

Preface

Hajj is the fifth pillar of Islam it has an obligation for once in a lifetime to conduct it especially for every Muslim who is able to fulfill. Republic Indonesia Law No. 13 year 2008 on Hajj Management stated that the organization of the Hajj aims to provide guidance, service and protection as well as possible to the pilgrims so they can perform the worship in accordance with the teachings of Islam. Coaching, care and protection given to pilgrims, not only for the general things but also for health preparedness. So the health management of Hajj is comprehensive guidance, care and health protection to pilgrims since in the country, and during their stay in Saudi Arabia.

Most of the Hajj ritual is a physical activities, so that the pilgrims demanded to be physically fit and mentally in order to carry out a series of pilgrimage activities smoothly. One of the activities which are very important and strategic effort is a series of activities through screening programs and health coaching Hajj in order to fulfill the conditions *istithaah* health (health capabilities pilgrims to perform a series of activities in harmony and obligatory Hajj). In general, pilgrims health hajj *istithaah* is defined as the ability of the aspects of health, which includes physical and mental measured by examination and guidance that can be accounted for so that pilgrims can perform the guidance of worship according to Islam. To meet the criteria health *istithaah*, early preparation in the country should be carried out as the government's efforts in bringing healthy pilgrims from Indonesia, during the trip, and in Saudi Arabia.

Screening and coaching efforts of Hajj health in order to achieve health *istithaah* for the pilgrims is the criteria of hajj health *istithaah* through checklist and health coaching in order to prepare the conditions through a standard mechanism on standardized health care facilities, this activities held continuous (covering the whole period of pilgrimage and levels of health care services ranging from primary health care, specialist, and referral in every strata of health services), and comprehensive (comprehensive management by approaching five levels of prevention) that includes health promotion, the specific protection, early diagnosis and prompt treatment (early diagnosis and treatment is fast and precise), disability limitation, and rehabilitation.

In general, the health condition of pilgrims

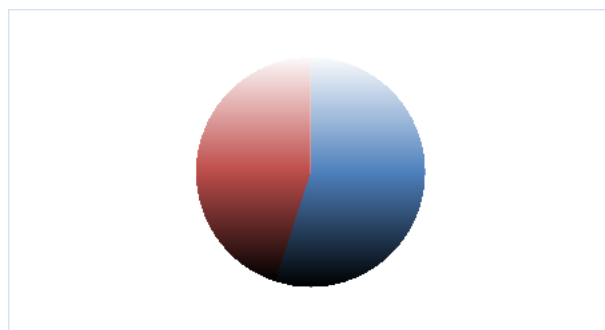
affected by the internal and external risk factors. Internal risk factors including age, education (the majority of Indonesian pilgrims are graduates of primary and secondary schools), chronic degenerative diseases, and the behavior of the pilgrims. The external risk factors, which affect the incidence of the disease and can aggravate health conditions, these including physical environment (temperature, humidity, dust), social, psychological, and other conditions that affect the immune system of the pilgrims. The risk factors particularly internal risk factors is associated with characteristics or profile of Indonesian pilgrims.

Degenerative diseases, metabolic and chronic still dominate as the disease suffered by the pilgrims, especially the elderly. Each year, the Indonesian pilgrims passed away in Saudi Arabia are mostly caused by heart disease, respiratory, renal, metabolic, and hypertension. On the other hand the threat of illnesses in Saudi Arabia (external risks) such as heat stroke, Middle East respiratory syndrome coronavirus, Ebola, Zika and meningitis are needs to be wary, due to a potential outbreak and also has a high fatality.

Haji Health Profile describes briefly the management of the health of the Hajj in 2016. Data obtained from "Integrated Computerized Hajj Health System" or Siskohatkes and implementation report of hajj health service 2016.

Indonesia Hajj Profile

The number of pilgrims who perform the pilgrimage in 2016 were 168 800 people. Based on the number of worshipers, female pilgrims more than male pilgrims. For more details can be seen in the following graph:

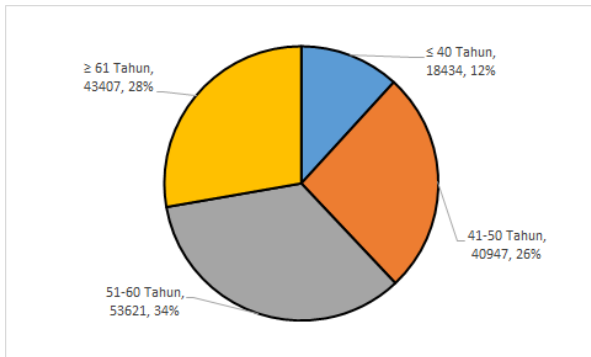


Source: "Integrated Computerized Hajj Health System" Siskohatkes, 2016.

