

# Experiences of Indonesian nurses as Hajj health personnel in caring for Hajj pilgrims: A qualitative study

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## Abstract

**Background:** Investigating the experiences and roles of nurses during Hajj is vital due to the unique public health challenges posed by the mass gathering of diverse pilgrims. Nurses play a crucial role in disease surveillance, infection control, and managing emergencies like heat stroke and injuries. Their insights can improve emergency preparedness and public health management.

**Objective:** This study aimed to explore the experiences of Indonesian nurses as Hajj health personnel caring for Hajj pilgrims during the 2023 Hajj season.

**Methods:** This study employed a qualitative descriptive design and selected participants through purposive sampling from hospitals, public healthcare centers, and clinics in Yogyakarta, Indonesia. Nine nurses participated in the research, and data were collected through a focus group discussion in December 2023. Thematic analysis was used to analyze the data.

**Results:** Six themes emerged, including practicing ethical principles in providing health care during the hajj process, competency qualifications as a health worker, the health care process during Hajj, legal Requirements for Hajj, the importance of therapeutic communication skills to establish cooperation with various parties, and recognizing the role of duties and responsibilities during the hajj process.

**Conclusion:** The study emphasizes the importance of competencies, ethics, communication, and strategic planning in Hajj healthcare. Effective online communication, especially via WhatsApp, was crucial for coordination. The findings emphasize the need for strategic workforce planning, resource allocation, and continuous training to enhance care quality for pilgrims, informing better planning and policy development for future Hajj seasons.

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## Keywords

Indonesia; nurses; Hajj; pilgrims; thematic analysis; public health; policy making; mass gatherings; workforce; focus groups

## Background

The Hajj, one of the five pillars of Islam, is a significant religious obligation for Muslims who are financially and physically capable. Each year, millions of Muslims from around the world gather in Saudi Arabia to perform the pilgrimage to Makkah and participate in various rituals (Niu & Metwally, 2016). The Hajj pilgrimage is not only a religious duty but also a massive mass gathering that poses challenges related to public health, disease transmission, and emergency preparedness (Memish et al., 2012a; Ridda et al., 2021).

As the country with the largest Muslim population globally, Indonesia plays a significant role in the annual Hajj pilgrimage to Saudi Arabia. Given its status, Indonesia naturally sends a substantial number of pilgrims to Makkah each year (Pane et al., 2019). The Indonesian government recognizes the importance of the Hajj pilgrimage and provides special attention to ensure the well-being of its pilgrims during this

significant religious event (Robinson, 2022). Indonesia's large Muslim population requires careful health policy implementation to address the health needs of its pilgrims, with studies indicating that a portion of pilgrims may delay their trips due to health concerns (Rustika et al., 2020).

Participation by healthcare providers, particularly nurses, is crucial in ensuring the health and safety of the millions of pilgrims in the Hajj pilgrimage. The involvement of healthcare professionals is essential in managing the health needs of pilgrims during this mass gathering (Alqahtani et al., 2019; Ridda et al., 2021). Studies have shown that healthcare providers, including nurses, are instrumental in delivering health services, prescribing medications, and providing essential care to pilgrims during the Hajj (Mushi et al., 2021; Yezli, 2023). Additionally, healthcare workers, including nurses, have been associated with improved health outcomes and the effective management of health issues among pilgrims (Yezli, 2023; Yezli et al., 2022; Yezli et al., 2021).

Investigating the experiences of nurses during the Hajj season is crucial due to the unique public health challenges posed by the gathering of millions of diverse pilgrims (Paredath et al., 2023). Nurses are essential in managing disease surveillance, infection control, and emergencies such as heat stroke and injuries. Their insights can enhance emergency preparedness and public health management. The cultural diversity of pilgrims necessitates culturally sensitive healthcare services, highlighting the need for specialized training and cultural competence (Falatah et al., 2021).

