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Health Awareness and Effectiveness of Health Promotion during the Shaabania Mass Gathering, Karbala, 2025

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ABSTRACT

This study aimed to assess health awareness, evaluate the effectiveness of health promotion activities, and identify the challenges faced by attendees of the Shaabania mass gathering in Holy Karbala in 2025. **Methods:** A cross-sectional study was conducted on 442 participants, selected using a random sampling technique between February 12–15, 2025. Data were collected through a structured questionnaire covering knowledge, attitudes, and practices related to health promotion. The questionnaire was pre-tested on a small sample for clarity and validity. Data were collected electronically using Kobo Toolbox, and Data were analyzed entirely using Microsoft Excel. **Results:** Overall, 72.4% of participants reported seeing health messages, but only one-third could recall their content. While 85% believed health promotion was essential, only 31.7% considered the activities fully sufficient. Hand hygiene was practiced consistently (97.5%), yet adherence to other preventive measures, such as sanitizer use and safe food practices, was lower. Among participants who experienced health issues (n=107), only 25.2% found health efforts useful. **Conclusion:** Although participants demonstrated moderate to high awareness, significant gaps exist in message comprehension and behavioral application. Health promotion should be simplified, culturally adapted, and reinforced with real-time feedback and better visibility of health teams to strengthen preparedness for future mass gatherings.

Keywords: Mass gatherings; Health awareness; Health promotion; Shaabania pilgrimage; Karbala

Introduction

Mass gatherings such as religious pilgrimages, athletic events, and cultural festivals attract large numbers of people and pose significant public health challenges. Effective health promotion interventions and comprehensive assessment of participants' awareness are essential to ensure the safety and well-being of attendees. Health awareness levels among participants in mass gatherings vary widely, influenced by factors such as education, cultural practices, and prior exposure to health information. Some individuals demonstrate high awareness, while others remain unaware of available preventive measures and health services. This highlights the importance of tailored health communication strategies [1]. Karbala hosts millions of pilgrims annually, particularly during events like Arbaeenia and Shaabania. These gatherings create unique health risks, including overcrowding, limited access to health services, environmental stressors, and language or cultural barriers [2,3]. Although preventive initiatives such as vaccination campaigns, sanitation improvements, and health education have been implemented in similar contexts like the Hajj pilgrimage, their effectiveness depends heavily on cultural appropriateness and clarity of communication [4,5]. Recent studies during large religious events have underscored the need to evaluate not only the presence of health messages but also their actual impact on knowledge, attitudes, and practices [6,7]. Despite efforts, limited research has examined the real-world effectiveness of health promotion activities during mass gatherings in Iraq, particularly in Shaabania. Therefore, this study aims to assess health awareness, evaluate the effectiveness of health promotion activities, and explore the challenges encountered by attendees during the Shaabania mass gathering in Karbala, 2025. By identifying strengths and gaps, the findings can guide improvements in future health promotion strategies and preparedness for mass gatherings.

Objective:

- To assess the level of health awareness among attendees at the Shaabania mass gathering,
- To evaluate the effectiveness of health promotion activities implemented during the event

Methodology:

Study Design

A descriptive cross-sectional study was conducted during the Shaabania mass gathering in Karbala, Iraq, between February 12 and 15, 2025.

Study Population and Sample Size

The target population included attendees aged 15 years and above. The required sample size was 384, calculated with a 95% confidence level and a 5% margin of error. To account for non-response, 442 participants were recruited using simple random sampling.

Inclusion and Exclusion Criteria

Inclusion: attendees aged 15+ who gave consent. Exclusion: language barriers or cognitive impairments.

Data Collection Tool

A structured questionnaire covered knowledge, attitudes, and practices. It was translated into Arabic and pre-

tested.

Data Collection Procedure
Data were collected electronically via Kobo Toolbox by trained enumerators.

Data Analysis
Microsoft Excel was used for descriptive analysis (frequencies, percentages, tables, graphs).

Ethical Considerations
Approval was obtained from the Ethics Committee, Public Health Department, Karbala. Consent, confidentiality, and anonymity were ensured.

