs for health systems and patients, often without providing increased clinical benefits. For many musculoskeletal conditions, too much medicine can be avoided if appropriate condition-specific education, lifestyle advice, and evidence-based nonsurgical management are prioritized.

Two Examples of Medicalizing Normality Relevant to Physical Therapy Practice

Musculoskeletal aches and pains are common. Up to 70% of people experience shoulder pain and 90% experience low back pain at some stage in their lives. One might argue that these common musculoskeletal conditions could be considered unpleasant yet "normal" occurrences. In this section, we summarize 2 examples of the mislabeling of normal and age-related variations in posture and structure as "pathological" and/or the basis for presenting symptoms.

Postural "Abnormalities" Ankylosing spondylitis and severe kyphosis and scoliosis may be associated with symptoms. However, for the majority of musculoskeletal presentations, most posture "abnormalities" are likely to be variations of normal and do not differentiate between people with and without pain.[11] Observing a person's static posture based on the plumb-line assessment of cervical, thoracic, and shoulder posture, then advising that the symptoms are due to subtle variations in postural alignment, is medicalizing normality.

"Abnormalities" Detected by Imaging There has been an increase in the identification of "abnormalities" in magnetic resonance imaging and ultrasound as the explanation for presenting symptoms. However, this practice has medicalized normality on an unprecedented scale.[1,2] Examples include lumbar disc protrusions, disc bulges, facet joint degeneration, and spondylolisthesis in people without low back pain; labral abnormalities and rotator cuff tendon pathology in baseball pitchers without shoulder pain; osteophytes, cartilage damage, bone marrow lesions, and synovitis in people without knee pain; and labral tears in young people without hip pain. These findings suggest that many changes labeled as "abnormalities" are normal and may not be associated with pain or symptoms. Many interventions may be performed on people who have normal age-related changes, and most probably on tissues that are not the cause of the symptoms.

Drivers of Too Much Medicine

There are many drivers of too much medicine, including the belief of clinicians and patients that more health care (in the form of imaging and investigations, prescribing medicine, injections, multiple passive interventions and electrotherapy modalities, and surgery) is better than prioritizing condition-specific and lifestyle advice; that "doing something" is better than "waiting and watching"[6]; that the origin of pain can always be identified with clinical tests and imaging; that once identified, pain can be "fixed"; that symptoms are caused by "abnormalities" in static posture and structure; and that not addressing "abnormalities" risks further tissue damage or exacerbation of the condition.[3]

When more expensive interventions are recommended that offer equivalent or worse outcomes than lower-cost alternatives, profit and remuneration become drivers of sectors of the health care industry, insurers, pharmaceutical companies, and some clinicians. For sections of the media, drivers include sensationalism and revenue.[9] Politicians may not wish to disenfranchise voters by appearing to reduce or withdraw health care alternatives considered fundamental by the electorate or advocated by lobby groups.[15,18]

Suggestions for Change

Reducing the sequelae of too much medicine will require continuous effort from all stakeholders.[17] We must all consider sustainability and acknowledge that health care resources are finite. In this section, we outline suggestions for how patients, policy makers, clinicians, educators, the health care industry, and the media can drive change. We have included a recommended reading list (**APPENDIX**, available at www.jospt.org) and resources (**TABLE**) to help reduce the impact of too

TABLE Resources to Better Understand and Help Reduce Too Much Medicine and Medicalizing Normality

Provide a card or leaflet with possible questions or discussion points for patients: https://www.nhs.uk/using-the-nhs/nhs-services/gps/what-to-ask-your-doctor/
Discuss the value and importance of shared decision making in musculoskeletal practice[6]
Too much medicine: https://www.bmj.com/too-much-medicine and https://www.youtube.com/watch?v=FDffclD_BsA
Better medicine: https://www.bmj.com/bettermedicinercgp
Improving critical thinking about health care: https://www.healthnewsreview.org
Online guides for reporting medical research: https://www.smh.com.au/national/our-guidelines-for-reporting-medical-research-20190603-p51tw2.html
Discuss musculoskeletal management in social media forums[5]

much medicine and medicalizing normality in musculoskeletal practice.

What Can Patients Do?

- Ask questions relating to the different management options for your condition, focusing on the anticipated benefits, time scales, and harms
- Ask what you can do to help manage your condition
- Ask if "wait and watch" is an appropriate option
- When fully informed of the benefits, harms, and costs of the management options, contribute to codesigning the provision of health care at local and national levels
- Share experiences and journeys through the health care system to promote improvements in delivery of care

What Can Policy Makers Do?

- Withdraw the financial incentive to offer unnecessary assessment and intervention
- Defund low-value care (eg, subacromial decompression surgery[16])
- Prioritize funding high-value care (eg, exercise programs for rotator cuff–related shoulder pain[6])

What Can Clinicians Do?

- Ensure patients are aware of and understand all reasonable diagnosis and management options, and the harms, benefits, and expected outcomes of each
- Avoid emotive language and outdated explanations when explaining symptoms and making recommendations for management
- Establish what matters most to the patient and discuss this as part of decision making
- Understand the natural course of the condition
- Know the investigations that should and should not be considered, and age-related norms for investigation findings
- Discuss the impact an intervention may have on the individual (eg, the number of sessions a patient may need to attend for an exercise class and how much self-directed exercise he or she would need to complete, any limitations to activity following an injection or surgery, and for how long)

What Can Educators Do?

- Ensure that curricula are contemporary and reflect current evidence
- Teach critical appraisal skills so clinicians can effectively and efficiently incorporate new evidence into practice
- Teach shared decision-making skills

What Can the Health Care Industry Do?

- Use common language and explanations for patients, based on an unbiased assessment of research
- Promote interprofessional practice

What Can the Media Do?

- Recognize the harm and the distress that can occur when health care issues are sensationalized or misreported

SUMMARY

Too much medicine burdens health care systems and deprives societies of resources. Overcoming too much medicine requires stakeholders (patients, clinicians, educators, health care funders, media, policy makers, industry, insurers, politicians, etc) to appropriately prioritize low-risk, cost-effective care over higher-risk and more expensive care of equal clinical effectiveness. Professional bodies, government agencies, clinicians, and patients must collaborate to discuss and synthesize the available evidence, share decisions, and translate knowledge. We do not underestimate the challenge of the task. Reducing the harm of medicalizing normality and avoiding the temptation to provide too much medicine in current musculoskeletal practice depend on all of us. ◉

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APPENDIX

RECOMMENDED READING LIST

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