



Obstacles of Incomplete Laboratory Documents Supporting Airworthiness Requirements for Hajj Pilgrims with a History of Anemia at the Surabaya Embarcation Hajj Dormitory: Case Report

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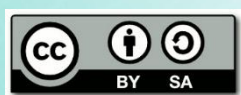
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ABSTRACT

Background: This study addresses the challenge of incomplete laboratory documents hindering the flight eligibility assessment of hajj pilgrims with a history of anemia at the Surabaya Hajj Dormitory. Anemia, characterized by a decrease in hemoglobin levels or red blood cell counts, increases the risk of serious health complications during long-haul flights due to reduced oxygen-carrying capacity and hypoxia under cabin pressure conditions. **Objective:** The research objectives included evaluating the availability and completeness of recent blood laboratory tests essential for determining fitness to fly and highlighting the clinical implications of anemia in this context. **Methods:** Using a case report methodology, the study illustrated a typical scenario where incomplete laboratory documentation delayed proper medical evaluation and potentially endangered the pilgrim's health during and after the flight. Findings underscore the critical role of comprehensive pre-flight hematological screening and consistent medical follow-up to ensure safe pilgrimage travel for individuals with anemia. **Results:** The study concludes that enhanced education, stringent document verification systems, and proactive healthcare management are imperative to minimize risks and support the safe participation of anemic pilgrims in the hajj pilgrimage. Species mentioned in hematological and clinical context are appropriately italicized to conform to scientific standards. **Conclusion:** This work contributes to improving health service protocols for hajj pilgrims, particularly those with preexisting anemia conditions, enhancing overall safety and compliance with international health regulations

Key words: Anemia, hajj pilgrims, laboratory documentation



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INTRODUCTION

Complete blood laboratory examination is crucial in the diagnosis and monitoring of anemia, including the measurement of hemoglobin levels, hematocrit, and red blood cell count.



Anemia itself is a condition characterized by a decrease in hemoglobin or hematocrit caused by various underlying conditions and can be classified as macrocytic, microcytic, or normocytic (WHO, 2023). Severe anemia, particularly with hemoglobin levels below 7.5 g/dL, poses significant risks for long-distance air travel (Helmyati et al., 2024).

The reduced cabin pressure in airplanes leads to decreased oxygen saturation, which can trigger hypoxia; therefore, anemia is a critical factor in determining fitness to fly, especially for prospective Hajj pilgrims. Oxygen-hemoglobin saturation drops at altitudes above 1500 meters, worsening the condition of patients with hemoglobin below 7.5 g/dL (Ruslan, 2021). A real case involved a Hajj pilgrim with anemia who experienced respiratory distress and required hospitalization during their pilgrimage in the Holy Land (Khalisotussurur, 2023).

This incident highlights the importance of strict health supervision with a medical fitness certificate (MEDIF) that requires recent complete blood tests for patients with anemia (BBKK, 2018). Incomplete documentation often delays the selection process for fitness to fly and may jeopardize the safety of pilgrims, especially on long flights such as Surabaya-Madinah. Detailed health management and a robust document verification system are essential to minimize complications and ensure that Hajj pilgrims are truly fit to fly in accordance with international health standards.

MATERIALS AND METHODS

This case report is based on the incident involving a prospective Hajj pilgrim with a history of anemia recorded in SSKOHAT but who did not bring the latest complete blood laboratory test results during the Stage 3 medical examination at the Hajj Dormitory Embarkation Surabaya on May 19, 2025.

CASE REPORT

A Hajj pilgrim, Mrs. R, aged 75 from Lamongan, visited the clinic at Asrama Haji Sukolilo after completing her Stage 3 health examination and accompanied by embarkation officers. During the anamnesis, conducted by a young doctor named Diah, it was revealed that Mrs. R was referred because she did not bring the latest laboratory test results related to her anemia history. She complained of feeling weak and having vomited once during her journey from Lamongan to the Hajj Dormitory. Additionally, Mrs. R has a history of gout and hypertension.

The clinical internship explained that, according to regulations for Hajj pilgrims with anemia, a complete blood laboratory test is required one week before departure. Mrs. R was unaware of this and admitted she had never undergone a complete blood test the previous week. The clinical internship emphasized the importance of this test to ensure the patient's health and fitness for long-distance flights during Hajj. Hemoglobin levels should ideally be above 10 mg/dL to avoid complications due to lengthy flights. Mrs. R was then given the opportunity to undergo the blood test and assured of reevaluation and treatment if necessary. Furthermore, medication was prescribed to control her high blood pressure detected during the examination.

Physical examination showed blood pressure of 233/100 mmHg, pulse rate of 94 beats per minute, respiratory rate of 22 times per minute, oxygen saturation of 98%, and body temperature of 36.8°C. General condition was fair with normal findings on head/neck, thorax, lungs, abdomen, and extremities without edema. The complete blood test took approximately two hours, with hemoglobin result at 10.8 mg/dL. Because the pilgrim did not complete the laboratory check as required a week before departure at the primary health service, she experienced delays entering the dormitory.

