ORIGINAL ARTICLE

Independence Status, Communication and Mobilization Profiles of Indonesian Hajj Pilgrims

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ABSTRACT

Introduction: Hajj is a worship event dominated by physical activity, so it is crucial to find out profiles of Indonesian pilgrims' functional status to ensure their readiness and to anticipate their health.

Methods: A cross-sectional descriptive study was conducted on 720 data (independence status, communication, and mobilization capability) of prospective pilgrims from 5 departure points (Sumatra, Central Java (DIY), East Java, Makassar, and Pondok Gede) which were taken by using randomized sampling method.

Results: In this study, it was found that the age of prospective Hajj pilgrims is mostly over 60 years old, and they are able to carry out their daily activities well (85%) and independently. Even though, most of them need assistance during mobilization (91%), their cardiorespiratory endurances show good results (above 4 METS).

Discussion: This study indicates that there is the possibility of musculoskeletal disorders in most subjects which hinder their independence in the mobilization. Therefore, it is important to check their health before performing the pilgrimage, so that a rehabilitation program can be carried out, and the right tools can be prepared. Furthermore, the implementation of the pilgrimage can be conducted optimally.

Conclusion: Providing a guidance on several aspects such as the functional ability of the prospective pilgrims during the waiting period to maintain and increase their functional capacity is an important thing to do.

Keywords: hajj, independency, mobilization, musculoskeletal, pilgrim

ABSTRAK

Pendahuluan: Berhaji merupakan ibadah yang didominasi oleh aktivitas fisik, sehingga sangat penting bagi seorang jemaah yang akan melakukan ibadah haji untuk memastikan bahwa dirinya siap dan sehat secara jasmani disamping kesiapan rohani.

Metode: Penelitian deskriptif potong lintang dilakukan pada 720 data calon jemaah haji dari 5 embarkasi (Sumatera, Jawa Tengah (DIY), Jawa Timur, Makassar, dan Pondok Gede) yang diambil dengan menggunakan metoda sampling randomisasi.

Hasil: Pada penelitian ini ditemukan bahwa distribusi usia calon jemaah haji sebagian besar berusia lebih dari 60 tahun, mampu melakukan aktivitas kehidupan sehari-hari secara mandiri (85%). Sebagian besar subjek membutuhkan bantuan saat mobilisasi (91%) walaupun daya tahan kardiorespirasinya menunjukkan hasil yang baik (diatas 4 METS).

Kesimpulan: Penelitian ini menunjukkan kemungkinan adanya gangguan muskuloskeletal pada sebagian besar subjek yang menghambat kemandirian dalam fungsi mobilisasi. Oleh karena itu pemeriksaan fungsi yang dilakukan sebelum melakukan ibadah haji adalah hal yang penting, agar dapat dilakukan program rehabilitasi dan penentuan alat bantu yang tepat agar pelaksanaan ibadah haji dapat dilakukan secara optimal. Pembinaan pada aspek kemampuan fungsional calon jemaah haji selama masa tunggu untuk mempertahankan dan meningkatkan kapasitas fungsionalnya menjadi hal yang penting untuk dilakukan.

Kata kunci : jemaah haji, kemandirian, komunikasi, mobilisasi

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INTRODUCTION

The Hajj is required for those who are capable to do it, and it is the fifth pillar of Islam. The term able to do it is defined as having good capacity in financial aspect, knowledge, physical function, and mental health. Therefore, physical functions that influence self-independency are an important

aspect for a person to do Hajj (istithoah). In addition, it is also crucial for the organizers of the pilgrimage to pay attention and provide the best service in order to support the pilgrims, so they can pray perfectly [1].

Hajj is a worship that involves a lot of physical activity, so it is very important for a pilgrim who will perform Hajj to ensure that they are mentally ready and physically fit. Activities related to the hajj are composed of 70% physical activities and 30% non-physical spiritual devotion. Most pilgrims in Indonesia are old people or elderly (> 60 years old), and at that age all body cells start to lose function. This can result in a deterioration in cardiorespiratory endurance, flexibility, muscular strength, muscle endurance, coordination, and balance [1].

The activities of a pilgrim are very tiring, activities will start from home for long trip from Indonesia to Saudi Arabia. Worship activities will begin as soon as the pilgrims arrive. Activities involved various static and dynamic activities in intense worship, from walking and static physical activity. Physical endurance is also critical, considering the activities conducted in a different environment from where pilgrims live. Therefore, physical fitness, as well as good functional abilities that make functional independence, are important prerequisites for prospective pilgrims to have [2].

