

Using health educators to improve knowledge of healthy behaviour among Hajj 1432 (2011) pilgrims

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الاستفادة من العاملين في التثقيف الصحي لتحسين معرفة الحجاج بالسلوكيات الصحية في موسم الحج 1432 / 2011

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الخلاصة: هدفت هذه الدراسة إلى تقييم الأثر القصير المدى على المعرفة الصحية للحجاج بعد تقديم رسائل نوعية من رسائل التثقيف الصحي. واختيرت عينة عشوائية من 6 نقاط لدخول الحافلات. واستخدمت الدراسة استبياناً يملؤه المشاركون في الدراسة بأنفسهم لتقييم معرفتهم قبل التدخل التثقيفي وبعده. وقد استكمل هذا الاستبيان 278 حاجاً. وكانت هناك زيادة ملحوظة في نسبة المشاركين الذين أجابوا إجابات صحيحة على جميع الأسئلة بعد التدخل التثقيفي ($P < 0.05$). وذكر جميع المستجيبين تقريباً أنهم استفادوا من التثقيف الصحي، وأفادوا بنجاح العاملين في التثقيف الصحي في إيصال الرسائل. وأبلغ 19 حاجاً (7.2%) فقط أنهم تلقوا رسائل صحية تثقيفية قبل وصولهم إلى المملكة العربية السعودية. وقبل هذا التدخل التثقيفي، كان 50% فقط من المستجيبين يعرفون أن الحلاقة المأمونة تقي من انتشار الأمراض المنقولة عن طريق الدم، وارتفعت هذه النسبة إلى 84.7% بعد التدخل التثقيفي. وأثبت التثقيف الصحي المباشر للحجاج فعاليته في تحسين المعرفة الصحية على المدى القصير.

ABSTRACT The main objective of this study was to assess the short-term effect on health knowledge among pilgrims after being provided specific health education messages. A random sample of 6 entry-point buses was selected. A self-administered questionnaire was used to assess knowledge before and after intervention; 278 pilgrims completed the questionnaire. There was a significant increase in the proportion of participants who answered all questions correctly after the educational intervention ($P < 0.05$). Almost all respondents stated that they benefited from the health education and that the health educator was successful in delivering the messages. Only 19 (7.2%) reported that they had already received relevant health education messages prior to their arrival in Saudi Arabia. Before the intervention just 50% of the respondents knew that safe shaving prevents dissemination of bloodborne diseases; this rose to 84.7% after the intervention. Direct health education to pilgrims is effective in improving short-term health knowledge.

L'éducation sanitaire pour améliorer les connaissances des pèlerins de la Mecque en 2011 (Hajj 1432) sur les comportements favorables à la santé

RÉSUMÉ L'objectif principal de la présente étude était d'évaluer l'effet à court terme de certains messages d'éducation sanitaire sur les connaissances des pèlerins en matière de santé. Nous avons choisi comme échantillon aléatoire les personnes présentes à bord de six bus à l'entrée du site. Pour évaluer les connaissances avant et après l'intervention, nous avons utilisé un questionnaire auto-administré, que 278 pèlerins ont rempli. Le pourcentage de participants ayant répondu correctement à l'ensemble des questions était significativement plus élevé après l'intervention d'éducation sanitaire ($P < 0,05$). Presque tous les participants ont affirmé que cette intervention leur avait été utile et que l'éducateur avait bien fait passer les messages. Seules 19 personnes (7,2%) ont déclaré qu'elles avaient déjà reçu des informations pertinentes en matière d'éducation sanitaire avant d'arriver en Arabie saoudite. Avant l'intervention, seuls 50% des participants savaient qu'un rasage sans risque contribuait à prévenir la propagation des maladies à transmission hématogène ; ils étaient 84,7% à le savoir après l'intervention. Communiquer des messages d'éducation sanitaire directement aux pèlerins est efficace pour améliorer les connaissances à court terme en la matière.