KEMENTERIAN KESEHATAN RI
DIREKTORAT JENDERAL PP & PL
KANTOR KESEHATAN PELABUHAN KELAS I SURABAYA

RAHASIA

STATUS PASIEN RAWAT JALAN

1. DATA UMUM

Nama : Ny. R. [redacted] NO. REG : [redacted]
 Umur : 75 Thn Nomor Porsi : [redacted]
 Alamat : Lamongan Nomor Paspor : [redacted]
 Jenis Kelamin : Laki / Perempuan TGL/Jam Datang : 19-5-25/19.57
 Kloter / No Praman : 63 Jam Tindakan : 19.58
 Dokter Poli : dr. Erna

2. PEMERIKSAAN

e. Anamnesa : pasien dengan anemia mengeluh muntah 1x pro celi Hg. SpO2 : 98%

f. Tanda-tanda Vital :
 Tek Darah : 233/100 mmHg Suhu : 36.8 C
 Nadi : 94 X/mnt Pernafasan : X/mnt
 Kesadaran : komposmetis / somnolen / sopor / apatis / coma

g. Pemeriksaan Fisik :
 1) Kepala / Leher :
 2) Dada :
 • Paru :
 • Jantung :
 3) Perut :
 4) Extremitas :
 h. Pemeriksaan Penunjang :

3. Diagnosis : Ht. usang
4. Terapi : 180 mg / 2.5 / SL.
 12.5 / SL.

Dokter Pemeriksa
dr. Erna

Picture 1. Medical Record

Kemenkes
BBKK Surabaya

Kementerian Kesehatan
Direktorat Jenderal
Penanggulangan Penyakit
Balai Besar Kakarantina Kesehatan Surabaya
Jalan Raya Kowora Blok 2 B.2 Setiab Agung
Sidoarjo 61253
(031) 99683747
http://www.bbkk-surabaya.go.id

HASIL PEMERIKSAAN LABORATORIUM

NO : 149
 NAMA : [redacted]
 JENIS KELAMIN : [redacted]
 KLOTER : 63

USIA : 75
 NIK : [redacted]
 ALAMAT : Lamongan

HEMATOLOGI		URINALISA	
Hb	10.8	Urobilinogen	
RBC	358 10 ⁶	Bilirubin	
WBC	78700	Keton	
PLT	205 10 ³	Blood	
HCT	30.7 %	Protein	
		Nitrite	
		Leukocyte	
		Glucose	
		BI	
		pH	

KIMIA DARAH

Glucose :
 Cholesterol :
 SGOT :
 SGPT :
 BUN :
 Creatinin :

SEROLOGI

Plano :
 HIV :

Surabaya,
 Pemeriksa
 [Signature]
 NIP. [redacted]

Picture 2. Laboratory Examination Results

RESULT AND DISCUSSION



In the implementation of health examinations for prospective Hajj pilgrims, complete blood laboratory tests are essential to detect anemia and assess the risk of being unfit to fly. However, in practice, many factors contribute to incomplete laboratory examination documents. One main cause is the weak health education provided to the pilgrims (Dinkes Gunungkidul, 2019). Insufficient education results in pilgrims not understanding the importance of complete blood tests, leading to missed appointments at primary healthcare facilities (Faskes 1) or neglecting administrative health examination requirements.

Furthermore, the evaluation of the Hajj health program in 2025 revealed that despite tightened health examination standards, data discrepancies and incomplete documentation persist due to various administrative and technical obstacles, including limited healthcare access for some pilgrims and suboptimal data management (Kemenkes RI, 2025). Absence or sudden departure of pilgrims without comprehensive laboratory exams increases health risks, especially for those with severe anemia.

Another identified factor is the weak monitoring and supervision system by health workers during the initial health examination, resulting in not all anemic pilgrims being detected or receiving adequate management and education (Putriani, 2025). Case studies show a high prevalence of moderate to severe anemia among prospective pilgrims, potentially causing complications in the Holy Land if not managed beforehand (Jannah, 2016). Recommended solutions include systematic, ongoing health education programs targeted at both pilgrims and healthcare workers, emphasizing the importance of complete laboratory tests, anemia symptoms, and risks associated with uncontrolled anemia (Dinkes Gunungkidul, 2019; Putriani, 2025). Additionally, implementing information technology in health document verification can minimize cases of pilgrims traveling without complete documentation and facilitate follow-up examinations (Kemenkes RI, 2025).

Intensive support from healthcare workers and strict supervision of examinations at Faskes 1 and subsequent stages are vital to ensure all pilgrims undergo standardized health checks. Rescheduling and improving access to laboratory tests for absent pilgrims should be pursued. In cases of sudden departure, special health management protocols for high-risk pilgrims must be strictly implemented to safeguard their safety (Putriani, 2025; Kemenkes RI, 2025).

CONCLUSION

A complete blood count (CBC) is a crucial requirement for assessing the fitness to fly of prospective Hajj pilgrims with a history of anemia, particularly to prevent serious health risks during long-haul flights and during the pilgrimage. The high prevalence of anemia among Hajj

pilgrims, coupled with the frequent incompleteness of laboratory test documentation, highlights the need for special attention in pre-departure health management. Factors such as a lack of education among pilgrims about the importance of laboratory testing, non-attendance at initial health facility checks, and sudden departures are major obstacles to document completion. Real-life cases of anemia complications during Hajj requiring intensive care underscore the urgency of a more effective screening and verification system at Hajj embarkation points

ACKNOWLEDGEMENT

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