Results:

Demographic Characteristics

In this study, 442 participants were included. Mean age: 39±15 years. Males represented 85%. About 10% attended Shaabania for the first time, and 11% did not notice health teams.

As shown in Figures (1, 2, and 3), the highest percentage of participants was 15-34 years old, their academic achievement was secondary school, and working in freelance work.

Comment: Most attendees were male and experienced, but health services were limited.

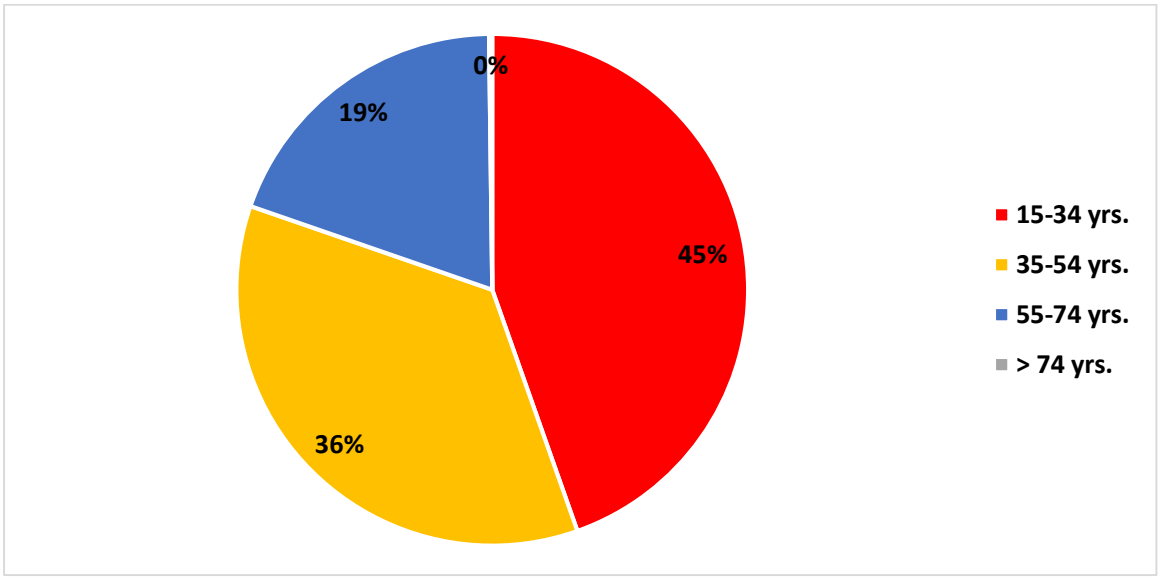

Figure (1): Percentage of participants during Al-Shaabania by age group, The holy Karbala, 2025

