

Cold & Cough Study

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Research Topic

Preventing the common cold with a garlic supplement: A double-blind, placebo-controlled survey

Research objective

To determine whether a unique garlic supplement (Allisure) that contains only stabilized allicin could prevent colds in healthy volunteers

Results

-65% reduction in common cold.

-80% reduction of severity of symptoms and duration

-90% reduction of re-infection

-Product is well tolerated and offers many other advantages according to volunteer reports

Implications

-The result overwhelmingly favored the supplement of allicin as a preventive measure, demonstrated accelerated relief and reduction in the severity of the symptoms

-A reduced likelihood of becoming re-infected with other viral strains indicated general improvements in the immune system with the active supplements

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Immune effects

Garlic can stimulate and boost human immune system.

-Increases number of lymphocytes
A type of white blood cell involved in the human body's immune system.

-Increases number of phagocytosis
Serve to remove foreign bodies and thus fight infection.

-Increases natural killer cell activity
Also known as NK cells, K cells, and killer cells, these are a type of lymphocyte (a white blood cell) and a component of innate immune defense. These cells do not destroy the attacking microorganisms directly; they attack infected cells and possible cancerous cells.

-Increases antibody titers
Antibody titer is a test that measures the presence and amount of antibodies in blood. These antibodies may be against a particular type of tissue, cell, bacteria, virus, or other external substance.

Antimicrobial effects

Garlic is effective against a wide range of both Gram positive and negative bacteria, including:

--Salmonella:
Normally causes septicemia and produces typhoid or typhoid-like fever in humans.

--Staphylococcus, Clostridium
Food poisoning.

--Streptococcus
Causes septic sore throat and scarlet fever as well as other pyrogenic and septicemic infections.

--Klebsiella, Proteus, Escherichia
Causes gastroenteritis, cute and chronic gastrointestinal disease.

--Bacillus
Responsible for foodborne illness

--Mycobacterium
The cause paralytic illness, wide range of symptoms from food poisoning to gas gangrene.

--Helicobacter Pylori
The cause of gastric ulcer.

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For more information on bacterial, viruses, visit:
<http://www.cfsan.fda.gov/~mow/intro.html>

Preventing the Common Cold With a Garlic Supplement: A Double-Blind, Placebo- Controlled Survey

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ABSTRACT

One hundred forty-six volunteers were randomized to receive a placebo or an allicin-containing garlic supplement, one capsule daily, over a 12-week period between November and February. They used a five-point scale to assess their health and recorded any common cold infections and symptoms in a daily diary. The active-treatment group had significantly fewer colds than the placebo group (24 vs 65, $P < .001$). The placebo group, in contrast, recorded significantly more days challenged virally (366 vs 111, $P < .005$) and a significantly longer duration of symptoms (5.01 vs 1.52 days, $P < .001$). Consequently, volunteers in the active group were less likely to get a cold and recovered faster if infected. Volunteers taking placebo were much more likely to get more than one cold over the treatment period. An allicin-containing supplement can prevent attack by the common cold virus.

Keywords: | allicin; common cold; garlic supplement

INTRODUCTION

The common cold is the world's most widespread viral infection, with most people suffering approximately two to five colds per year. Over 200 different viruses cause infection and cold symptoms; the most common, rhinoviruses, account for 30% to 40% of adult colds. Reinfection is prevalent because of this wide variety of infectious viruses.¹

Published literature on the activity of garlic against viral infections is sparse.^{2,3} One report⁴ describes that during an influenza epidemic,

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the former Soviet Union imported more than 500 tons of garlic cloves for acute treatment. Among the viruses sensitive to garlic extracts are the human cytomegalovirus, human rhinovirus type 2, herpes simplex types 1 and 2, and influenza B. Evidence points toward allicin and its condensation product ajoene as the main components in garlic responsible for this antiviral activity. Recently, an allicin-containing supplement (Allimax[®] Liquid and Capsules*) has demonstrated efficacy against herpes simplex type 1 and molluscum contagiosum infections.⁵

Many consumers take garlic supplements as a preventive and report an absence of colds or symptoms associated with viral replication. A “cure” for the common cold would substantially reduce the number of work days lost each year as a result of the classic symptoms of infection—tiredness, headaches, a runny nose, sneezing, coughing, watery eyes, and impaired concentration.

The many garlic supplements marketed in the United Kingdom, United States, and Europe vary widely by type and definition of active constituents. Increasing evidence has shown that certain forms of supplement may have significant beneficial properties, provided that the universally recognized active constituent (allicin) is made available to the body.

This survey was designed to determine whether a unique garlic supplement that contains only stabilized allicin could prevent colds in healthy volunteers. The supplement chosen for study is the only product that claims to contain allicin as a starting material.

