

Ginger Powder and Extract – Clinical Trials

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GINGER POWDER AND EXTRACT CLINICAL TRIALS

Comparison between the efficacy of ginger and sumatriptan in the ablative treatment of the common migraine.

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Journal - Phytother Res. 2013 May 9. doi: 10.1002/ptr.4996. [Epub ahead of print]

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Abstract

Frequency and torment caused by migraines direct patients toward a variety of remedies. Few studies to date have proposed ginger derivatives for migraine relief. This study aims to evaluate the efficacy of ginger in the ablation of common migraine attack in comparison to sumatriptan therapy. In this double-blinded randomized clinical trial, 100 patients who had acute migraine without aura were randomly allocated to receive either ginger powder or sumatriptan. Time of headache onset, its severity, time interval from headache beginning to taking drug and patient self-estimation about response for five subsequent migraine attacks were recorded by patients. Patients' satisfaction from treatment efficacy and their willingness to continue it was also evaluated after 1 month following intervention. Two hours after using either drug, mean headaches severity decreased significantly. Efficacy of ginger powder and sumatriptan was similar. Clinical adverse effects of ginger powder were less than sumatriptan. Patients' satisfaction and willingness to continue did not differ. The effectiveness of ginger powder in the treatment of common migraine attacks is statistically comparable to sumatriptan. Ginger also poses a better side effect profile than sumatriptan.

[Arthritis Rheum.](#) 2001 Nov;44(11):2531-8.

Effects of a ginger extract on knee pain in patients with osteoarthritis.

[Altman RD](#)¹, [Marcussen KC](#).

Abstract

OBJECTIVE:

To evaluate the efficacy and safety of a standardized and highly concentrated extract of 2 ginger species, *Zingiber officinale* and *Alpinia galanga* (EV.EXT 77), in patients with osteoarthritis (OA) of the knee.

METHODS:

Two hundred sixty-one patients with OA of the knee and moderate-to-severe pain were enrolled in a randomized, double-blind, placebo-controlled, multicenter, parallel-group, 6-week study. After washout, patients received ginger extract or placebo twice daily, with acetaminophen allowed as rescue medication. The primary efficacy variable was the proportion of responders experiencing a reduction in "knee pain on standing," using an intent-to-treat analysis. A responder was defined by a reduction in pain of ≥ 15 mm on a visual analog scale.

RESULTS:

In the 247 evaluable patients, the percentage of responders experiencing a reduction in knee pain on standing was superior in the ginger extract group compared with the control group (63% versus 50%; $P = 0.048$). Analysis of the secondary efficacy variables revealed a consistently greater response in the ginger extract group compared with the control group, when analyzing mean values: reduction in knee pain on standing (24.5 mm versus 16.4 mm; $P = 0.005$), reduction in knee pain after walking 50 feet (15.1 mm versus 8.7 mm; $P = 0.016$), and reduction in the Western Ontario and McMaster Universities osteoarthritis composite index (12.9 mm versus 9.0 mm; $P = 0.087$). Change in global status and reduction in intake of rescue medication were numerically greater in the ginger extract group. Change in quality of life was equal in the 2 groups. Patients receiving ginger extract experienced more gastrointestinal (GI) adverse events than did the placebo group (59 patients versus 21 patients). GI adverse events were mostly mild.

CONCLUSION:

A highly purified and standardized ginger extract had a statistically significant effect on reducing symptoms of OA of the knee. This effect was moderate. There was a good safety profile, with mostly mild GI adverse events in the ginger extract group.

Efficacy and safety of ginger in osteoarthritis patients: a meta-analysis of randomized placebo-controlled trials.

[Bartels EM](#)¹, [Folmer VN](#)², [Bliddal H](#)², [Altman RD](#)³, [Juhl C](#)⁴, [Tarp S](#)², [Zhang W](#)⁵, [Christensen R](#)⁶.