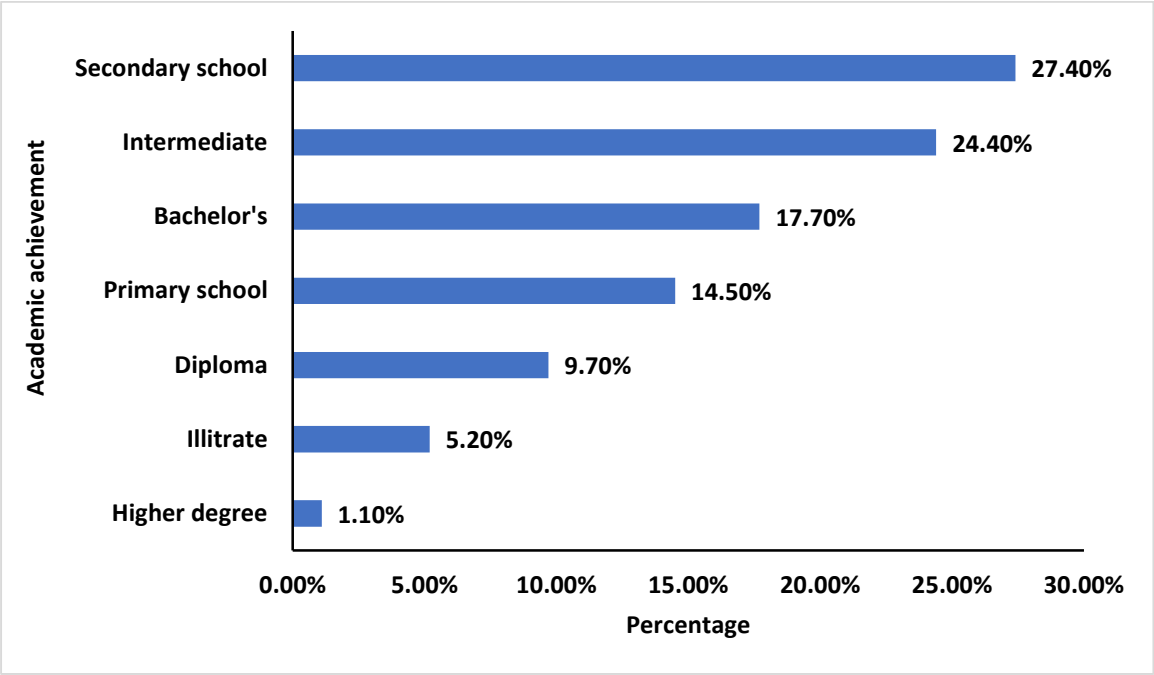

Figure (2): Percentage of participants during Al-Shaabania by academic achievement, The holy Karbala, 2025

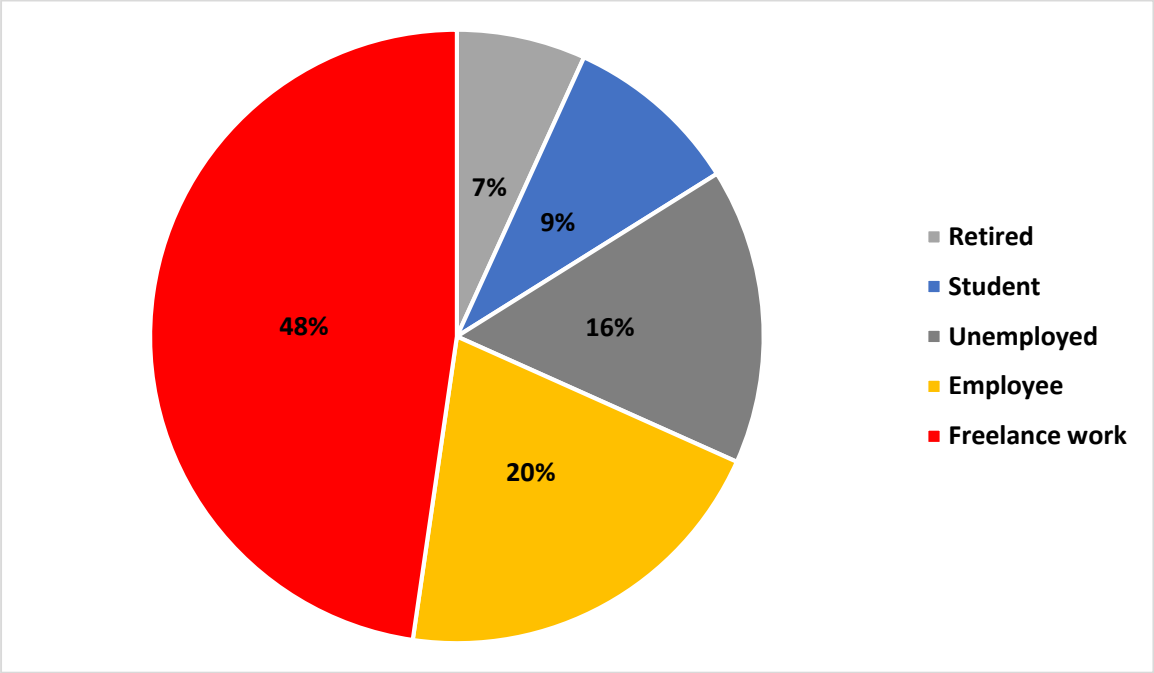

Figure (3): Percentage of participants during Al-Shaabania by academic achievement, The holy Karbala, 2025

Knowledge of participants

The majority of participants (72.4%) saw health messages; since 33% recalled those messages, only 15.6% could specify them.