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Introduction

Health education has been described as a process by which individuals or groups learn to behave in a manner conducive to the promotion, maintenance or restoration of health [1]. Communication in relation to health education involves various modes, e.g. lectures, discussions, symposia, posters, public address, and radio and television messages. Each mode has its own merits, drawbacks and scope of effectiveness. Messages may also have to overcome communication barriers (e.g. physiological, psychological, environmental and cultural). The effectiveness of a particular mode of health education varies according to the setting in which it is delivered [2,3] to a specific group [4]. It has been observed that different methods may be especially suitable for different groups of people depending upon their age, sex, educational qualification, background and the nature of their employment [1].

The Hajj has become the epicentre of the mass migration of millions of Muslims of various ethnic diversities. No other mass gathering can compare in scale or in regularity [5]. The preparedness plans made before the Hajj season ensure the optimum provision of health services for pilgrims to Saudi Arabia, and have been set up to minimize disease transmission both during their stay in the country and upon their return home [6]. Health education is one of the principal services provided for pilgrims from their arrival. Health education of pilgrims, through the Health Education Ambassadors (HEA) programme, which was launched as an innovative approach in 1428 AH (2007 CE), is one of the principal activities supporting those plans.

The HEA module aimed at achieving 2 specific objectives:

- Provide effective health education to pilgrims in their mother tongue at their dormitories in the holy places.

- Encourage medical students to actively take a health education role during the Hajj.

Both objectives were achieved through inviting medical and health science students to voluntarily enrol in an HEA team. Volunteers agreed to undergo a training programme focusing on communication skills, the ethics of volunteer work and the important health messages to be delivered to arriving pilgrims. The messages were basically designed to cover issues related to healthy behaviour during the performance of the Hajj, for example, personal hygiene, measures protective against infectious respiratory droplets, avoiding exposure to direct sun, and proper ways of using razors. This programme benefited by making use of the students in Mecca who are often fluent in foreign languages in addition to Arabic.

In Hajj in 1431 AH (2010 CE), the HEA programme was extended to cover pilgrims arriving at King Abdul Aziz International Airport, 19 km north of Jeddah, the main aviation entry port for pilgrims. The messages were delivered to them in the Pilgrim's City, just outside the Hajj terminal, while they waited aboard buses that would transport them to the holy places. Challenges to providing the training included the preoccupied state of pilgrims while completing their registration formalities on arrival. During Hajj 1432 AH (2011 CE), analysis of passenger flow within Pilgrim's City showed that loading a bus takes about 4–6 minutes for pilgrims and up to 20–25 minutes for their luggage. This meant that the pilgrims waited in the stationary buses for about 20 minutes while waiting for luggage arrival and loading, prior to departure. This was determined to be the ideal time to deliver health messages. The HEA volunteers were organized into teams of 2: one volunteer was responsible for conveying messages aided by a pictorial chart while the other distributed a copy of the multilingual health message pictorial leaflet to each pilgrim.

This method of health education was intended to provide more effective health education. The executive committee of the Hajj recommended studying this new educational approach to determine its effectiveness. Therefore, the main objective of this study was to assess the short-term effect on health knowledge among pilgrim after they had been given specific health education messages.

Methods

Through a pre- and post-intervention study design, a random sample of 6 buses was selected from a total of about 300 buses on the last day of work in the Pilgrims City at King Abdul Aziz International Airport. Sample size was calculated to find a difference of at least 20% in improvement of level of knowledge of the participants after conducting the intervention. Considering a confidence level at 95% and a power of 80%, the estimated sample size was 244; this was increased to 300 to compensate for expected missing data. Since each bus accommodated about 50 pilgrims on average, 6 buses were adequate to saturate the estimated sample size giving a total of around 300 pilgrims. The response rate was 92.7%: 278 completed questionnaires returned.

The total number of pilgrims aboard these buses was 300. The health educators boarded the buses, described the purpose of the study, and then invited pilgrims to participate. Those who agreed were asked to fill out a self-administered questionnaire (pre-test). The questionnaire had been designed and validated for a similar trial carried out the previous year for the local authority to assess the knowledge of pilgrims about healthy behaviour during Hajj (unpublished report). Reliability was assured by Cronbach's alpha test which gave a value of 0.88; this is considered an acceptable reliability level.

The intervention included the health education messages provided through the HEA programme using a pictorial chart as well as the distribution of pictorial pamphlets. This was followed by assessment of knowledge using the same questionnaire (post-test).

Data were verified, assessed for quality, then analysed using SPSS, version 16.0.