Figure 1. Graph of Indonesian pilgrims proportions by sex

Based on the age composition most of the

pilgrims were aged 51-60 years (34%), followed by the age group ≥61 years (28%).

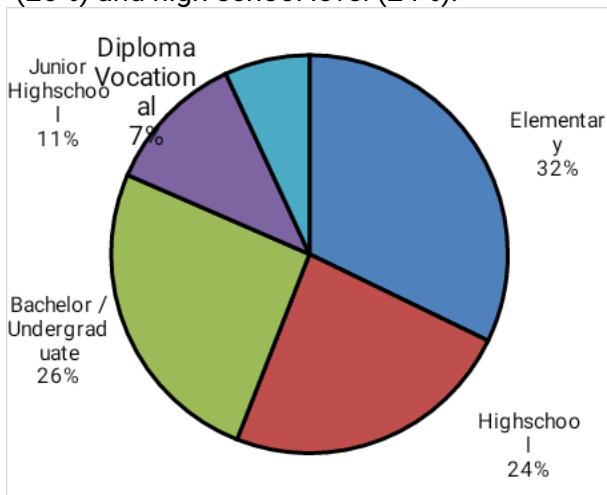


Source: "Integrated Computerized Hajj Health System" Siskohatkes, 2016.

Figure 2. Graph proportion of Indonesian pilgrims based on age groups

The magnitude of the elderly age group was a challenge for health service, because this age group has a vulnerability to physical and psychological condition to a particular disease.

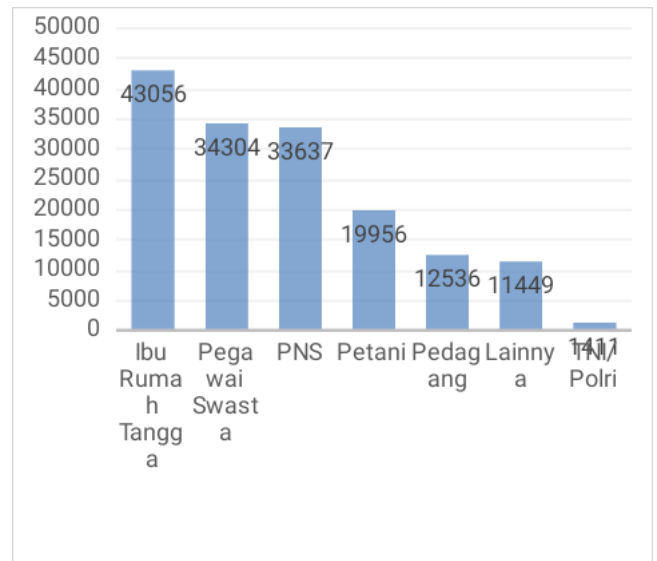
Based on the level of formal education, elementary education was the highest (32%) followed by university bachelor (26%) and high school level (24%).



Source: "Integrated Computerized Hajj Health System" Siskohatkes, 2016.

Figure 3. Graph proportion based on the level of formal education

From the type of work, the majority of Indonesian pilgrims are housewife. Followed private employees and civil servants. More can be seen in the following chart.



Source: "Integrated Computerized Hajj Health System" Siskohatkes, 2016.

Figure 4. The graph type of work Indonesian pilgrims

Implementation of Hajj Health

Hajj Health Examination and Health Coaching

Pilgrims preparations before departure to Saudi Arabia is to conduct Hajj medical examination. The results of the medical examination will be health status of pilgrims that will be used as the baseline for the implementation of health coaching in order to achieve hajj health istithaah of pilgrims before dispatched to Saudi Arabia.

