

The Prophylactic Effect of Honey on Common Cold

Saeed Sobhanian¹; Morteza Pourahmad^{2,*}; Atieh Jafarzadeh³; Seyed Mohammad Kazem Tadayon⁴; Hassan Zabetian⁴

¹School of Nursing, Jahrom University of Medical Sciences, Jahrom, IR Iran

²Department of Internal Medicine, Jahrom University of Medical Sciences, Jahrom, IR Iran

³Department of Health, Jahrom University of Medical Sciences, Jahrom, IR Iran

⁴Department of Anesthesiology, Jahrom University of Medical Sciences, Jahrom, IR Iran

*Corresponding author: Morteza Pourahmad, Department of Internal Medicine, Jahrom University of Medical Sciences, Shiraz, IR Iran. Tel: +98-9177916203, E-mail: Mortezapourahmad@yahoo.com

Received: January 3, 2013; Revised: May 7, 2013; Accepted: August 11, 2013

Background: Common cold is an important common upper respiratory tract viral infection which is a main cause for lost school days. Therefore everybody wants to prevent this disease, and there is not any chemoprophylaxis or immunoprophylaxis available at this time. Honey is a remedy which its healing effect on diseases is emphasized in holy Quran. The effect of honey on common cold signs and symptoms was considered in a study in Iran.

Objectives: In this study, honey preventive effect on common cold is evaluated.

Materials and Methods: In this prospective cohort study 122 high school students were studied (63 boys and 59 girls). The students were divided into two groups (honey and control). In honey group 10 g of honey was given to the students daily for eight weeks, and in control group nothing was given to the students. Frequency of the common cold was reported by a physician who was blinded to the groups (double blindness). At the end the frequencies of common cold in both groups were compared.

Results: The mean age of the studied students was 16.6 ± 0.5 years. The frequency of common cold in students treated with honey was lower than the frequency in control group, especially after six weeks.

Conclusions: Consumption of honey may help in prevention of common cold.

Keywords: Common Cold; Honey; Prevention and Control

1. Background

Acute viral nasopharyngitis or common cold is a common and mild self-limiting infectious disease. A large number of people around the world get this disease every year. As we know 50 persons in every 1000 get this disease every year and in the USA, it annually results 189 million lost school days; this consequently results in 129 million missed workdays by parents because they should stay home to care their sick children. On the other hand one of the causes of common cold is influenza which is the cause of 36000 death per year over the world (1). In addition every winter 15% occupied persons get common cold (2); therefore, this disease can waste the work time in about a half of these persons which is a very important financial problem in the USA. Common cold is an upper respiratory tract infection (1) which affects persons of all ages (3). It is associated with nasal stuffiness, sore throat, sneezing, malaise, chills and fever, and sometimes headache (4). Treatment of common cold relies on symptomatic relief. Therefore over-the-counter antipyretics, anti-inflammatory, and

decongestants are used as the conventional therapies (5). In addition consumption of enough fluid and rest are the other recommended methods for the treatment of common cold (5). We know that prevention is preferred than treatment, therefore everybody wants to use a drug to prevent the common cold. In addition people prefer more to use remedies than chemical and synthetic drugs. There are some remedies such as high lactoferrin whey protein (6), Echinacea (7), elderberry (8), Garlic (9), and Olive leaf, which are introduced for the treatment of the symptoms of common cold. Honey is a remedy which its healing effect is considered in traditional medicine. In Holy Quran also its health-giving effect is notified in some verses. Honey and honey bee are indexed in holy Quran as important signs for musing people. This is so much important as in holy Quran a chapter is named as honey bee. In this chapter the healing effect of honey is considered in verses 68 and 69 as below:

"Your lord revealed to the bee: 'build your homes in the

Implication for health policy makers/practice/research/medical education:

According to holy Quran, honey can be used as a prophylaxis to prevent getting common cold; also we should think deeper in this holy book to know more.

Copyright © 2014, Quran & Etrat Center, The Ministry of Health and Medical Education. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

mountains, in the trees, and in what they are building" (10).

"Eat every kind of fruit, and follow the easy ways of your lord. 'from its belly comes forth a drink (honey) of many hues in which there is healing for people. Surely, in this there is a sign for a nation who reflect" (10). In holy Quran in another chapter it is indicated that in paradise there are rivers of pure and filtered honey.