Comment: Exposure was high, but retention was low, showing a communication weakness.

Table (1): Knowledge of participants about health awareness during Al-Shaabania, The holy Karbala, 2025

Knowledge Information		Male, No. (%)	Female, No. (%)	Sum*, No. (%)
Have you ever seen health messages lately directed by the Iraqi Ministry of Health during Al-Shaabania through posters, social media, television, and health teams?	Yes	272 (39.8)	48 (4.8)	320 (44.6)
	No	104 (30.1)	18 (5.6)	122 (35.7)
Did they remember what health issues these messages were about?	Yes	341 (3.4)	64 (1.8)	405 (5.2)
	No	35 (12.7)	2 (1.8)	37 (14.5)
Total		376 (85.1)	66 (14.9)	442** (100)
Can you tell us that message?	Yes	87 (7.5)	18 (8.1)	105 (15.6)
	No	185 (8.4)	30 (0.9)	215 (9.3)
Total		272 (85.1)	48 (14.9)	320*** (100)

* Summation of females' and males' numbers.

** The number of participants was 442.

*** The number of participants who answered this question was 320.

Attitude of participants

It is clear in Table 2 that health promotion was important, according to the opinion of 85% of participants; 31.7% found it sufficient; and 37.5% found the messages easy to understand. Among those with health issues (n = 107), 25.3% found the efforts useful.

As shown in Figure 4, the most suitable modifications that may improve the work of health promotion and increase awareness among visitors were increasing interest in the issue of spreading awareness by using social media, television, and posters.

Comment: Positive attitudes exist, but interventions were not satisfactory.

