

Among patients with knee OA, the value of exercise as an effective approach to pain management continues to receive considerable attention (Castaneda, Bigatti, & Cronan, 1998; Damush, Perkins, Mikesky, Roberts, & O'Dea, 2005; Hurley, Mitchell, & Walsh, 2003; McCarthy et al., 2004). Because exercise is the adoption of a long-term health behavior, commensurately long prospective investigations are warranted to summarize the relationship between knee pain and exercise. Three reviews of exercise and OA have recently been published (Baker & McAlindon, 2000; McCarthy & Oldham, 1999; van Baar, Assendelft, Decker, Oostenforp, & Bijlsma, 1999). A 2004 summary of the reviews notes, "Longer trials tended to be more effective than those of shorter duration and, the higher the dose of exercise, the more effective" (Minor, 2004, p. 81). The length of follow-up time needed for these epidemiological studies remains unclear.

In a group of participants with radiologically confirmed knee OA participating in an exercise study, we recorded self-reported knee-pain scores. All participants were followed for 2 years. Our case-series investigation was a pilot study conducted to provide supporting data for a future clinical trial addressing exercise and OA. This article summarizes our findings pertaining to 11 participants' OA-pain scores over the 2-year study period. We partitioned our 2-year study into two phases: Months 1–12 and Months 13–24. Our primary objective was to quantify and compare the changes in knee-pain scores for each of the two time periods.

Methods

Data collected from the Clearwater Exercise Study, a pilot investigation conducted to provide supporting data for a future trial about exercise and OA, were analyzed. Initiated by the Arthritis Research Institute of America, Inc., the study was a community-based study conducted in Clearwater, FL. The ambulatory, community-dwelling study population was composed of volunteer participants who were recruited by various outreach methods. Recruitment approaches included newspaper notifications, presentations at local civic meetings (e.g., Rotary Club), community organization bulletins, and friend referrals. In addition, Pinellas County employees' paycheck stubs included a notice about our study recruitment efforts in their community, inviting participation. An institutional review board approved the study, and all participants signed an informed consent. Participants were subsequently screened for radiographic knee OA. Before entering the study, participants had a sedentary lifestyle, with the exception of 1 participant who did "occasional walking."

Procedures

Study participants followed a structured routine, executed three times per week. The goal of the program was to increase joint flexibility, muscle strength, and muscle endurance. A fitness trainer supervised the institute-based exercise sessions. The 25-min routine incorporated three components. A 5- to 7-min aerobic warm-up period opened the session with participants self-selecting either a treadmill (0% incline) or a stationary vertical bike (speed 1.0–3.0 mph). The aerobic warm-up was followed immediately by a weight-resistance routine. The routine was individualized by adjusting the amount of weight for each participant. Participants' responses to the resistance-training stress were carefully monitored. Once the participants