Furthermore, effective healthcare delivery during Hajj requires optimal resource allocation and understanding of logistical challenges (Aljohani et al., 2022). Researching nurses' experiences can inform better planning, resource distribution, and policy development (Hajizadeh et al., 2021). Additionally, the demanding conditions of Hajj can impact nurses' physical and mental well-being (Rayan & Baker, 2019). Investigating their experiences can help identify stressors and inform policies to support their well-being, preventing burnout and ensuring sustained quality care (Johnson et al., 2018). Additionally, interdisciplinary collaboration is vital, and studying nurses' roles can improve team dynamics and patient outcomes (Lancaster et al., 2015). Insights gained can also drive innovations in clinical practices and the adoption of new technologies (Barnett et al., 2011). Overall, research into nurses' experiences during Hajj can significantly improve healthcare delivery, policy-making, and public health outcomes during mass gatherings.

Recent studies have explored various aspects of nurses' experiences during the Hajj. These studies have focused on factors motivating nurses to work during Hajj, job satisfaction, and the cultural competencies required to care for pilgrims. For instance, AlKarani (2021) identified motivations and challenges faced by nurses during Hajj, while Banaser et al. (2020) explored the job satisfaction of nurses during the mass gathering. Furthermore, Falatah et al. (2021) examined the experiences of transcultural nurses caring for pilgrims for the first time. However, while these studies provide valuable insights, there remains a gap in understanding the broader and more holistic experiences of nurses, particularly from countries like Indonesia, where a significant portion of the Muslim population participates in Hajj. The study by Sulaiman et al. (2019) primarily concentrated on emergency situations among Indonesian pilgrims. In contrast, this current study is the first comprehensive exploration of Indonesian nurses' experiences as Hajj health personnel, encompassing a broader spectrum of care for Hajj pilgrims.

By broadening the scope, this study seeks to provide a more holistic understanding of the challenges and roles of nurses during the Hajj, leading to more effective strategies and policies for future Hajj seasons. Therefore, this study aimed to explore the experiences of Indonesian nurses as Hajj health personnel caring for pilgrims during the 2023 Hajj season.

## Methods

### Study Design

This study employed a qualitative descriptive approach rooted in naturalistic inquiry, which seeks to explore and interpret the lived experiences of participants within their natural context (Doyle et al., 2020; Kim et al., 2017) with the aim of exploring,

understanding, and interpreting the experiences of Indonesian nurses serving as Hajj health personnel during the 2023 Hajj season. The philosophy underpinning this approach is that reality is constructed through individuals' perceptions and interactions with their environment. Additionally, the COREQ checklist (Tong et al., 2007) was used to report this study.

### Participants

The study took place in the Special Region of Yogyakarta in collaboration with the Department of Hajj Affairs at the Special Region of Yogyakarta Province Health Office. Nine participants were selected through purposive sampling based on specific inclusion criteria, including being selected through the national recruitment process as Hajj health personnel for the 2023 Hajj season and having experience in assisting Hajj pilgrims. The number of participants was determined based on the point of data saturation, which was achieved during the third focus group discussion (FGD), meaning no new information emerged after this point. No participants were excluded during the FGD session.

### Data Collection

Data collection occurred in December 2023 and involved two main focus group discussion (FGD) sessions, with an additional session for clarification. These FGDs were conducted in a university meeting room and facilitated by three trained facilitators: the first author (SS-Male), who holds a Master of Nursing Science Degree, and two research assistants, who are postgraduate students. Neither facilitator was previously acquainted with the participants. FGDs were chosen for this study to allow for dynamic interactions and discussions among participants, which are valuable in exploring shared experiences and generating rich qualitative data. The use of FGDs facilitated the emergence of collective themes and insights into the nurses' experiences as Hajj health personnel.

The FGDs were conducted in Indonesian, and each session lasted 60 to 90 minutes. A semi-structured guideline was used to steer the discussions, ensuring that key areas relevant to the study's objectives were covered. The discussions were recorded, and notes were taken to capture non-verbal cues and context. There were no repeated interviews, but follow-up questions were asked during the third session to clarify points raised in earlier discussions.