"The example of the paradise which the cautious have been promised in it, there are rivers of unstaling water, and rivers of milk that never change in flavor, and rivers of wine, delectable to the drinkers, and rivers of pure, filtered honey. They shall have therein of every fruit and forgiveness from their lord. Are they then like he who shall live in the fire forever and given boiling water to drink that tears his bowels apart!" (11).

The effect of honey for symptom relief in common cold is considered in a study in Iran (12). Therefore this question would be arisen that; is there any effect for honey (as a remedy) to prevent the common cold.

2. Objectives

We conducted this study to evaluate the prevention effect of honey on common cold.

3. Materials and Methods

This is a prospective cohort study which was conducted on 122 students in Jahrom (a city in the south of Iran) on September to November 2010. They were 63 boys and 59 girls. Individuals were chosen from 4 high schools: two girls' school and two boys' school. One class was chosen from every high school; one class of boys and one class of girls for intervention (honey) and one of each for control. 10 g honey was given to the girls and boys in honey groups every morning for 8 weeks and nothing for individuals in the control group which were in another high school. All of the cases and controls were visited one by one every week by a physician who was blinded to the groups (honey or control), and signs and symptoms of the common cold were recorded in them in every week.

The students who did not want to participate in this study and those who consumption of honey was limited for them (diabetes mellitus, allergy, and those who did not like honey, etc.) were excluded from the study. At the end the data were analyzed and the frequencies of common cold in the two groups were compared. All of the study stages were approved by the ethical committee of Jahrom University of Medical Sciences.

Table 1. The Frequency of the Students With Common Cold in Every Week in Two Groups (Honey and Control) During 8 Weeks

Honey Consumption	Common Cold		Total	Frequency			
	Positive	Negative		In group ^a	Total Frequency ^b	Frequency Ratio ^c	Increased Frequency ^d
First week							
Positive	9	47	56	16%	14%	1.3	0.04
Negative	8	58	66	12%			
Second week							
Positive	13	43	56	23%	19.5%	1.4	0.07
Negative	11	55	66	16%			
Third week							
Positive	14	42	56	25%	22%	1.3	0.06
Negative	13	53	66	19%			
Fourth week							
Positive	14	42	56	25%	17%	2.5	0.15
Negative	7	59	66	10%			
Fifth week							
Positive	10	46	56	17%	14.7%	1.4	0.05
Negative	8	58	66	12%			
Sixth week							
Positive	7	49	56	12%	14%	0.7	-0.05
Negative	10	56	66	17%			
Seventh week							
Positive	5	51	56	9%	14%	0.4	-0.09
Negative	12	54	66	18%			
Eighth week							
Positive	3	53	56	5%	13%	0.2	-0.14
Negative	13	53	66	19%			

^a The frequency of common cold in every group (honey and control) in different weeks of study.

^b Total frequency of common cold in both groups (honey and control) in different weeks of study.

^c The ratio of frequency in honey group versus control group. (Frequency of common cold in honey group/frequency of common cold in control group).

^d Increased frequency of common cold in honey group versus control group. (Frequency of common cold in honey group - frequency of common cold in control group).

4. Results

In this prospective cohort study 122 high school students were studied for 8 weeks. Sixty three of them were boy and 59 girls. The mean age of the studied students was 16.6 ± 0.5 years. Fifty six of the students were in honey group who were treated with 10 g honey every morning for 6 weeks, and 66 of them were in control group who did not consume honey. In our evaluation, the proportion of common cold frequency in honey group in respect of control group decreased in sixth till eighth weeks. Increased frequency of common cold has a negative growth in honey group in respect of control group (frequency in honey group–frequency in control group) Table 1.

5. Discussion

Because common cold is a common disease all over the world, everybody wants to find a way to prevent this disease; but at this time chemoprophylaxis or immunoprophylaxis is generally not available for this disease (13). There are many reports about the conventional treatment in common cold and many botanicals are introduced that may help in prevention and treatment of this disease (1). Zinc, vitamins C and E, Echinacea, probiotics, exercise and hand washing are nonpharmacologic interventions which are used as effective prophylaxis for common cold (13). Ginseng is one of these drugs which may have some protective effects against common cold (13). In a systematic review it is shown that the North American ginseng is effective in decreasing the duration of colds in healthy adults. It is also shown that this remedy can reduce the total number of common cold by about 25% (14).