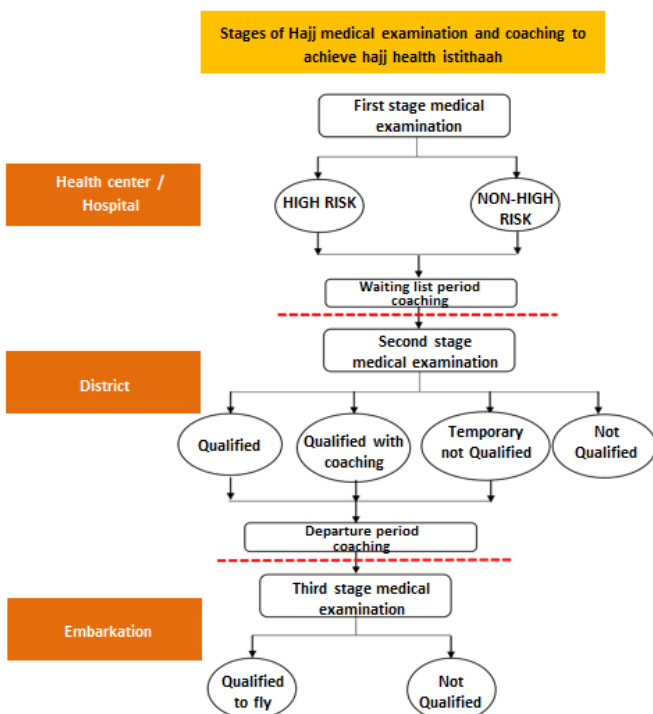
Health screening and coaching of the pilgrimage held in continuous)covering the entire period of the pilgrimage and levels of health care services ranging from primary health care, specialist, and referral in every strata of health services), and comprehensive management by approaching five levels prevention that includes health promotion, the specific protection, early diagnosis and prompt treatment, disability limitation and rehabilitation.

The inspection process and health coaching to achieve Hajj health istithaah begins when pilgrims enrollment. Inspection and supervision of health Hajj implementation started in health centers / clinics / hospitals in the districts / cities ranging from the first stage examination (determination of the level

of health risks), health coaching in the waiting period (coaching towards health istithaah), second stage examination (determination health istithaah) and coaching before departure (coaching to strengthen the health istithaah). While the third stage medical examination is to determination of travel qualification) held at embarkation.

Stages of Hajj medical examination and guidance towards health istithaah

Pilgrims stages until departure can be seen in the following figure



Source: Ministry of Health Regulation no.15 year 2016

Figure 5. Stages of Hajj medical examination and coaching to achieve hajj health istithaah

Results of Hajj examinations and health coaching recorded in : "Integrated Computerized Hajj Health System" or Siskohatkes as the baseline for issuance of Jemaah Haji Health Handbook (BKJH).

Service and health protection of Hajj pilgrims

Implementation of Hajj health service 2016 faced challenging situations

- (1) behavior of pilgrims who lack understanding about health istithaah,
- (2) weather factors that also affect the

health management of the Hajj pilgrims,

(3) infectious diseases during pilgrims travelling and conducting ritual of the pilgrimage.

Activities to support hajj health istithaah to be mabrur (achieve the ideal state) with good health, stay fit and injury-free by applying the five stages of prevention, there were :

- (1) Health Promotion,
- (2) Special Protection,
- (3) Early Diagnosis of the Disease,
- (4) Restrictions on Disability and
- (5) Rehabilitation.

All levels of prevention are carried out at every level of examination by conducting these activities :

- (1) The medical examination as early as possible;
- (2) Strengthening PPIH (hajj organizing committee) and TKHI (hajj medical team) to be able to provide promotive and preventive activities as part of a comprehensive service;
- (3) Cooperation among programs to improve community-based health development activities;
- (4) cross-sector cooperation to support increased access to pilgrims in health services by strengthening promotion and prevention;
- (5) To maintain good communication with the government of Saudi Arabia to have a common perception of the hajj organization and to provide best facilitation for Indonesia pilgrims.

Hajj health service in Indonesia were divided in embarkation, disembarkation and referral hospital. Pilgrims risk factors prevention before departure to Saudi Arabia were including : Meningococcal Meningitis vaccination, sanitation hygiene monitoring in hajj dormitory and catering, and high risk pilgrims identification bracelet.

Hajj health service in Saudi Arabia were divided in services in the flight-group (kloter), sector, airports, Indonesia hajj health clinics (KKHI) and referrals to the Hospital of Saudi Arabia (RSAS).

In 2016, health care in Saudi Arabia formed into three teams, there were :

- a. Promotive and preventive team assigned to conduct health promotion efforts,

protection and early diagnosis of the disease in shelter, hotels and other places that allow.

- b. Emergency team to find emergency and perform emergency service on Indonesian pilgrims early as possible in the shelter, airports, Arafat, Musdalifah, Mina and other places of potential emergency conditions.
- c. Health care clinics team in charge for curative and rehabilitative, conduct visitation services to the sector and RSAS, sanitation and surveillance services, nutrition services, computerized monitoring services, as well as pharmaceutical services.

- b. Qualified for hajj health istithaah with coaching;
- c. Temporary not qualified for hajj health istithaah;
- d. Not qualified for hajj health istithaah.