Results

The response rate for completion of the pre-intervention questionnaire was 92.7% ($n = 278$) and 89.3% ($n = 268$) for completion of the post-intervention questionnaire. The proportion of pilgrims giving correct answers showed a significant increase on the post-test (Table 1) ($P < 0.05$). While around two-thirds of respondents (69.1%) indicated that pilgrims, whether healthy or sick, should consult a physician before departing for the Hajj, the figure was more than 80% after the intervention. Similarly, before the intervention just over two-thirds (68.7%) said that toothpaste is the only item that can be shared between 2 or more individuals; this increased to 94.4% after the intervention (Table 1).

The greatest improvement in knowledge was seen for the item relating to shaving: only half of the respondents knew that safe shaving

with disposable tools prevents dissemination of some bloodborne diseases (e.g. HIV and hepatitis B) before intervention; this rose to 84.7% after the educational intervention (Table 1).

Almost all pilgrims (99.6%) agreed the HEA programme aboard the buses was beneficial, with 98.9% evaluating the health educator as successful in delivering the health education messages.

When asked about the importance of receiving health education messages in their home countries before departing to the Hajj, the overwhelming majority of the participants (92.4%) supported the idea. However, only 7.2% ($n = 19$) stated that they had already received relevant health education messages in their home country.

Discussion

This study showed that using the educational intervention improved short-term knowledge in the population studied.

Volunteers have been documented to be effective health education providers [7]. The HEA programme depends on volunteers from various medical faculties and health institutes in the Mecca region; their enthusiastic participation was essential to the health education programme. Student volunteer opinion, as well

as that of *mutawefs* (guides), about the HEA programme was assessed during previous Hajj seasons (unpublished report), but the impact of these messages on the knowledge of pilgrims was not assessed. Our findings showed significant improvement in the short-term knowledge level among intervention recipients. This effect has been established in previous studies in similar settings, including India [1] and Saudi Arabia [4]; the authors recommended that health education-focused programmes should be conducted in small groups, preferably via specific topic lectures.

The low rate for receiving pre-departure health education messages among those affluent enough to afford to travel by air and participate in the Hajj indicated a notable lapse in pre-travel preparation in the study population, and a need for home country educational interventions.

The limited time available to conduct the current health education intervention presented a significant limitation. It was conducted on the last day that pilgrims were arriving at King Abdul Aziz International Airport, and most were Arabic speakers. This population was not representative of all pilgrims. Also, it was not possible to obtain directly-paired responses from each of the pilgrims, and statistical analysis was therefore based on the overall percentages of pre- and post-test correct questionnaire responses.

Table 1 Knowledge of Hajj pilgrims arriving at King Abdul Aziz International Airport regarding healthy behaviour before and after a health education intervention, 1431 AH (2010 CE)

Questionnaire item	Pre-intervention	Post-intervention
	% correct	% correct
Consulting a physician before travelling to the Hajj	69.1	83.6
Items that can be shared by ≥ 2 individuals	68.7	94.4
Health behaviour on coughing or sneezing	92.4	100.0
Medicines must be assured	91.4	97.0
Prevention of sunstroke	89.6	98.9
Frequency of hand-washing	79.1	95.5
Diseases prevented by safe shaving practices	50.0	84.7

Recommendations

- The HEA programme should continue in the coming Hajj seasons with the inclusion of pilgrims at other portals of entry to Saudi Arabia, especially in Prince Mohammed Ibn Abdul Aziz International Airport in Medina.
- A study of wider scope should be planned for the next Hajj season.
- An additional study would be worthwhile to determine whether or not the intervention actually resulted in any change in health among pilgrims during the Hajj and in the following weeks, compared with those who did not participate in the intervention, along with the specifics of any diagnosis.
- Methods to provide standardized, pre-departure, health education to pilgrims scheduled to participate in the Hajj should be explored. Health education materials should be prepared in concert with the Ministry of Health. This could include information provided to foreign travel agencies, additional links to health education posts already provided within Saudi Arabia, and shared through working with air carriers and charter companies serving Hajj ports of entry to provide in-flight health education videos.
- Consideration should be given to investigating methods of educating those who enter the country using other means of transportation, including ships.

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