

Efficacy of methylsulfonylmethane (MSM) in osteoarthritis pain of the knee: a pilot clinical trial

[Kim LS](#), [Axelrod LJ](#), [Howard P](#), [Buratovich N](#), [Waters RF](#).

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Southwest College Research Institute, Southwest College of Naturopathic Medicine and Health Sciences, Tempe, AZ 85282, USA. l.kim@scnm.edu

Abstract

OBJECTIVE:

Osteoarthritis (OA) is the most common form of arthritis and the second most common cause of long-term disability among middle-aged and older adults in the United States. Methylsulfonylmethane (MSM) is a popular dietary supplement used as a single agent and in combination with other nutrients, and purported to be beneficial for arthritis. However, there is paucity of evidence to support the use of MSM.

METHODS:

A randomized, double-blind, placebo-controlled trial was conducted. Fifty men and women, 40-76 years of age with knee OA pain were enrolled in an outpatient medical center. Intervention was MSM 3g or placebo twice a day for 12 weeks (6g/day total). Outcomes included the Western Ontario and McMaster University Osteoarthritis Index visual analogue scale (WOMAC), patient and physician global assessments (disease status, response to therapy), and SF-36 (overall health-related quality of life).

RESULTS:

Compared to placebo, MSM produced significant decreases in WOMAC pain and physical function impairment ($P<0.05$). No notable changes were found in WOMAC stiffness and aggregated total symptoms scores. MSM also produced improvement in performing activities of daily living when compared to placebo on the SF-36 evaluation ($P<0.05$).

CONCLUSION:

MSM (3g twice a day) improved symptoms of pain and physical function during the short intervention without major adverse events. The benefits and safety of MSM in managing OA and long-term use cannot be confirmed from this pilot trial, but its potential clinical application is examined. Underlying mechanisms of action and need for further investigation of MSM are discussed.