Pilgrims health risk factors protection in Saudi Arabia includes, monitoring of hygiene and sanitation shelter and catering, temperature monitoring, humidity, wind speed and dust.

Indonesian Hajj Health Profile

Jemaah Haji High Risk (Risti)

To control risk factors, before the pilgrims departed to Saudi Arabia a medical examination conducted. the information the health status of the pilgrims produced as baseline. Government use this baseline to grouped pilgrims health status into 4 categories:

1. healthy pilgrims
2. high-risk elderly pilgrims (age \geq 60 years)
3. high-risk elderly pilgrims with disease (\geq 60 years of age and had the disease)
4. high-risk pilgrims with disease (age $<$ 60 years and have high-risk disease)

2016, the number of pilgrims identified as high-risk were 104 030 pilgrims (67% of the total pilgrims). The details are as follows:

- high-risk elderly pilgrims with disease 45 269 pilgrims
- high-risk pilgrims with disease 50 231 pilgrims
- high-risk elderly pilgrims 8,530 Jemaah age

Hajj health Istithaah status

The results of medical examinations Hajj in addition to provide health status information (high-risk / non-high-risk) also provide information on Hajj health istithaah status, which was grouped into four categories:

- a. Qualified for hajj health istithaah;

In 2016, the status of Qualified for hajj health istithaah was 71.45% and Qualified for hajj health istithaah with coaching was 28.5%. The status helped to draft the coaching approach and strategy and also to identify the need for appropriate and benefited resources.

Hajj Pilgrims Morbidity and Mortality

- 1) The morbidity and mortality of pilgrims in embarkation

Table 1. Morbidity and mortality pilgrims in embarkation

Embarkation	Health care service		Referred	Died
	Out patients	In patients		
Aceh	250	1	5	-
Medan	669	16	24	-
Batam	810	16	176	-
Padang	604	-	14	-
Palembang	429	7	17	-
Jakarta	262	17	68	1
Jakarta (Bekasi)	2.854	12	49	3
Solo	4.612	103	253	-
Surabaya	1.812	38	270	1
Ujung Pandang	565	-	20	-
Balikpapan	251	7	27	-
Banjarmasin	940	5	32	-
Lombok	843	11	37	-
Total	14.901	233	892	5

Source: "Integrated Computerized Hajj Health

System" Siskohatkes, 2016.

Kode ICD-X	Nama penyakit	Jumlah Kasus	% rawat jalan
J00	Acute nasopharyngitis [common cold]	70006	20%
J06	Acute upper respiratory infections of multiple and unspecified sites	44672	13%
I10	Essential (primary) hypertension	38216	11%
M79.1	Myalgia	23246	7%
J10	Influenza due to other identified influenza virus	20725	6%
J02	Acute pharyngitis	19095	5%
R05	Cough	16674	5%
K30	Dyspepsia	9388	3%
E11	Non-insulin-dependent diabetes mellitus	9178	3%
R51	Headache	7764	2%

Based on siskohatkes data, the highest pilgrims morbidity in embarkation was at Solo embarkation, while highest mortality rate was at Bekasi embarkation.

Debarkation	Health care service		Referred	Died
	Out patients	In patients		
Aceh	73	2	3	-
Medan	338	23	23	1
Batam	540	4	11	-
Padang	164	1	7	2
Palembang	184	2	5	-
Jakarta	87	18	28	1
Jakarta (Bekasi)	93	29	29	1
Solo	506	22	49	2
Surabaya	137	17	26	1
Surabaya	341	-	9	2
Ujung Pandang	314	6	10	2
Balikpapan	232	-	8	-
Banjarmasin	72	6	21	-
Lombok				
Total	2.080	130	229	12

Source: "Integrated Computerized Hajj Health System" Siskohatkes, 2016.

The highest pilgrims morbidity pilgrims

was in Solo debarkation.

2) The morbidity and mortality of pilgrims in Saudi Arabia

a) Morbidity in flight-group

Number of flight-group outpatient services was 348 785 with details of service period.

1. Pre Armina: 197 899 pilgrims
2. Armina: 51 070 Pilgrimage
3. Post Armina: 99 816 Pilgrimage

Source: "Integrated Computerized Hajj Health System" Siskohatkes, 2016.

Table 3. The disease most flight-group outpatient in Saudi Arabia, 2016

Most type of diseases suffered by the pilgrims provided by health service and treatment in the flight-group in the period of Pre Armina, Armina and Post were an acute respiratory disease followed by hypertension disease.

b) pilgrims referred in Saudi Arabia.

