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Assessment of Knowledge, Attitude, and Practice (KAP) Regarding Personal Hygiene Among Iranian Arbaeen Pilgrims

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Original Article

Abstract

INTRODUCTION: The Arbaeen pilgrimage is one of the largest annual mass gatherings worldwide, and its high crowd density, prolonged walking, and strained sanitation infrastructure increase the risk of communicable diseases. Personal hygiene is a low-cost preventive measure, yet data on pilgrims' hygiene-related knowledge, attitudes, and practices (KAP) and on perceived barriers are limited. This study assessed KAP regarding personal hygiene among Iranian Arbaeen pilgrims and described the physical, environmental, and service-related barriers they reported.

METHODS: This descriptive cross-sectional survey included 357 Iranian pilgrims who participated in the 2022 Arbaeen pilgrimage. Participants were recruited through IRCS pilgrim lists using convenience sampling (240 face-to-face and 117 telephone interviews). Data were collected using a researcher-developed 76-item questionnaire, including 15 items assessing knowledge (3), attitude (4), and practice (8) on a 5-point Likert scale. Content validity was assessed by 12 experts (mean CVR= 0.921), and internal consistency was acceptable (Cronbach's $\alpha = 0.86$). Scores were compared with the predefined desirable level of 4 using one-sample t-tests. Pearson's correlation and independent-samples t-tests examined associations and subgroup differences. Data were analyzed using SPSS version 24.

FINDINGS: The main health challenges reported by pilgrims were excessive fatigue (45.1%), foot injuries (28.6%), heat exhaustion (22.4%), and foot blisters (21.3%). Overcrowding (97.8%) and extreme heat (96.4%) were the most frequently reported environmental factors. Inadequate access to suitable water (59.9%), disinfectants (64.4%), and hygienic public toilets (only 13.5% rated them hygienic) were also reported. Although attitudes toward personal hygiene were favorable (mean=4.1), knowledge (3.3) and practices (3.2) were below the desirable level. Attitude was moderately correlated with practice ($r=0.44$, $p<0.001$), whereas knowledge was not. Only 21.8% had attended pre-travel hygiene training.

CONCLUSION: Iranian pilgrims reported favorable hygiene attitudes but knowledge and practice below the study-defined desirable level, together with widespread perceived environmental and sanitation-related constraints. Because the design was cross-sectional, self-reported, and based on a convenience sample, these constraints should be regarded as potential contributors, not established causes, of the attitude–practice gap. Strengthening sanitation, water, and disinfection provision, together with context-specific pre-travel training, should be prioritized and evaluated in future studies.

Keywords: Personal hygiene; Arbaeen; Knowledge, attitude, and practice; Mass gathering; Sanitation.

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Introduction

The Arbaeen pilgrimage, which commemorates the fortieth day after the martyrdom of Imam Hussein (AS), is among the largest annual mass gatherings in the world, and many pilgrims walk long distances to Karbala, Iraq (1, 2). Mass gatherings of this kind combine extreme crowd density, prolonged close contact, shared accommodation and food preparation, and heavy demand on water, sanitation, and health services. These conditions

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