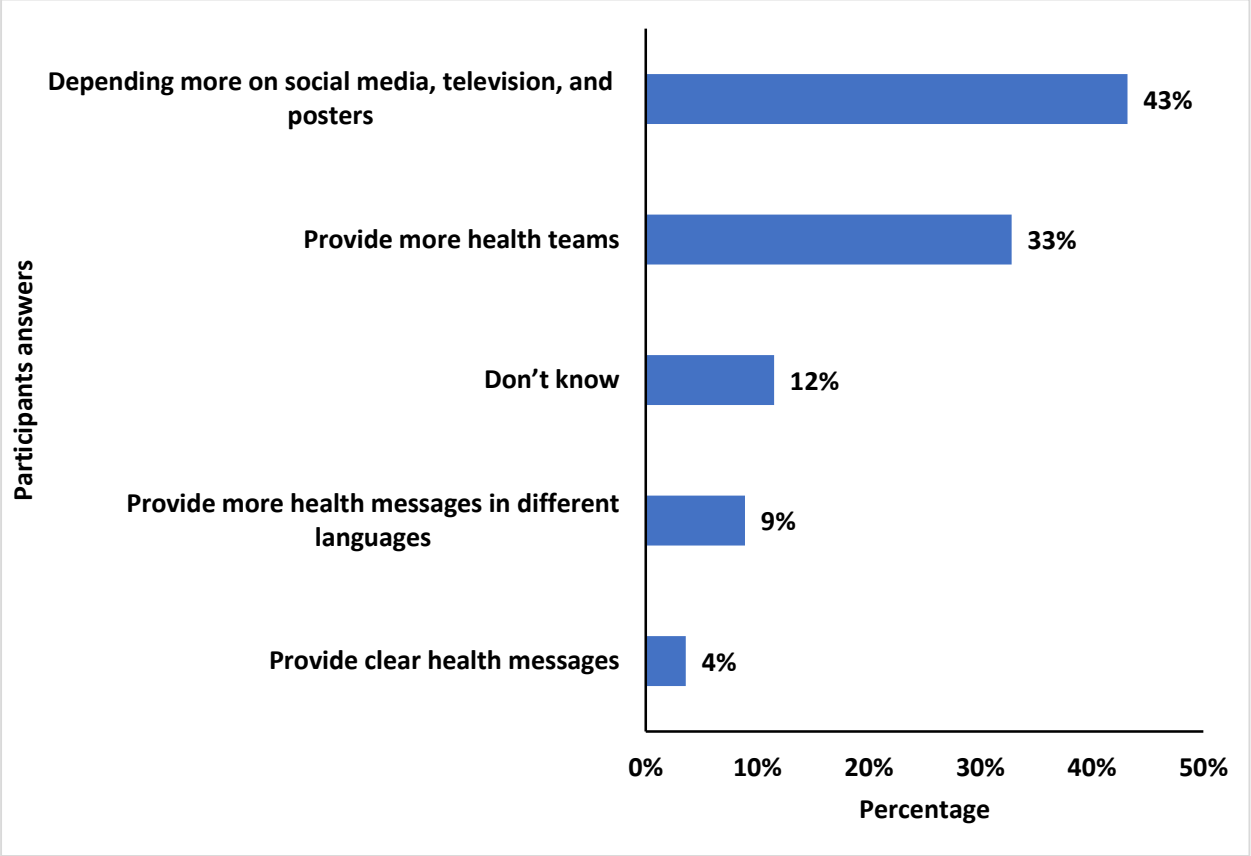

Figure (4): The suggestions of participants about suitable modifications that may improve the work of health promotion and increase awareness among the visitors, The holy Karbala, 2025

Attitude Information		Male, No. (%)	Female, No. (%)	Sum*, No. (%)
Do you believe in the importance of health promotion activities that can positively impact mass gatherings such as Al Arbaeenia?	Very	176 (39.8)	36 (8.1)	212 (47.9)
	Partially	149 (33.7)	15 (3.5)	164 (37.2)
	Not	12 (2.7)	1 (0.2)	13 (2.9)
	Don't know	39 (8.8)	14 (3.2)	53 (12.0)
Do you think the health promotion activities were sufficient to improve the health awareness of attendees from Al-Shaabania?	Very	109 (24.7)	31 (7.0)	140 (31.7)
	Partially	215 (48.6)	18 (4.1)	233 (52.7)
	Not	13 (3.0)	0 (0.0)	13 (3.0)
	Don't know	39 (8.8)	17 (3.8)	56 (12.6)
Do you think it was easy to catch and understand those health messages?	Very	138 (31.2)	28 (6.3)	166 (37.5)
	Partially	146 (33.0)	22 (5.0)	168 (38.0)
	Not	5 (1.2)	0 (0.0)	5 (1.2)
	Don't know	87 (19.7)	16 (3.6)	103 (23.3)
Total		376 (85.1)	66 (14.9)	442** (100)
Did you think the health promotion efforts were useful when you faced health issues during Al-Shaabania?	Very	22 (20.6)	5 (4.7)	27 (25.3)
	Partially	48 (44.9)	4 (3.6)	52 (48.5)
	Not	0 (0.0)	8 (7.5)	8 (7.5)
	Don't know	15 (14.0)	5 (4.7)	20 (18.7)
Total		93 (79.5)	14 (20.5)	107 (100)***

* Summation of the number of females and males.
** The number of participants was 442.
*** The number of participants who faced health problems during Al-Shaabania was 107.

Table (2): Attitude of participants about health awareness during Al-Shaabania, The holy Karbala, 2025

Practice of participants

About 60% of participants were washing their hands when they remembered, and only 22.4% consistently used sanitizers. 30.1% followed infection prevention fully, while 21.7% never did. Finally, only 15.8% always advised others. Comment: Handwashing was strong, but other preventive practices and peer education were weak.

