Pain in the Neck: Many (Marginally Different) Treatment Choices

Neck pain is a highly prevalent and costly symptom. Available studies estimate that the 1-year incidence of neck pain ranges from 10.4% to 21.3%, with a higher incidence noted in office and computer workers. Although between 33% and 65% of people recover from an episode of neck pain within 1 year, relapses are common (1). The prevalence is generally higher in women than in men, higher in high-income countries than in low- or middle-income countries, and higher in urban areas than in rural areas. Many factors influence the onset and course of neck pain, including such nonmodifiable risk factors as age, sex, and genetics. Modifiable factors include exposure to tobacco and poor psychological health (2). Of note, cervical disc degeneration is not an identified risk factor (2).

Few population-based studies have been done on the economic burden of neck pain, but a 1996 Dutch study (3) estimated the total costs to be $686 million, which represented approximately 1% of total health care expenditures and 0.1% of the gross domestic product of the Netherlands. Thus, it seems that the economic burden of neck pain is substantial in the Netherlands and perhaps in other high-income countries.

Clinicians offer various therapies to patients who seek conservative care for neck pain. A search of the Cochrane library revealed systematic reviews on medication (4); manual therapies, including manipulation and mobilization (5); massage (6); acupuncture (7); electrotherapy (8); exercises (9); traction (10); patient education (11); and biopsychosocial rehabilitation (12). The findings of these reviews do not reveal a single, optimally effective therapy for neck pain. Overall, the therapies had low to moderate effect sizes and very few had advantages over others when compared in trials with a low risk for bias. Many reviews of the trials of the various therapies reported limited or conflicting findings and just as many called for more high-quality research on the topic.

In this issue, Bronfort and colleagues (13) report on their study of neck pain treatment. This pragmatic, randomized trial compared the commonly used therapies of spinal manipulation, medication, and home exercise for patients with acute and subacute neck pain. The therapies were not administered in isolation; providers could add other therapies of their choice, which more closely replicates the real-world experiences of people with neck pain who seek treatment. For example, participants in the manipulation group may have also received mobilization; advice to stay active; or other therapies, such as massage, assisted stretching, or hot or cold packs. Participants in the medication group could have received anti-inflammatories; analgesics, including narcotics; or muscle relaxants. The exercise group also received advice, including information about the basic anatomy of the cervical spine; postural instructions; and practical demonstrations of lifting, pushing, pulling, and other daily actions.

The trial results showed improvement in pain in all 3 groups, but spinal manipulation was more effective than medication in both the short- and long-term. However, a few instructional sessions of home exercises with advice resulted in outcomes similar to those of the spinal manipulation group at most time points.

The authors acknowledge the strengths and weaknesses of the study, which overall is sound and has a low risk for bias. However, several factors deserve consideration. First, the 3 therapies were not compared with a placebo or sham therapy, which could have performed competitively. Comparison with a sham therapy would provide more convincing evidence of effectiveness. Second, the authors do not report patient adherence with home exercise or medication use. These data would have been useful to determine whether adherence may explain the differences observed between patient-administered and provider-administered therapies. Finally, this study did not include a cost-effectiveness component. Such analyses can add a helpful layer of information about the value of different approaches. Future research should examine costs.

What does this study tell primary care providers confronted with a patient with neck pain whose profile matches that of the study participants? Given the marginal differences in effectiveness of the different treatments, clinicians should consider (among other things) patient preference. Patients with neck pain who are active may prefer home exercise, whereas others may want a more hands-on approach, such as manipulation or mobilization. If the patient chooses manual therapy, its effectiveness and safety profile need to be discussed. For example, neck manipulation has a rare but potentially catastrophic risk for vertebral artery stroke (14–16). Because similar positive outcomes are found with neck manipulation and mobilization (5, 17), a persuasive argument can be made for mobilization as a first-line treatment for nonspecific neck pain instead of the low-amplitude, high-velocity thrusts of manipulation. If the clinician must inform a patient who prefers manipulative therapy of the potential for adverse events, including the rare but catastrophic risk for stroke.

The marginally different effectiveness of the therapies for neck pain may be due, at least in part, to the tendency to treat nonspecific neck pain as a homogeneous condition. It may be that neck pain is actually a heterogeneous collection of as-yet undefined, differing conditions, some of which might respond to a particular therapy that others do not (18). Research to identify diagnostic subsets of people with nonspecific neck pain may enable us to better direct therapies, such as medication, manipulation, mobilization, and home exercises, to the patients who are most likely to benefit from them (19). Given the scant resources available
for researching the effectiveness of different approaches for neck pain, a moratorium on trials that lump nonspecific cases together may be warranted. Pragmatic trials, such as the one by Bronfort and colleagues, have their place in answering important questions about current treatment approaches, but we need innovative studies that explore which treatments benefit which of the many people who experience disabling neck pain.

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Potential Conflicts of Interest: Disclosures can be viewed at www.acponline.org/authors/icmje/ConflictOfInterestForms.do?msNum=M11-2687.

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