### Data Analysis

Thematic analysis (Braun & Clarke, 2006) was employed to identify relevant themes addressing the study objective concerning the experiences of Indonesian nurses as Hajj health personnel caring for Hajj pilgrims. The data analysis process was conducted manually, involving the following steps: a) Familiarization with the data by reading transcripts and making initial notes; b) Generating initial codes, resulting in approximately 131 codes; c) Grouping related codes into broader categories and themes, which led to the formation of 98 final codes; d) Reviewing and refining the identified themes; e) Defining and assigning names to the themes; f) Compiling the final report. The data analysis was conducted primarily by the first author (SS) and the co-author (SS), with the final analysis translated into English by a professional translator.

## Trustworthiness

To ensure the trustworthiness of this study, several established criteria were rigorously followed. Confirmability was maintained through an inquiry audit conducted by an independent auditor who meticulously reviewed the coding and theme development processes. This audit, which took approximately two weeks, involved cross-checking the coding against the raw data to verify accuracy and consistency. Dependability was reinforced by this audit process and further supported by peer debriefing sessions with expert supervisors, ensuring that the findings were reliable over time. Credibility was achieved through member checking, where all nine participants were provided with a summary of the findings. Their feedback was then incorporated into the final analysis, confirming the accuracy and validity of the interpretations. To enhance transferability, detailed descriptions of the research context, participants, and findings were provided, enabling readers to assess the applicability of the results to other settings involving Hajj health personnel. Additionally, triangulation was employed by comparing data from different sources, such as focus group discussions (FGDs) and field notes, to corroborate the findings and ensure a comprehensive understanding of the nurses' experiences.

## Ethical Considerations

This study received ethical approval from The Medical and Health Research Ethics Committee (MHERC) Faculty of Medicine, Public Health, and Nursing, Universitas Gadjah

Mada, Yogyakarta, Indonesia KE/FK/1377/EC/2022. Following participant selection based on the inclusion and exclusion criteria, potential participants were given detailed information about the research purpose and process. Participants were informed of their right to withdraw from the study until the conclusion of data collection. Informed consent was obtained before participation, with participants given full details of the study's purpose, procedures, and voluntary nature. Each participant was assigned a unique code (e.g., P1, P2, etc.) to ensure confidentiality while allowing us to reference specific participants in the analysis and reporting of results. These codes were consistently used throughout the study to protect participants' identities.

## Results

### Participants Characteristics

The study involved nine participants with varying characteristics. As shown in [Table 1](#), the participants' ages ranged from 36 to 51 years. Of these, eight were female, and one was male. Their educational backgrounds included both Bachelor's degrees and Diplomas. Their years of service as clinical nurses spanned from 5 to 28 years. The participants were employed in various healthcare settings, including tertiary hospitals, primary healthcare centers, and health clinics. Specifically, five participants were from tertiary hospitals, three from primary health care centers, and one from a health clinic.

**Table 1** Participants characteristics (n = 9)

Participant code	Age (years)	Gender	Educational background	Years of service as a clinical nurse	Place of work
P1	51	Female	Bachelor	28	Tertiary Hospital
P2	51	Female	Diploma	27	Primary Healthcare Center
P3	38	Female	Diploma	15	Primary Healthcare Center
P4	38	Female	Bachelor	14	Tertiary Hospital
P5	36	Female	Bachelor	11	Health Clinic
P6	46	Female	Bachelor	22	Tertiary Hospital
P7	45	Female	Bachelor	14	Primary Healthcare Center
P8	37	Female	Diploma	5	Tertiary Hospital
P9	46	Male	Bachelor	27	Tertiary Hospital

## Thematic Findings

Six themes were identified from the study findings as follows: a) Practicing ethical principles in providing health care during the hajj process, b) Competency qualifications as a health worker, c) The health care process during Hajj, d) Legal Requirements for Hajj, e) The importance of therapeutic communication skills to establish cooperation with various parties and f) Recognizing the role of duties and responsibilities during the hajj process ([Table 2](#)).

