

The Effect of Glucosamine Supplementation on People Experiencing Regular Knee Pain

ABSTRACT

OBJECTIVE

The purpose of this study was to examine the effects of oral glucosamine supplementation on the functional ability and degree of pain felt by individuals who had regular knee pain, most likely due to previous articular cartilage damage, and possibly osteoarthritis.

METHODS

Subjects were randomly supplemented with either glucosamine (G) (n = 24) or placebo (P) (lactose) (n = 22) for 12 weeks at a dose of 2000 mg per day. Over this period, four testing sessions were conducted, with changes in knee pain and function assessed by clinical and functional tests, (joint line palpation, a 3 metre “duck walk” and a repeated, walking stair climb), two questionnaires (the Knee Injury and Osteoarthritis Outcome Score (KOOS) and the Knee Pain Scale (KPS)) and participant subjective evaluations.

RESULTS

The clinical and functional test scores improved with time (main effects: $p < 0.05$, $p < 0.01$) but there were no significant differences between the two groups. The questionnaire results also recorded a significant main effect for time ($p < 0.05$), but the glucosamine group was found to have significantly better KOOS quality of life scores at week eight and 12 ($p < 0.05$), and lower KPS scores ($p < 0.05$) at week eight than the placebo group. On self report evaluations of changes across the 12 week supplementation period, 88 % (n = 21) of the glucosamine group reported some degree of improvement in their knee pain versus only 17 % (n = 3) in the placebo group.

CONCLUSION

These results suggest that glucosamine supplementation can provide some degree of pain relief and improved function in persons who experience regular knee pain, which may be caused by prior cartilage injury and/or osteoarthritis. The trends in the results also suggest that, at a dosage of 2,000 mg per day, the majority of improvements are present after eight weeks.