

Clinical Study

Clinical outcomes of early and later physical therapist services for older adults with back pain

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Abstract

BACKGROUND CONTEXT: The timing of physical therapy (PT) services and its association with later function and pain are not clear, especially in older adults.

PURPOSE: The purpose of this study was to compare clinical outcomes of patients receiving early or later PT services with those not receiving PT among older adults presenting to primary care for a new visit for back pain.

STUDY DESIGN/SETTING: Prospective cohort study using the Back Pain Outcomes Using Longitudinal Data registry.

PATIENT SAMPLE: A total of 3,705 adults 65 years and older with a new visit for back pain were included.

OUTCOME MEASURES: The outcome measures were Roland-Morris Disability Questionnaire (RMDQ), Pain Numerical Rating Scales, and EuroQol-5D.

METHODS: We studied two phases of PT utilization: early (0–28 days) and later (3–6 months). At baseline, we selected the participants with complete 12 months of patient-reported outcomes and electronic medical record data. Early PT was defined as initiating PT less than or equal to 28 days from the index visit for back pain. The no early PT group consisted of patients with no PT, no injections, no surgery, and no chiropractic within 28 days. We restricted the later phase analysis to patients with pain greater than 2 of 10 and an RMDQ score greater than 4 to create a subsample of patients with continuing clinically important back pain. We defined later PT as initiating PT between 3 and 6 months after the index visit. The no later PT group consisted of patients without any PT during this time. We used propensity score matching followed by multiple linear regression to estimate the mean difference in outcome. Sensitivity analysis examined clinically important change and dose of PT use among the early PT group.

FDA device/drug status: Not applicable.

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RESULTS: The early PT group had better functional status with an adjusted mean RMDQ of 1.1 points less than the no early PT group (95% confidence interval: $-2.2, -0.1$) and less back pain of -0.5 ($-0.9, -0.1$) at 12 months. There was no difference between early PT groups at 3 and 6 months. The odds of a 30% improvement in function or pain were not different between these matched groups at 12 months, but the early PT group had increased odds of a 50% improvement in function at 12 months (odds ratio: 1.58, 95% confidence interval: 1.04, 2.40). There was no difference between later groups at 12 months. Greater dose of PT use within the early PT group was associated with better functional status ($p = .01$).

CONCLUSIONS: We found that among older adults presenting to their primary care providers for a new episode of back pain, early referral to PT resulted in no or minimal differences in pain, function, or health-related quality at 3, 6, or 12 months compared with a matched group that did not receive early PT. Secondary analysis show that patients initiating early PT may be somewhat more likely to experience 50% improvement in function at 12 months. © 2015 Elsevier Inc. All rights reserved.

Keywords:

Back pain; Older adults; Physical therapy; Comparative effectiveness research; Function; Outcomes

Introduction

Back pain is one of the most common reasons for primary care visits in the United States, and it has a considerable burden worldwide [1,2]. Adults with acute back pain typically have a good prognosis [3,4], but after 3 months of symptoms, the prognosis is considerably less favorable as the improvement in pain and disability is small for the patients with ongoing pain and disability [3,5,6]. Little is known about the prognosis for new episodes of back pain for older adults, but initial evidence suggests it is less favorable [7]. A greater proportion of older adults continue to have back pain and limited function at 3 months compared with the studies of younger adults [3,4,7].

Because of the good prognosis for most episodes of acute back pain, clinical guidelines for the diagnosis and treatment of back pain recommend minimal initial interventions: reassurance of a favorable outcome, encouragement to remain active, and strategies for self-care. Nonsteroidal anti-inflammatories can be used as needed for symptom relief [8]. These guidelines are not specific to older adults, who may have additional comorbidities, greater degenerative conditions, and a different prognosis than younger adults [7,9,10]. Because of these differences, it is possible that an alternative approach to managing new episodes of back pain in older adults may be more appropriate than what is suggested by the current guidelines.

The timing of physical therapy (PT) and its association with later function and pain are not clear, especially in older adults. Using Medicare data, Gellhorn et al. [11] found that early PT was associated with less ensuing back-related health-care utilization in patients with back pain compared with those receiving later PT. However, no outcomes data on pain and back-related function are available in Medicare claims databases. Health systems have implemented the use of early PT in new pathways

for managing back pain and reported positive outcomes [12], but more rigorous comparative effectiveness research on the clinical outcomes of this strategy in older adults is currently not available.

The purpose of this study was to compare clinical outcomes between patients receiving early or later PT services with those not receiving early or late PT in a cohort of older adults presenting to primary care settings with a new visit for back pain. Secondary objectives are to describe older adults with back pain who receive early or later PT compared with those not receiving PT services during these times.

Methods

Design, data source, and subjects

We conducted a cohort study using participants from the Back Pain Outcomes Using Longitudinal Data (BOLD) registry. Back Pain Outcomes Using Longitudinal Data is a prospective cohort of adults, 65 years and older, presenting to primary care settings for a new visit of back pain within three integrated health systems: Kaiser Permanente in Northern California, Henry Ford Health System in Detroit, MI, and Harvard Vanguard Medical Associates/Harvard Pilgrim Health Care in Boston, MA. We collected patient-reported outcomes from participating patients and ascertained health-care utilization from the electronic medical record (EMR) for 12 months after the index visit for back pain. Key clinical exclusion criteria include a health-care encounter for back pain 6 months before the index date, previous lumbar spine surgery, developmental spine deformities, inflammatory spondyloarthritis, known spinal malignancy or infection, and serious medical comorbid conditions with life expectancy less than 1 year.

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