### Theme 1: Practicing ethical principles in providing health care during the hajj process

This theme describes that during their duties as Hajj health workers, they adhere strictly to professional and ethical principles as their moral responsibility throughout their service. From the start to the end of the Hajj process, they treat all pilgrims fairly in providing health services. They maintain their commitment by keeping their promises as health professionals, offering honest service to all pilgrims. They

perform their duties logically and promptly, making decisions without causing physical or mental harm. They share responsibility with fellow workers and other qualified individuals. They apply their knowledge and skills to serve all pilgrims equally. The following statements from participants illustrate this:

*"Additionally, once we decide to register as workers, we need to set our intentions straight and strengthen our hearts. Serving there and performing Hajj is a bonus. Temptations can easily sway our intentions, especially once we are there. Our identity is our uniform. If we go to the mosque without our uniform or vest, no one will know who we are, and we won't be asked for help. However, when wearing our uniform with 'Indonesia' on it, we are identified as Indonesian workers. We must help anyone in need, whether they are Indonesian or from another country."* [P5]

*"The group felt tired, and we suggested some members return early. However, when it was time for one member to return early due to illness, there was a long discussion, and they ended up staying. This miscommunication caused delays and required a return to our original group."* [P6]

*"We had two Hajj trips with similar cases. We stayed close to high-risk pilgrims throughout the process. In Muzdalifah, for instance, we stayed with high-risk pilgrims like those with heart conditions to provide the necessary support."* [P9]

## Theme 2: Competency qualifications as a health worker

This theme illustrates that all Hajj health workers possess verified competencies, allowing them to serve as trusted aides during the Hajj pilgrimage. Their qualifications enable them to independently address health issues among pilgrims, employing innovative solutions. Each worship location presents varied challenges despite prior risk minimization. They are not only required to master the top ten common diseases for efficient treatment but also to handle unexpected problems with limited resources in the field. Cultural and language skills further aid in effective communication and service delivery. The following statements from participants provide evidence of these points:

*"Many issues often arise, even after the second or third stage of examination, sometimes only discovered once we reach Mecca. There are significant discrepancies due to pilgrims' dishonesty. For instance, in cluster 44, a pilgrim with epilepsy did not report their medication in the health system. It was only at Almusnaya that the seizures started, and we found out the medication was missing. We had to call their family for details as the pilgrim was elderly. This incident highlights the importance of honesty among pilgrims."* [P2]

*"We encountered elderly pilgrims who were not classified as high risk or comorbid, yet carried complete asthma medications. This increased the number of high-risk pilgrims unexpectedly. We re-checked all 300 pilgrims in our group, identifying additional high-risk individuals not listed in the health system. This shows the need for thorough on-site assessments to identify all risks."* [P8]

*"One training topic by Dr. P was identifying pneumonia in the elderly, which can present as refusal to eat or drink before more obvious symptoms like cough or breathlessness. We need to be cautious with such signs. For instance, we had two deaths; one involved a pilgrim with insulin in their suitcase who later developed pulmonary edema. We carefully monitored and managed the situation under Dr. S's guidance, showing the importance of vigilant care for at-risk pilgrims."* [P9]

## Theme 3: The healthcare process during Hajj

This theme showed that health workers carry out health care processes for all Hajj pilgrims, beginning with data collection/identification, implementation, and evaluation, considering the locations designated by the ministry and the regulations of the Saudi government during the Hajj. Continuous identification is performed to monitor the pilgrims' health status. This includes not only patient data but also the identification of health equipment, medications, and other necessary facilities to support health care delivery.