In a randomized double blind placebo controlled study in the USA, it was shown that camellia sinensis can prevent cold and flu symptoms (15). In a randomized double blind placebo controlled study in Boston the researchers observed a protective effect of vitamin E supplementation on common cold (16). In a study in Iran, the effect of honey on sign and symptoms of common cold was evaluated. In that study honey had some effects on the improvement of signs and symptoms of the common cold (12). However, its effect on prevention of the common cold was under question. There are a lot of vitamins and antioxidants in honey and it expects that this remedy can prevent common cold; this study showed that consumption of honey can decrease the rate of common cold, especially after sixth weeks. However we recommend more studies with higher dose of honey and longer time for better evaluation. By attention to the results of this study, we can say that; not only honey may improve the signs and symptoms of common cold, but it may be effective on prevention of common cold. At the end we can conclude that holy Quran can be used as a light for us in scientific researches and we should think deeper in its verses.

Acknowledgements

We would like to thank Dr. Rahim Raoofi, the Research vice-chancellor of Jahrom University of Medical Sciences, and Dr. Kavoo Solhjoo for their kindly assistance with this research.

Authors' Contribution

All of author was in equal contribution.

Funding/Support

This study was supported by Jahrom University of Medical Sciences.

References

1. Roxas M, Jurenka J. Colds and influenza: a review of diagnosis and conventional, botanical, and nutritional considerations. *Altern Med Rev.* 2007;**12**(1):25–48.
2. Prasad AS, Fitzgerald JT, Bao B, Beck FW, Chandrasekar PH. Duration of symptoms and plasma cytokine levels in patients with the common cold treated with zinc acetate. A randomized, double-blind, placebo-controlled trial. *Ann Intern Med.* 2000;**133**(4):245–52.
3. Simasek M, Blandino DA. Treatment of the common cold. *Am Fam Physician.* 2007;**75**(4):515–20.
4. Turner RB, Hayden GF. The common cold. In: Behrman RE, Kliegman RM, Jenson HB editors. . Philadelphia: Churchill Livingstone; 2004. pp. 1389–91.
5. Jack M, Gwaltney JR. The common cold. In: Mandell GL, Bennett JE, Dolin R editors. . Philadelphia: Churchill Livingstone; 2005. pp. 747–52.
6. Orsi N. The antimicrobial activity of lactoferrin: current status and perspectives. *Biomaterials.* 2004;**17**(3):189–96.
7. Goel V, Lovlin R, Barton R, Lyon MR, Bauer R, Lee TD, et al. Efficacy of a standardized echinacea preparation (Echinilin) for the treatment of the common cold: a randomized, double-blind, placebo-controlled trial. *J Clin Pharm Ther.* 2004;**29**(1):75–83.
8. Zakay-Rones Z, Varsano N, Zlotnik M, Manor O, Regev L, Schlesinger M, et al. Inhibition of several strains of influenza virus in vitro and reduction of symptoms by an elderberry extract (*Sambucus nigra* L.) during an outbreak of influenza B Panama. *J Altern Complement Med.* 1995;**1**(4):361–9.
9. Josling P. Preventing the common cold with a garlic supplement: a double-blind, placebo-controlled survey. *Adv Ther.* 2001;**18**(4):189–93.
10. Verses 68 & 69, An-Nahl. *Quran-e-Karim translated by Qarib.*. Available from: <http://www.parsquran.com/data/show.php?sura=16&ayat=%DB%B6%DB%B8&user=far&lang=eng&tran=1>.
11. . Available from: <http://www.parsquran.com/data/show.php?sura=47&ayat=%DB%B1%DB%B5&user=far&lang=eng&tran=1>.
12. Pourahmad M, Sobhanian S. Effect of honey on the common cold. *Arch Med Res.* 2009;**40**(3):224–5.
13. Turner RB. The common cold. In: Mandell GL Bennett JE, Dolin R editor. . Philadelphia: Churchill Livingstone; 2010. pp. 809–13.
14. Seida JK, Durec T, Kuhle S. North American (*Panax quinquefolius*) and Asian Ginseng (*Panax ginseng*) Preparations for Prevention of the Common Cold in Healthy Adults: A Systematic Review. *Evid Based Complement Alternat Med.* 2011;**2011**:282151.
15. Rowe CA, Nantz MP, Bukowski JF, Percival SS. Specific formulation of *Camellia sinensis* prevents cold and flu symptoms and enhances gamma,delta T cell function: a randomized, double-blind, placebo-controlled study. *J Am Coll Nutr.* 2007;**26**(5):445–52.
16. Meydani SN, Leka LS, Fine BC, Dallal GE, Keusch GT, Singh MF, et al. Vitamin E and respiratory tract infections in elderly nursing home residents: a randomized controlled trial. *JAMA.* 2004;**292**(7):828–36.