Table (3): Practice of participants about health awareness during Al-Shaabania, The holy Karbala, 2025

Practice Information		Male, No. (%)	Female, No. (%)	Sum*, No. (%)
Hand washing during mass gatherings is	Always (each time you touch something)	127 (28.7)	43 (9.7)	170 (38.4)
	Sometimes (when you remember)	240 (54.3)	21 (4.8)	261 (59.1)
	Never	9 (2.0)	2 (0.5)	11 (2.5)
Hand-rapping with sanitizers during mass gatherings is	Always (each time you touch something)	77 (17.4)	22 (5.0)	99 (22.4)
	Sometimes (when you remember)	190 (43.0)	28 (6.3)	218 (49.3)
	Never	109 (24.7)	16 (3.6)	125 (28.3)
Do you think the food and water you ate and drank were delivered by Al-Mawakib, and the restaurants at Al-Shaabania were clean?	Always (all of them)	167 (37.8)	39 (8.8)	206 (46.6)
	Sometimes (part of them)	199 (45.0)	27 (6.1)	226 (61.1)
	Never	10 (2.3)	0 (0.0)	10 (2.3)
Do you follow any prevention measures to decrease the risk of infection during Al-Shaabania?	Always (all of them)	102 (23.1)	31 (7.0)	133 (30.1)
	Sometimes (part of them)	190 (43.0)	23 (5.2)	213 (48.2)
	Never	84 (19.0)	12 (2.7)	96 (21.7)
Do you participate in advising attendees about these precautions and prevention measures?	Always	61 (13.8)	9 (2.0)	70 (15.8)
	Sometimes	181 (41.0)	25 (5.7)	206 (46.7)
	Never	50 (11.3)	20 (4.5)	70 (15.8)
Total		376 (85.1)	66 (14.9)	442** (100)

* Summation of the number of females and males.
** The number of participants was 442.

Discussion

This study underscores several important aspects of health awareness and practices among attendees of the Shaabania mass gathering in Karbala in 2025. The findings reveal that, although a significant proportion of participants acknowledge the importance of health promotion, gaps remain in health messages on posters, social media, TV, and from health teams in recall, comprehension, and behavioral adherence.

Recent literature emphasizes the necessity of employing culturally sensitive and interactive communication strategies to enhance the effectiveness of health promotion during large gatherings. For instance, a systematic review published in 2022 concluded that visual aids, peer education, and multimedia interventions significantly improve message retention and promote health behaviors in mass gatherings [7]. Similarly, a 2023 study during Hajj demonstrated that multimedia tools and active community engagement increased compliance with preventive measures such as hand hygiene and mask-wearing [8]. Additionally, the growing use of digital platforms and social media has proven effective in rapidly disseminating health messages, especially among youth populations [9].

The low recall and understanding of health messages observed in this study suggest that current approaches may lack interactivity, cultural relevance, or visual appeal. Incorporating multimedia tools, peer-led education, and feedback mechanisms—strategies supported by recent evidence—could improve knowledge retention and promote behavioral change [1,2]. Moreover, the limited community engagement indicates a need to involve local leaders and health workers more actively to foster trust and participation [3].

Overall, integrating innovative, culturally tailored, and participatory health promotion strategies, as recommended in recent studies, is essential to address the identified gaps and enhance health outcomes during mass gatherings [4,5,6].

Conclusion

This study found that while **72.4%** of participants reported exposure to health promotion messages during the Shaabania mass gathering, only **33%** were able to recall their content, and just **15.6%** could specify the messages accurately. Although **85%** of participants believed that health promotion is important, only **31.7%** considered the activities sufficient. Preventive practices varied: **97.5%** practiced hand hygiene, yet only **22.4%** consistently used sanitizers, and **30.1%** always followed infection prevention measures. Among those who experienced health issues (**n = 107**), only **25.3%** found the health promotion efforts useful.

In summary, the findings indicate moderate awareness but significant gaps in comprehension, recall, and consistent preventive behaviors. Health promotion strategies should therefore be simplified, culturally adapted, and reinforced through visible health teams, multimedia tools, and active community engagement to enhance effectiveness during future mass gatherings.

Recommendations

- Health messages should be made simpler, repeated, and offered in many languages.
- Health teams should be more visible and spread out at gathering places.
- Health supplies like sanitizers and clean water should be easy to get.
- Instant feedback should be used to check and change health strategies during the event.

By learning from local experiences and global best practices, health leaders can improve their readiness for future mass gatherings and better protect the health of many people in high-risk situations.

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