Health services are provided from when pilgrims are legally authorized to embark on Hajj until they return home. In Indonesia, services are provided at public healthcare centers (PHCs). During the pilgrimage in the Holy Land, not all locations permit the establishment of health posts, requiring health workers to strategize and utilize available situations, conditions, and places to deliver necessary services. After completing their duties, health workers are responsible for evaluating their work. The evaluation results are expected to serve as guidelines for more efficient and effective health

service innovations in future Hajj periods. The following statements from participants illustrate these points:

*"In the Holy Land, we visit both healthy and high-risk pilgrims. High-risk pilgrims are visited every two days. Healthy pilgrims are checked if they report any complaints."* [P2]

*"We use a teleworker application for all Indonesian pilgrims. This application records everything from departure to return, including daily health checks like blood pressure. If we need to refer patients, the application has their visa number and all health records. This ensures we have complete records when referring someone to a hospital."* [P4]

*"We assess the 360 pilgrims, identifying the number of men, women, elderly, and healthy individuals. We also map out who will be with whom, ensuring everyone is accounted for and supported."* [P6]

## Theme 4: Legal Requirements for Hajj

Eligibility for performing Hajj is determined by the payment of fees and the absolute requirement of good health. Pilgrims must undergo a series of health examinations from the time they are scheduled to depart until their flight. These examinations occur over an extended period, and after receiving guidance and check-ups, pilgrims must obtain a health certification from local health workers. Those needing assistance must also show legal proof of their companion's eligibility during the Hajj. While the rules for departure are set, their implementation can vary depending on the background of the local officials, with some strictly adhering to regulations and others being more lenient. The following statements from participants illustrate these points:

*"We conduct health screenings as an initial examination phase. However, unlike previous years where data was available months in advance, the last two years have been tight, so we consider the first phase to be the initial health screening."* [P3]

*"There are frequent inquiries related to work conditions, like a recent case where a pilgrim was deemed unfit during the second phase of examination. Despite the regulations, their strong desire to perform Hajj pushed them to seek ways to get approved. We provided support and conveyed the regulations via WhatsApp, coordinating with health center staff and relevant departments to help the pilgrim accept the situation."* [P5]

*"For patients requiring further examinations, such as laboratory tests or medical equipment usage certification (e.g., for those with metal implants), a health certificate is issued during the third phase of examination by a health doctor. This determines their fitness for flying and ensures all necessary documentation is in place before departure from the embarkation point."* [P9]

## Theme 5: The importance of therapeutic communication skills to establish cooperation with various parties

This theme describes that the communication skills of health workers are maximized to facilitate their duties from the moment they are assigned to accompany pilgrims on the Hajj. Once designated as Indonesian Hajj health workers, they immediately begin their tasks by coordinating with relevant authorities regarding their duties and the requirements to be fulfilled. Coordination continues among fellow health workers to identify and assist pilgrims and their families collaboratively.

Throughout their pre-Hajj duties until the return to their homeland, health workers cooperate with other health workers, authorities, Hajj organizers, and other pilgrims to monitor and support those needing assistance. The following statements from participants illustrate these points:

*"In response to the question, the hope for the future is that there should be coordination between the Hajj Organizing Committee (PPIH) and Hajj Health Workers (TKH) before departure. This would ensure proper alignment. Communication during the Hajj is also necessary to ensure readiness for various situations, such as coordinating pick-ups and other logistical needs."* [P1]

*"As cluster workers, we have pilgrims hospitalized either by the Hajj Organizing Committee or in Saudi hospitals. We have visitation officers at the hospitals, and we can get updates via WhatsApp contacts. This allows us to stay informed about our hospitalized pilgrims."* [P2]

*"Regarding initial coordination, we, the Hajj health workers and the Hajj Organizing Committee, have a WhatsApp group. We share information in the group, such as invitations for Hajj rehearsals in certain areas. Health workers who can attend will coordinate and communicate through this group."* [P5]

## Theme 6: Recognizing the role of duties and responsibilities during the hajj process

Health workers understand the roles and responsibilities they must master while accompanying pilgrims during Hajj. The ministry and workers conduct mapping to prepare once the departure plan is established, classifying healthy and high-risk pilgrims, as well as men and women. Mapping includes health equipment, medications to be carried, and pilgrims assisted by health workers. Despite these preparations, there are still instances of service overload due to the demand from their assigned pilgrims and other clusters and cities.

