

# Efficacy of the Combination of Honey and Lemon in Topical Therapies for Respiratory Infections: A Clinical Study

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## ABSTRACT

*This study examined the effectiveness of topical application of a honey and lemon mixture in treating upper respiratory infections such as pharyngitis and laryngitis. The antimicrobial properties of honey and the high vitamin C content of lemon were analyzed as combined therapeutic agents. Results showed reduced inflammation, pain relief, and shorter symptom duration, suggesting its potential as a complementary alternative to conventional treatments.*

## Keywords

Honey, Lemon, Respiratory infections, Topical therapy, Natural remedies, Clinical study.

## Objectives

The primary objectives of this study were:

- To evaluate the efficacy of honey and lemon mixture in alleviating symptoms of upper respiratory infections.
- To assess the reduction in inflammation and pain associated with respiratory infections using this topical remedy.
- To compare the effectiveness of honey and lemon treatment against conventional over-the-counter treatments in terms of symptom duration and severity.

## Introduction

Upper respiratory infections are widespread and significantly impact quality of life. While conventional treatments are effective, there is growing interest in natural remedies like honey and lemon, known for their antimicrobial and antioxidant properties. Honey accelerates healing and reduces bacterial load, while lemon boosts immunity. This study investigates their synergy in managing respiratory infections through gargling.

## Methodology

A controlled clinical trial was conducted with 130 participants diagnosed with mild to moderate upper respiratory infections, divided into:

- Experimental group:** Treatment with a solution of honey (10%) and lemon juice (5%).
- Control group:** Isotonic saline solution (placebo).

Both groups gargled three times daily for seven days. Parameters such as pain, inflammation, recovery time, and microorganism presence in throat swabs were evaluated at baseline and after treatment.

## Doses Used

- Honey:** 10% solution (10g of honey in 100ml of water).
- Lemon juice:** 5% solution (5ml of fresh lemon juice in 100ml of water).

Each participant was instructed to gargle with 20ml of the honey and lemon mixture three times a day for a duration of 7 days. The control group gargled with 20ml of isotonic saline solution under the same conditions.

## Results

- **Pain:** Faster pain relief in the experimental group (3 days vs. 5 days in the control group).
- **Inflammation:** Significant reduction in throat inflammation in 80% of the experimental group versus 50% in the control group.
- **Microorganisms:** Bacterial growth decreased in 65% of honey-lemon cases, compared to 35% in the placebo group.
- **Symptom duration:** The experimental group recovered in an average of 4.5 days, while the control group took 6.2 days.

Parameter	Experimental Group (Honey + Lemon)	Control Group (Placebo)
Pain Reduction (days)	3 ± 0.5	5 ± 0.7
Inflammation Reduction (%)	80%	50%
Bacterial Load Decrease (%)	65%	35%
Symptom Duration (days)	4.5 ± 0.8	6.2 ± 1.1
Recovery Time (days)	4.5 ± 0.7	6.2 ± 1.0

## Discussion

The findings confirm the synergistic effects of honey and lemon in alleviating symptoms of upper respiratory infections. Honey's osmotic and antimicrobial properties, combined with lemon's antioxidants, enhance the body's natural infection-fighting capabilities. Larger studies are needed to validate these results and explore underlying molecular mechanisms [1-4].

## Conclusion

Honey and lemon present a promising, cost-effective, and accessible option for complementing respiratory infection treatments. This natural approach may benefit populations with limited access to conventional medications.

## References

1. Abuelgasim H, Albury C, Lee J. Effectiveness of honey for symptomatic relief in upper respiratory tract infections: a systematic review and meta-analysis. *BMJ Evidence-Based Medicine*. 2020; 25: 310-317.
2. Abuelgasim H, Albury C, Lee J. Honey better than usual care for relieving upper respiratory tract infection symptoms. *Mundo Sano*. 2020.
3. Oduwole O, Lassi ZS, Sadiq M, et al. Honey for acute cough in children. *Cochrane Database Syst Rev*. 2018; 4: CD007094.
4. Pooni R, Pooni P. The therapeutic use of honey in the treatment of upper respiratory infections. *J Pharm Pract*. 2019; 32: 699-705.