Abstract

The aim of this study was to assess the clinical efficacy and safety of oral ginger for symptomatic treatment of osteoarthritis (OA) by carrying out a systematic literature search followed by meta-analyses on selected studies. Inclusion criteria were randomized controlled trials (RCTs) comparing oral ginger treatment with placebo in OA patients aged >18 years. Outcomes were reduction in pain and reduction in disability. Harm was assessed as withdrawals due to adverse events. The efficacy effect size was estimated using Hedges' standardized mean difference (SMD), and safety by risk ratio (RR). Standard random-effects meta-analysis was used, and inconsistency was evaluated by the I-squared index (I²). Out of 122 retrieved references, 117 were discarded, leaving five trials (593 patients) for meta-analyses. The majority reported relevant randomization procedures and blinding, but an inadequate intention-to-treat (ITT) analysis. Following ginger intake, a statistically significant pain reduction SMD = -0.30 ([95% CI: [(-0.50, -0.09)], P = 0.005]) with a low degree of inconsistency among trials (I² = 27%), and a statistically significant reduction in disability SMD = -0.22 ([95% CI: [(-0.39, -0.04)]; P = 0.01; I² = 0%) were seen, both in favor of ginger. Patients giving ginger were more than twice as likely to discontinue treatment compared to placebo ([RR = 2.33; 95% CI: (1.04, 5.22)]; P = 0.04; I² = 0%). Ginger was modestly efficacious and reasonably safe for treatment of OA. We judged the evidence to be of moderate quality, based on the small number of participants and inadequate ITT populations. Prospero: CRD42011001777.

The effect of ginger for relieving of primary dysmenorrhoea.

Jenabi E., J Pak Med Assoc. 2013 Jan;63(1):8-10
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Abstract

OBJECTIVE:

To assess the effectiveness of ginger in providing relief to patients of primary dysmenorrhoea.

METHODS:

The clinical trial was conducted at Toyserkan Azad University in western Iran from July 10 to September 5, 2010. It comprised of 70 female students of the university with primary dysmenorrhoea. The subjects were randomly divided in to two equal groups and were given either placebo or ginger in capsule form for 3 days in first menstruation cycles. They graded the severity of their pain using a visual analogue scale. A 5-point Likert scale was used to assess response to treatment. Wilcoxon's rank-sum test was used to compare the severity of pain in the two groups.

RESULTS:

Compared with the baseline, the decrease in the visual analogue scores of post-therapy pain in the ginger group was significantly greater than that for placebo group. In the ginger group, 29 (82.85%) subjects reported an improvement in nausea symptoms, compared with 16 (47.05%) in the placebo group.

CONCLUSION:

Ginger is effective in minimising the pain severity in primary dysmenorrhoea.

The effect of ginger consumption on glycemic status, lipid profile and some inflammatory markers in patients with type 2 diabetes mellitus.

Int J Food Sci Nutr. 2014 Feb 4. [Epub ahead of print]

Arablou T¹, Aryaeian N, Valizadeh M, Sharifi F, Hosseini A, Djalali M.

Abstract

Abstract Objective: To assess the effect of ginger consumption on glycemic status, lipid profile and some inflammatory markers in patients with type 2 diabetes mellitus. **Methods:** In a double-blinded, placebo-controlled clinical trial, 70 type 2 diabetic patients were enrolled. They allocated randomly into ginger group and control group. They consumed 1600 mg ginger versus 1600 mg wheat flour placebo daily for 12 weeks. Serum sugar, lipids, CRP, PGE₂ and TNF α were measured before and after intervention. **Results:** Ginger reduced fasting plasma glucose, HbA_{1c}, insulin, HOMA, triglyceride, total cholesterol, CRP and PGE₂ significantly compared with placebo group ($p < 0.05$). There were no significant differences in HDL, LDL and TNF α between two groups ($p > 0.05$). **Conclusion:** Ginger improved insulin sensitivity and some fractions of lipid profile, and reduced CRP and PGE₂ in type 2 diabetic patients. Therefore ginger can be considered as an effective treatment for prevention of diabetes complications.

Anti-inflammatory effects of zingiber officinale in type 2 diabetic patients.

Mahluji S, Ostadrahimi A, Mobasseri M, Ebrahimzade Attari V, Payahoo L. Adv. Pharm Bull. 2013;3(2):273-6. doi: 10.5681/apb.2013.044. Epub 2013 Aug 20

Abstract

Purpose: Low-grade inflammation, a common feature in type 2 diabetes (DM2), causes some chronic complications in these patients. The present study was aimed to evaluate the effects of ginger (*Zingiber officinale*) on pro-inflammatory cytokines (IL-6 and TNF- α) and the acute phase protein hs-CRP in DM2 patients as a randomized double-blind placebo controlled trial. **Methods:** A total of 64 DM2 patients randomly were assigned to ginger or placebo groups and received 2 tablets/day of each for 2 months. The concentrations of IL-6, TNF- α and hs-CRP in blood samples were analyzed before and after the intervention. **Results:** Ginger supplementation significantly reduced the levels of TNF- α ($P = 0.006$), IL-6 ($P = 0.02$) and hs-CRP ($P = 0.012$) in ginger group in comparison to baseline. Moreover, the analysis of covariance showed that the group received ginger supplementation significantly lowered TNF- α (15.3 ± 4.6 vs. 19.6 ± 5.2 ; $P = 0.005$) and hs-CRP (2.42 ± 1.7 vs. 2.56 ± 2.18 ; $P = .016$) concentrations in comparison to control group. While there were no significant changes in IL-6 (7.9 ± 2.1 vs. 7.8 ± 2.9 ; $P > .05$). **Conclusion:** In conclusion, ginger supplementation in oral administration reduced inflammation in type 2 diabetic patients. So it may be a good remedy to diminish the risk of some chronic complications of diabetes.