The distribution of medication is another challenge, as health workers struggle to document medication usage accurately. Delays in medication delivery to hospitalized patients are common, sometimes arriving after the patient has been discharged. This issue is among the many challenges health workers face. They suggest a more proportional ratio of health workers to pilgrims for better support. The participants illustrate these points:

*"Responding to that, as Mr. J mentioned, our cluster was the last from Jogja, with additional pilgrims from Surakarta. We were unaware of the back-and-forth movement of Surakarta pilgrims. Initially, we knew the numbers, but they fluctuated significantly by the end."* [P3]

*"For the training, after our examinations, we provided guidance intermittently, with the tasks divided among us, assigning specific health centers to specific persons in charge."* [P7]

*"During the introduction, we also provided training. To ensure preparedness, my cluster doctor and I reviewed personal protective equipment, potential diseases, and other related topics with each Hajj group."* [P8]

## Discussion

This study explored the experiences of Indonesian nurses as Hajj health personnel during the 2023 Hajj season. Findings revealed that health workers adhered to ethical principles, treated pilgrims fairly, and shared responsibilities. They

demonstrated verified competencies to address health issues independently, aided by cultural and language skills. Continuous healthcare processes were maintained in alignment with ministry and Saudi regulations. Pilgrims were required to be in good health and undergo examinations, although implementation of rules varied by local officials. Effective online communication via WhatsApp was crucial for coordination. Despite thorough preparations, service overload and medication distribution challenges highlighted the need for a better health worker-to-pilgrim ratio. The study emphasized the importance of competencies, ethics, communication, and strategic planning in Hajj healthcare.

Healthcare workers are crucial during the Hajj pilgrimage, ensuring pilgrims' well-being while adhering to ethical care standards. Thousands of healthcare workers are deployed annually to Saudi Arabia to provide healthcare services to pilgrims (Yezli et al., 2019). These workers minimize health risks among pilgrims and are stationed in hospitals with advanced facilities to cater to their medical needs (Shafi et al., 2016). Proper medication handling and storage are also crucial, highlighting the need for adherence to protocols (Yezli et al., 2022; Yezli et al., 2021). Respiratory infections are common among pilgrims, putting healthcare workers at high risk, with a study showing a high prevalence of respiratory viruses during Hajj, emphasizing the need for strict infection control measures and protective strategies (Memish et al., 2012b). Additionally, cardiovascular diseases pose significant risks to pilgrims, necessitating the dissemination of health information on prevention and management before and during the pilgrimage (Ardiana et al., 2023).

Healthcare providers must possess verified competencies to address a wide range of health issues independently, supported by cultural and language skills (Shafi et al., 2016; Yezli et al., 2019). Ethical principles guide them in treating all pilgrims fairly and sharing responsibilities (Al-Ajarma, 2021; Gill, 2022). Strategic planning involves risk stratification, medication adjustments, proper clinical assessments, and education before the pilgrimage, emphasizing proactive measures to address health challenges (Ibrahim et al., 2024). It also involves optimizing mass-gathering medicine by improving patient knowledge, medication compliance, and preventive health measures, as well as leveraging modern technologies for health monitoring (Khan et al., 2018).

Furthermore, this study emphasized that efficient communication is vital for pilgrims' well-being and healthcare coordination during Hajj. Among Indonesian Hajj health personnel, WhatsApp enhances information dissemination, decision-making, and coordination, upholding ethical principles and sharing responsibilities effectively. Previous studies highlight WhatsApp's role in facilitating healthcare communication and coordination. Health workers, including nurse managers, use WhatsApp groups to coordinate work efficiently, even from a distance (Mbada et al., 2023; Weaver et al., 2022). In healthcare programs like cervical cancer prevention, WhatsApp aids logistics management and field staff communication (Bonful et al., 2022). Additionally, it supports medical education and training coordination (Shrivastava & Shrivastava, 2024), improves communication in laboratory management systems (Udenze, 2020), and delivers educational modules on diabetes self-management (Ramli & Robinson, 2023).