Number of pilgrims need medical attention and referred to health services in Saudi Arabia are as follows:

Table 4. Number of pilgrims need medical attention and referred to health services in Saudi Arabia

Tempat	Rujukan		
	Madinah	Makkah	Airport
Sektor/Oktagon		2,198	52
KKHI	1,243	1,300	401
RSAS	120	326	32
Total	1,363	3,824	485

Source: "Integrated Computerized Hajj Health System" Siskohatkes, 2016.

c) The mortality rate of pilgrims in Saudi Arabia.

Until the end of the implementation of hajj health service in Saudi Arabia the number of pilgrims died were 318 from regular worshipers and 24 from special worshipers. Total hajj pilgrims died in Saudi Arabia was 342 people.

The cause of death mostly were cardiovascular diseases with 180 pilgrims (53%), followed by respiratory diseases 94 (27%).

Table 5. Cause of death of pilgrims died in Saudi Arabia in 2016

NO	DIAGNOSA PENYAKIT PENYEBAB WAFAT	TOTAL ARAB SAUDI	
		Jumlah	%
1	Cardiovascular Diseases	180	53%
2	Respiratory Diseases	94	27%
3	Infectious And Parasitic Diseases	13	4%
4	Malignant Neoplasms (cancers)	13	4%
5	Circulatory Diseases	12	4%
6	Endocrine, nutritional and metabolic diseases	14	4%
7	Digestive Diseases	8	2%
8	Diseases of the genitourinary system	7	2%
9	Unintentional Injuries	1	0%
10	Intentional Injuries	0	0%
11	Neuropsychiatric Disorders	0	0%
12	Nutritional deficiencies	0	0%
13	Symptoms, signs and abnormal clinical and laboratorium	0	0%
Jumlah		342	100%

Source: "Integrated Computerized Hajj Health System" Siskohatkes, 2016.

The achievement of the health organization of the Hajj 2016

Achievement for 2016 activities were

- (1) Establishment of health istithaah guidelines as the basis for implementing the health coaching and protection,
- (2) The medical examination has met the national coverage target which was 65% or 109 720 examinations conducted,
- (3) the qualified hajj health istithaah status was 71.45% and qualified with coaching was 28.5%,
- (4) Implement counseling and fitness tests to 2,396 pilgrims in 16 locations,
- (5) Hajj health resource document developed,
- (6) Assignment of 1,458 health workers for health care assistance preventive, promotive and curative,
- (7) Procurement of equipment health clinics in four hajj-dormitory as a minimum service standard of hajj main clinic.

From the 2016 activity implementation, policy for 2017 activity was developed, there were:

- (1) Application of Hajj Health Istithaah
- (2) Healthy Hajj Pilgrims Socialization;

- (3) Early Recruitment Officer;
- (4) The fulfillment of the standard of health clinics in embarkation;
- (5) Strengthening Curative and Rehabilitative in the area of Nursing, Medical Rehabilitation, and Clinical Nutrition.

In addition to the activities above, Center for Hajj Health conducted activities that support the implementation of other units including:

- (1) Participated in mentoring "Nusantara Sehat" teams;
- (2) Conducted monitoring of state-owned fixed assets and administrative supplies;
- (3) Supported the activities of the National Hajj Health Expert Committee;
- (4) Program activities planning based health paradigm.

Conclusion

The increasing number of high-risk pilgrims is a challenge for the organization of Hajj Health Service in 2016. Other challenges such as

- (1) the behavior of the pilgrims who do not understand the meaning health istithaah
- (2) weather factors that also affect the organization of the Hajj Health,
- (3) infectious diseases during the trip and performing Hajj rituals are challenges that need to be considered.

Various efforts services, health coaching and protection hajj has been carried out to the maximum. Activities to support hajj health istithaah which referring to the five levels of preventive and promotive implemented through the following steps

- (a) The medical examination as early as possible,
- (b) Strengthening PPIH and TKHI to able provide health promotion and prevention as part of a comprehensive service,
- (c) collaboration of cross program to improve the community-based health coaching
- (d) collaboration across sectors to improve hajj pilgrims accessability to receive health service by strengthening promotion and prevention,
- (e) Establishing communication with the government of Saudi Arabia to a common perception of the organization of Hajj and to gain access to support services and facilities for pilgrims Indonesia.

Curative and Rehabilitative in the area of Nursing, Medical Rehabilitation, and Clinical Nutrition need to be strengthened. Including the human resources, health facilities and infrastructure for Hajj health service to be improved.