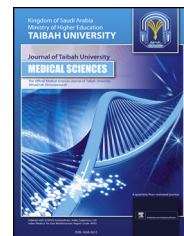




Taibah University
Journal of Taibah University Medical Sciences

www.sciencedirect.com



Original Article

A pilot study on the efficacy of nasal rinsing during ablution in reducing acute respiratory tract infection (ARI) among male Hajj pilgrims

Ramiza R. Ramli, MMed ORL-HNS^{a,*}, Irfan Mohamad, MMed ORL-HNS^a,
Mohd S. Ab Wahab, MRCP^b, Nyi N. Naing, MMedStats^c and
Wan S. Wan Din, MMed ORL-HNS^d

^a Department of Otorhinolaryngology – Head and Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, Kota Bharu, Malaysia

^b Department of Pediatric, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, Kota Bharu, Kelantan, Malaysia

^c Institute for Community Development, Universiti Sultan Zainal Abidin, Block E, Level 1, Gong Badak Campus, Kuala Nerus, Terengganu, Malaysia

^d Kumpulan Perubatan Johor Perdana Specialist Hospital, Lot PT37 & 600 Seksyen 14, Jalan Bayam, Kota Bharu, Kelantan, Malaysia

Received 22 August 2017; revised 31 March 2018; accepted 3 April 2018; Available online ■ ■ ■

المخلص

أهداف البحث: هدفت هذه الدراسة إلى تقييم فعالية الاستنشاق الأنفي للماء أثناء الوضوء في تخفيض الإصابة بالتهابات الجهاز التنفسي الحادة بين الحجاج الذكور.

طرق البحث: أجريت دراسة شبه تجريبية لمقارنة فعالية الاستنشاق الأنفي للماء بين مجموعتين. تم توجيه المجموعة التداخلية للقيام بالاستنشاق الأنفي للماء أثناء الوضوء ولم يطلب من المجموعة الضابطة القيام بذلك. قُدم للمجموعتين مذكرات تطوّر لتسجيل أعراض التهابات الجهاز التنفسي؛ السعال والسيان الأنفي والانسداد الأنفي والحمى، والألم الحلقى بالإضافة إلى البلغم السميك وضيق النفس والرعاف والتغيرات في حاسة الشم. كما تم توجيه المجموعتين إلى تسجيل زياراتهم للعيادات بسبب تلك الأعراض خلال إقامتهم في مكة لشعائر الحج.

النتائج: أظهرت الدراسة بأن الاستنشاق الأنفي للماء قد قلل بشكل ملحوظ من أعراض السعال والسيان الأنفي والانسداد الأنفي. وكان عدد زيارات المجموعة الضابطة إلى مرافق الرعاية الصحية للعلاج أكثر مقارنة بمجموعة التدخل. لم تكن هناك اختلافات كبيرة بين المجموعتين فيما يتعلق بأعراض الحمى وآلم الحلق.

* Corresponding address: Department of Otorhinolaryngology – Head and Neck Surgery, School of Medical Sciences, Universiti Sains Malaysia, Health Campus, 16150 Kota Bharu, Kelantan, Malaysia.

E-mail: ramizaramza@usm.my (R.R. Ramli)

Peer review under responsibility of Taibah University.



Production and hosting by Elsevier

الاستنتاجات: يمكن إدراج الاستنشاق الأنفي للماء كجزء من طرق التدخل التي تشمل التطعيم وقناع الوجه. من السهل على الحجاج ممارسة الاستنشاق الأنفي للماء كونها من سنن الوضوء، التي هي جزء أساسي من حياة المسلمين اليومية.

الكلمات المفتاحية: شطف الأنف؛ غسل الأنف؛ التهاب الجهاز التنفسي الحاد؛ التجمعات الكبيرة؛ الوضوء

Abstract

Objective: This study aimed to assess the effectiveness of nasal rinsing during ablution in reducing acute respiratory tract infection among male Hajj pilgrims.

Methods: A quasi-experimental trial study was conducted to compare the effectiveness of nasal rinsing between two groups. The intervention group was instructed to perform nasal rinsing during ablution, while the control group was not asked to do nasal rinsing. Both groups were provided progress diaries to record the symptoms of respiratory tract infection, including cough, rhinorrhoea, nasal blockage, fever, and sore throat, as well as thick phlegm, shortness of breath, epistaxis, and changes in sense of smell. The groups were also instructed to record any visits to clinics for their symptoms throughout their stay in Makkah for the Hajj ritual.

Results: The study showed that nasal rinsing significantly reduced the symptoms of cough, rhinorrhoea, and nasal blockage. The intervention group had an increased

number of visits to healthcare facilities for treatment, when compared to those of the control group. There were no significant differences in the groups regarding the symptoms of fever and sore throat.

Conclusion: Nasal rinsing can be included as part of intervention methods that include vaccination and the use of a face mask. Nasal rinsing can be easily practiced by the pilgrims, since it is a Sunnah act in ablution, which is an integral element of Muslims' daily life.