**Table 2** The emerging themes from the study findings

Theme	Category	Code
Practicing ethical principles in providing health care during the Hajj process	Principle of justice	Fair treatment Prioritization of inspection Prioritizing treatment Prioritizing monitoring Signaling pilgrims with high risk of health problems
	Principle of fidelity	Officer's consequence to the role Perceived burden of being an officer
	Principle of autonomy	Surviving the accommodation delay Prioritizing survival Environmental adjustment Requires adaptation in implementation
	Principle of nonmaleficence	A decision that leaves officers with a dilemma Repatriating (in Arabic: <i>tanazul</i> ) pilgrims who are not fit to fly The process of handling the congregation
	Principle of accountability	Building on strengths Taking responsibility together Intervention knows no time and place Share experiences with each other Experience varies Early departure is more representative
	Principle of beneficence	Various preventive measures are taken Set up a handling post Lack of accommodation to protect drug safety Expedite exit from Mina Maximizing in-flight efforts Fatigue
	Competency qualifications as a health worker	Familiar with the characteristics of common diseases
Competent in all situations		Independence Demand independence Overcoming congregational chaos Unexpected case discovery Toughest challenge on the plane Hajj pilgrimage that dies on the plane
Situations beyond the officer's control		Referral transport difficulties Muzdalifah-Mina obstacles Losing track of pilgrims Language differences with pilgrims The impact of transport trouble incident
The healthcare process during Hajj	Comprehensive identification	Initial data collection Identifying the patient Tracking the condition of pilgrims through an integrated data and information management system for the implementation of the Hajj pilgrimage Distribution of medical supplies Health changes during the waiting period
	Implementation of hajj health services	Implementation of the hajj process Act according to role Medical records of integrated data and information management system Visitation arrangement
	Evaluation of the process of implementing Hajj health services	Evaluation Guideline development Documentation system No standardized documentation format
	Inspection site regulations	The examination center at the post Examination center at Primary Health Centre
Legal requirements for Hajj	Examinations that must be passed	Vital sign check Supportive examination Perform a fitness test Screening The examination is gradual
	Absolute requirements that must be met by pilgrims	Vaccine administration Showing the congregation the health requirements Integrated examination

Table 2 (Cont.)

The importance of therapeutic communication skills to establish cooperation with various parties	Legality of eligibility for Hajj	Determining eligibility to fly Health certificate as a requirement The legality of <i>istithaah</i> with assistance Endorsement of medical equipment Mental examination completed
	Determination of departure rules	Firmness is required according to the rules Direct regulation from the center
Recognizing the role of duties and responsibilities during the hajj process	Collaborating with various parties	Collaboration with primary health service Collaboration with the Ministry of Health Co-operation with visitation on the plane Collaboration with other Hajj health workers while in the hotel Cooperation with pilgrims
	The importance of communication through coordination	Coordination of officers through online media Coordination between officers Overall coordination needs
Balance of role capacity	Group mapping and assignment	Group mapping Division of tasks and groups Introductions Training according to embarkation group
	Balance of supporting services	A limited number of health workers Implementation of overload examination Overload of assistance Getting overflow of pilgrims from other cities
Coaching for staff and pilgrims	Coaching for staff and pilgrims	Use of undocumented drugs Drug administration procedures Implementation of drug service time
	Comprehensive monitoring	Coaching in turn Conducting coaching Online coaching
		Online monitoring Monitoring during Hajj On-board monitoring of high-risk pilgrims Close monitoring Home visits Visitation of the hajj process Observing all pilgrims at the hotel