The effect of ginger powder supplementation on insulin resistance and glycemic indices in patients with type 2 diabetes: A randomized, double-blind, placebo-controlled trial.

Mozaffari-Khosravi H¹, Talaei B², Jalali BA³, Najarzadeh A², Mozayan MR⁴.
Complement Ther Med. 2014 Feb;22(1):9-16. doi: 10.1016/j.ctim.2013.12.017.
Epub 2014 Jan 8.

Abstract

OBJECTIVE:

To identify the effect of some herbal products on insulin resistance. Regarding the scientific evidences existing about ginger, this research was therefore carried out to identify the effect of ginger supplementation on insulin resistance and glycemic indices in diabetes mellitus.

METHODS:

This is a randomized, double-blind, placebo-controlled trial in which 88 participants affected by diabetes were randomly assigned into ginger (GG) and placebo (PG) groups. The GG received 3 one-gram capsules containing ginger powder whereas the PG received 3 one-gram microcrystalline-containing capsules daily for 8 weeks. HbA1c, fructosamine, fasting blood sugar (FBS), fasting insulin, homeostasis model assessment insulin resistance index (HOMA-IR), β -cell function ($\beta\%$), insulin sensitivity (S%) and the quantitative insulin sensitivity check index (QUICKI) were assessed before and after the intervention.

RESULTS:

FBS mean showed a decrease of 10.5% ($p=0.003$) in the GG whereas the mean had an increase of 21% in the PG ($p=0.01$). Variation in HbA1c mean was in line with that of FBS. Statistical difference was found in the two groups before and after the intervention in terms of median of fasting insulin level, S% and HOMA-IR ($P<0.005$). Moreover QUICKI mean increased significantly in the two groups, the mean difference, however, was significantly higher in the GG.

CONCLUSIONS:

The study demonstrated that daily consumption of 3 one-gram capsules of ginger powder for 8 weeks is useful for patients with type 2 diabetes due to FBS and HbA1c reduction and improvement of insulin resistance indices such as QUICKI index.

A review of the gastroprotective effects of ginger (*Zingiber Officinale* Roscoe).

Haniadka R¹, Saldanha E, Sunita V, Palatty PL, Fayad R, Baliga MS.
Food Funct. 2013 Jun;4(6):845-55. doi: 10.1039/c3fo30337c. Epub 2013
Apr 24.

Abstract

The rhizomes of *Zingiber officinale* Roscoe (Zingiberaceae), commonly known as ginger is an important kitchen spice and also possess a myriad health benefits. The rhizomes have been used since antiquity in the various traditional systems of medicine to treat arthritis, rheumatism, sprains, muscular aches, pains, sore throats, cramps, hypertension, dementia, fever, infectious diseases, catarrh, nervous diseases, gingivitis, toothache, asthma, stroke and diabetes. Ginger is also used as home remedy and is of immense value in treating various gastric ailments like constipation, dyspepsia, belching, bloating, gastritis, epigastric discomfort, gastric ulcerations, indigestion, nausea and vomiting and scientific studies have validated the ethnomedicinal uses. Ginger is also shown to be effective in preventing gastric ulcers induced by nonsteroidal anti-inflammatory drugs [NSAIDs like indomethacin, aspirin], reserpine, ethanol, stress (hypothermic and swimming), acetic acid and *Helicobacter pylori*-induced gastric ulcerations in laboratory animals. Various preclinical and clinical studies have also shown ginger to possess anti-emetic effects against different emetogenic stimuli. However, conflicting reports especially in the prevention of chemotherapy-induced nausea and vomiting and motion sickness prevent us from drawing any firm conclusion on its effectiveness as a broad spectrum anti-emetic. Ginger has been shown to possess free radical scavenging, antioxidant; inhibition of lipid peroxidation and that these properties might have contributed to the observed gastroprotective effects. This review summarizes the various gastroprotective effects of ginger and also emphasizes on aspects that warrant future research to establish its activity and utility as a gastroprotective agent in humans.