Keywords: Ablution; Acute respiratory tract infection; Mass gathering; Nasal rinsing; Nasal washing

© 2018 The Authors.

Production and hosting by Elsevier Ltd on behalf of Taibah University. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

During Hajj season, more than two million people from all over the world congregate in a relatively small area. This mass gathering adheres to the definition set by the World Health Organization (WHO), which states that a mass gathering is a gathering of persons more than a specified number at a specific location for a specific purpose for a defined period of time. This number can be as few as 1000, while another available literature refers to gathering as exceeding 25,000.¹ This crowded condition is conducive for the spread of airborne pathogens. Acute respiratory tract infections (ARI) are very common during Hajj, primarily as a result of close contact among pilgrims, intense congestion, shared accommodations, and air pollution. ARI are responsible for most of the hospital admissions during Hajj.^{2–4,13,15,23,24}

Cough (over 90%) is the most common symptom of ARI among pilgrims during Hajj.^{5,15,23,24} It is also the most common presentation (50%) for pilgrims returning home from Hajj.⁶ Other respiratory tract infection (RTI) symptoms include coryza, fever, and sore throat.^{5,23,24} Airborne pathogens can be easily be transmitted through the nose.¹² During the Hajj season, the pathogen load is usually greater than what the nasal mucociliary clearance can handle.^{15,16,18} Makkah has a hot desert climate, with relative humidity typically ranging from 19% (dry) to 80% (humid) over the course of the year, which dries up the nasal mucus faster, rendering it less effective. Furthermore, the pilgrims are also usually relatively dehydrated, thus producing thicker mucus. All these factors can contribute to symptoms of ARI, even without an active infection.^{5,12,23,24}

An ablution is an act of purification by washing oneself. In Islam, ablution is the Islamic procedure for washing parts of the body using water, typically in preparation for formal prayers. It has four obligatory acts as follows: washing the face, washing both the arms including the elbows once, running a wet hand over the head, and washing both the feet including the ankles. It also includes the Sunnah acts, which are optional, practiced by Prophet Muhammad PBUH, and

involve nasal rinsing. Nasal rinsing was explained in a hadith narrated by Abu Hurairah which quoted the prophet as saying “When one of you makes ablution, then let him enter water into his nose, then expel it”.⁷ This technique of nasal washing can be considered as nasal irrigation on its own right.

Nasal rinsing has many effects. First, it washes out antigens and pathogens that may occupy the nasal cavity; second, it dilutes nasal secretions, thus making it easier for mucociliary movement to clear up the thick mucus⁸; and third, hypertonic solution improves mucociliary motility, thus improving mucociliary clearance.^{9,10,16,18,19} Nasal rinsing is a proven adjunctive technique in treating allergic rhinitis and rhinosinusitis.^{11,14,16,18–20} However, the effectiveness of ablution's nasal rinsing in reducing symptoms of ARI in an epidemic area had not been tested. If found to be effective, it would be a very suitable intervention, since it is easily performed, inexpensive, and provides a resourceful solution to the current problem during Hajj season. Furthermore, nasal rinsing is part of the Islamic ritual, which Muslims are encouraged (but not required) to perform. Therefore, this study was conducted to evaluate the effectiveness of nasal rinsing during ablution in reducing ARI among male Hajj pilgrims.

Materials and Methods

A quasi-experimental trial study was conducted to evaluate the effectiveness of nasal rinsing as a preventive method for ARI. Ethical clearance for this study was obtained from the Human Ethics Committee of the Universiti Sains Malaysia. All subjects signed the informed consent to participate in the study. Data collection was performed at the Tabung Haji (TH) Headquarters, Abraj Janadiriya, in Makkah, KSA. TH is the Malaysian Hajj pilgrims fund board, which was established for the purpose of Hajj services. The participants were recruited from pilgrims staying in Maktab (a school that included the area of accommodation and was where the pilgrims had their revision classes for the Hajj ritual). Maktab 72 was chosen randomly to be the intervention group, whereas Maktab 74 was chosen to be the control group. Only men were chosen as the study population, because it was easier to interact with the men compared to the women during Hajj, due to religious restrictions.

Subjects included were Malaysian men, aged 18–70 years old, who could understand and follow given instructions and were able to use the progress diary for recording the required study information. The exclusion criteria included participants with chronic lung diseases and active RTI requiring treatment, as well as participants using regular antihistamines, sodium cromoglicate, or nasal steroid sprays.

The calculated sample size for this study was 50 subjects, with a 10% dropout rate. A total of 60 participants volunteered and consented for the research, 30 for each group. Both groups were briefed separately regarding the study protocol. The session was held immediately after one of the regular Hajj revision classes held by the TH officers in preparation for the Hajj ritual. The intervention group was briefed on the correct procedures of nasal rinsing in ablution. The participants were instructed to sniff water from their hands and blow it out during ablution at least five times per

Download English Version:

<https://daneshyari.com/en/article/8759368>

Download Persian Version:

<https://daneshyari.com/article/8759368>

[Daneshyari.com](https://daneshyari.com)