

## Healthcare Challenges and Solutions During the Arbaeen Pilgrimage: Perspectives of Nurses and EMS Personnel

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### Original Article

#### Abstract

**INTRODUCTION:** The Arbaeen pilgrimage is one of the world's largest annual religious mass gatherings, attracting millions. It presents major challenges to healthcare delivery, medical supply chains, and welfare services due to extreme crowd density, high temperatures, long walking distances, and limited infrastructure. This study explores these challenges and potential solutions from the perspectives of nurses and Emergency Medical Services (EMS) personnel.

**METHODS:** This qualitative study used inductive content analysis. Semi-structured interviews were conducted with 18 nurses and EMS personnel using purposive sampling until data saturation was reached.

**FINDINGS:** The findings identified key challenges, including shortages of human resources (particularly female nurses) and equipment, inadequate accommodation and welfare facilities, limited specialized care for vulnerable groups, sociocultural and communication barriers, healthcare worker exhaustion, crowd congestion, inefficient resource management, and limited patient transfer capacity.

**CONCLUSION:** Improving healthcare services during the Arbaeen pilgrimage requires targeted interventions. Key strategies include increasing female nurse recruitment, establishing dedicated Mokebs for women and children, deploying mobile clinics and ICUs, integrating Arabic interpreters, implementing electronic health records, strengthening coordination, utilizing intelligent crowd management, and deploying motorcycle ambulances in high-density areas. These measures can enhance care quality, decision-making, and patient referral processes.

**Keywords:** Arbaeen pilgrimage; healthcare delivery; nurses; emergency medical services; qualitative study; challenges.

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#### Introduction

The annual Arbaeen pilgrimage in Iraq is recognized as one of the largest religious mass gatherings worldwide, attracting millions of participants from various countries, particularly neighboring nations such as Iran. It is estimated that between 17 and 20 million pilgrims attend this event each year, creating one of the highest concentrations of people in a single place and

time. A defining characteristic of this extraordinary event is that most pilgrims undertake long-distance walking journeys, often covering 80 kilometers or more from Najaf to the holy city of Karbala. This prolonged pedestrian movement, combined with extreme environmental conditions, places substantial strain on public health systems, healthcare delivery, medical supply chains, and welfare services along the pilgrimage routes (1–3).

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