This study also identified persistent challenges in service overload and medication distribution in Hajj management in Indonesia. Improving the health worker-to-pilgrim ratio is crucial to address these issues. Overcrowding and confined spaces during Hajj increase the risk of infectious diseases (Aminuddin et al., 2021). Appropriate storage and handling of medications are also challenging, especially for pilgrims with chronic conditions (Yezli et al., 2022; Yezli et al., 2021). Ensuring an adequate health worker-to-pilgrim ratio is essential for managing healthcare needs during Hajj. The high prevalence of chronic conditions like diabetes and hypertension indicates the necessity for sufficient healthcare personnel to provide timely and appropriate care (Yezli et al., 2021). Addressing inadequate knowledge and practices regarding insulin handling among diabetic pilgrims is vital to ensure quality care (Yezli et al., 2021).

### Implications for Nursing Practice

This study's findings suggest that nurses must consistently adhere to ethical principles, ensuring fair and equitable treatment of all pilgrims while respecting their cultural and religious practices. Continuous education and training are essential to enhance nurses' competencies, particularly in addressing various health issues independently and improving communication through cultural and language skills. Furthermore, involvement in strategic planning and risk

management processes is also crucial for nurses, encompassing pre-pilgrimage assessments, medication adjustments, and educating pilgrims on preventive health measures and proper medication handling. Addressing service overload requires strategic workforce planning to ensure an adequate nurse-to-pilgrim ratio, advocating for sufficient staffing and resources to meet the high demands during Hajj. Furthermore, engaging in quality improvement initiatives to assess and enhance nursing practices during Hajj through data collection and evidence-based practices can lead to better health outcomes. By integrating these implications into their practice, nurses can significantly improve the quality of care provided to pilgrims, ensuring their health and well-being are maintained throughout the pilgrimage.

### Study Limitations

The study was conducted in a specific geographical region (Special Region of Yogyakarta), and nurses' experiences in other regions may differ. The qualitative nature of the study, while providing in-depth insights, also means that the findings are subjective and based on the participants' personal experiences, which may introduce bias. Furthermore, the study was conducted during a single Hajj season (2023), and the findings may not capture variations in experiences over different years. Finally, while efforts were made to ensure data accuracy and validity through member checking and cross-

verification, the translation of data from Indonesian to English may have resulted in the loss of some nuances. Future research with multiple regions and longitudinal designs would be beneficial to provide a better understanding of the experiences of Indonesian nurses as Hajj health personnel.

## Conclusion

This study provides a comprehensive exploration of the experiences of Indonesian nurses serving as Hajj health personnel during the 2023 Hajj season. The findings highlight the critical role these nurses play in ensuring the health and well-being of pilgrims, adhering to ethical principles, and effectively sharing responsibilities. The nurses demonstrated verified competencies to address health issues independently, aided by their cultural and language skills, and maintained continuous healthcare processes in alignment with ministry and Saudi regulations. Despite thorough preparations, challenges such as service overload and medication distribution underscore the need for a better health worker-to-pilgrim ratio. The importance of competencies, ethics, communication, and strategic planning in Hajj healthcare was emphasized. Additionally, effective online communication, often through WhatsApp, proved crucial for coordination among health personnel. This study underscores the necessity for strategic workforce planning, adequate resource allocation, and continuous training to enhance the quality of care for pilgrims. The insights gained from this research can inform better planning, policy development, and support systems for health workers, ensuring improved healthcare delivery and health outcomes during future Hajj seasons.

## Declaration of Conflicting Interest

The authors affirm that there were no financial or commercial conflicts of interest throughout the conduct of this study and state that they have no competing interests with the funders.

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## Authors' Contributions

All authors contributed equally and substantially to the conception or design of the work, analysis or interpretation of data for the work, drafting of the work, and final approval of the version to be published.

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## Data Availability

The datasets generated during and analyzed during the current study are available from the corresponding author upon reasonable request.

## Declaration of Use of AI in Scientific Writing

While preparing this work, the authors used ChatGPT-4.o to improve the clarity of their language writing since they are not native speakers of English. After using this tool, the authors reviewed and edited the content and took full responsibility for the content of the published article.

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