METHODS

Following recruitment through advertisements in two London daily newspapers, 146 participants were selected. A diary was designed in which each volunteer recorded general well-being for 3 months on a five-point scale (5 = well, no problems; 4 = quite well with occasional sneeze, not disruptive to normal routine; 3 = can feel a cold coming on, some minor symptoms; 2 = feeling low and beginning to exhibit symptoms; 1 = full cold symptoms [headache, sneezing, runny nose, tiredness]). If a cold occurred, volunteers noted the number and variety of symptoms, the day recovery began, and the day they felt completely better.

The volunteers were separated into two groups of 73 participants each (matched for sex, age, and garlic consumption) (Table 1). A simple random number generator assigned volunteers to the active or placebo group, and they were instructed to take one capsule every day with the main meal, according to the manufacturer’s recommendation. Randomization codes were kept secure at the Garlic Centre and were not broken until all the diaries had been returned. The Garlic Centre contacted volunteers every 2 weeks to ensure that the capsules were being taken correctly and that diary entries were made daily.

Diary Analysis

After diaries were returned, the number of colds experienced by volunteers was counted. A cold was defined as a score of 3 that proceeded to 2 or 1, with symptoms. The duration of symptoms was the number of days with a recorded score of 2 or 1,

*Registered trademark of Health Perception Ltd, _____, UK.

Table 1. Demographics

Characteristic	Number of Volunteers	
	Active Treatment (n = 73)	Placebo (n = 73)
Men	32	29
Women	41	44
Mean age, y	52	53
Previous use of a garlic supplement	11	10

leading to an average recovery time that ended with a score of 4 or 5 taken across all recorded colds. The number of days challenged by the common cold virus was taken as the number of scores of 4 or 3.

Statistical Analysis

The average symptom length in days and the average number of days challenged by a cold were subjected to calculations of standard deviation, sample variance, and standard error of the difference of the means. Data were analyzed by means of a Student's *t* test to gain a probability coefficient allowing for the calculated number of degrees of freedom.

RESULTS

Four participants withdrew from the study: three from the active group, one from the placebo group. Reasons for withdrawal from active treatment (1 volunteer each) were continued use of another garlic supplement, development of gout, and pruritic rash below the knees, which faded after the supplement was discontinued. The placebo volunteer was advised to discontinue taking the capsules after experiencing severe headaches.

At the end of the 90-day study, 24 colds were recorded in the active group, 65 in the placebo group. This result is highly significant ($P < .001$) in favor of the supplement as a cold preventive.

The placebo group required an average of 5.63 days (366 days of infection/number of colds) to recover, compared with 4.63 days (111 days of infection/number of colds) in the active group. Table 2 presents the results of the statistical analysis.

During the study, the 16 volunteers taking the placebo became reinfected (ie, experienced more than one full-blown cold); only 2 volunteers taking the active supplement had a reinfection.

Volunteers were also asked to record in their diaries any other concerns during the study, such as comments about the acceptability of taking capsules, side effects, odor, or other reason that might warrant discontinuation of treatment, and to telephone the Garlic Centre if further advice was required.

Table 2. Statistical Analysis of Average Duration of Symptoms and Number of Days With a Cold

	Active Group	Placebo Group
Average symptom duration, d	1.52	5.01
Sample variance	7.20	35.24
Standard deviation	2.68	5.94
Standard error of the difference of the means		.76
Student's <i>t</i> distribution		4.58
No. of degrees of freedom		144
Probability with Student's <i>t</i> test		1.33E-05 <i>P</i> <.001 (.0013%)
No. of days challenged	2.6	6.38
Sample variance	21.88	59.43
Standard deviation	4.68	7.71
Standard error of the difference of the means		1.06
Student's <i>t</i> distribution		3.58
No. of degrees of freedom		144
Probability with Student's <i>t</i> test		4.95E-04 <i>P</i> <.05 (.0495%)

Five volunteers (4, active; 1, placebo) noticed a "smell" during eructation. It is not clear whether they followed instructions and took the capsules with their main meal, however.

Several members of the active group reported increased alertness and feeling generally healthier even though close contacts were falling ill. Some volunteers who took the active supplement while on holiday noted avoidance of gastric upset and mosquito bites.

DISCUSSION

This study is the first to use a double-blind, placebo-controlled design to investigate prevention of viral disease with a garlic supplement. The results overwhelmingly favored the supplement as a preventive measure, demonstrating accelerated relief, reduction in the severity of troublesome symptoms such as sneezing, cough and runny nose, and recovery to full fitness. A reduced likelihood of becoming reinfected with other viral strains indicated general improvement in the immune system with the active supplement.

Of particular note is that volunteers in the active group took the manufacturer's recommended dose of one capsule per day. Over the past 10 years, other published reports on garlic supplements for numerous applications have often used double or triple the actual dose available in retail outlets.

The allicin-containing supplement studied may represent a "cure" for the common cold. The results also suggest that infection and reinfection may be effectively prevented by its daily use throughout the year, with an enormous potential savings to national industry in terms of reduced sick days. This product clearly exhibits excellent antiviral activity and warrants further investigation to determine the nature and method of its viral destruction.

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