Data from the Central Statistics Agency shows that in 2014-2018 there was an increase in the number of pilgrims departing for the holy land, from 154,467 pilgrims increasing to 203,350 pilgrims. In 2019-2021, there was a decrease in the number of pilgrims due to the COVID-19 pandemic which resulted in hajj activities being limited and briefly suspended to prevent the spreading of the virus[3]. Based on the Saudi Expatriates report, the number of hajj quotas from Indonesia was the largest compared to other countries in 2022. The Indonesian Ministry of Religion explained that the pilgrims who departed in 2022 were dominated by pilgrims under 65 years old because the age group in over 65 years will be a priority for Hajj in 2023 due to the ongoing pandemic and extreme weather in Saudi Arabia in 2022. Based on data from the Ministry of Religion's Integrated Hajj Information and Computerized System, there were 73 pilgrims who died since the start of their departure on June 4th, 2022, until the 52nd day of Hajj period. Head of Hajj Health Center, dr. Budi Sylvana, MARS explained that with the main cause of death was heart disease, and it was dominated by male from the age group under 60 years old. This is influenced by several factors, namely, the extreme weather in Saudi Arabia, the excessive activities, the health vulnerability of Indonesian pilgrims with high risk factors due to age and comorbid diseases, disease recurrence triggered by fatigue, and declining physical condition. This report shows that vigilance related to this disease including early detection of risks as anticipatory preparation is very necessary for Hajj organizers[4].

As an anticipatory and screening steps for prospective Hajj pilgrims who may have risks related to functional impairment, it is important to conduct some physical test that are necessary to screen communication, mobilization functions, fitness status, and the level of independence of Hajj pilgrims' candidates. Therefore, preventive measures against these risk factors can be carried out by the organizers from the start. The ability to mobilize is important because it will have an impact on the Hajj pilgrims' independence when

conducting the pilgrimage activities. In addition, the ability to communicate well is also important to prevent misunderstandings in delivering complaints and ideas (wants/needs), so that the worship process can run solemnly according to expectations. This study was done to find out the profiles of Indonesian pilgrims' functional status to ensure readiness and health vulnerabilities that can be a risk for morbidity and mortality of Hajj Pilgrims. These risks can be anticipated through strengthening promotions health especially before the departure.

METHODS

Utilizing randomized sampling, a cross-sectional descriptive analysis was conducted by using 720 data that already collected on potential pilgrims from 5 departure points (Sumatra, Central Java (DIY), East Java, Makassar, and Pondok Gede). Variable data such as age, gender, psychological status, independence function, communication function, mobilization function, balance function, and cardiorespiratory endurance were included in data analysis. In this study, the instrument used is a function test that referred to the book of the Physical Medicine and Rehabilitation Assessment for Indonesian Pilgrims & Hajj Officers published by Indonesian Medical Rehabilitation Specialist Association. Psychosocial status data was collected by doing anamnesis, and it was interpreted subjectively by an examiner. Independence function was determined by using modified Barthel while communication function was assessed through anamnesis (classified as good or not good). Mobilization function was determined with anamnesis and inspection, and a balance test was conducted by using Time Up and Go Test (TUG). At the same time, cardiorespiratory endurance data was collected through anamnesis and a 30-second sit-to-stand test. The result of Modified Barthel will be classified as score 20 (independent), score 12-19 (mild dependent), score 9-11 (moderate dependent), score 5-8 (severe dependent), and score 0-4 (total dependent). TUG result was interpreted as less than 12 second (good) and more than 12 second (have risk of fall). Mobilization function is classified as independent without help. walking with other people helps or using assistive device, and using wheelchair or immobilization or fully assisted. This study was done after approval from Universitas Padjadjaran, Faculty of Medicine Research Ethics Committee (No. 852/UN6.KEP/EC/2022).

RESULTS

There were 720 data points included in this study, and the result from table 1 shows the characteristics of the research subjects. In Table 1, it is known that most subjects are women (57%), with the majority (51%) being more than 60 years old (64,2 ± 6,2 years old) but with good psychosocial status (100%). From table 2, it is stated that most of the subjects, as much as 76%, are acknowledged as independent subject with good communication (expressive and receptive). Then, as many as 91% subjects are in need of assistance when they mobilize either using tools or being assisted by someone. However, this is not influenced by the balance function because most subjects (74%) have good balance. On cardiorespiratory endurance function, it is stated that most of the sit-to-stand examinations (66%) are below average. However, it is found that in the fitness test, the results of the cardiorespiratory endurance function of the research subjects are

good [METS is above equal to 4 (85%)], implying that individuals should be capable of doing activities of daily living (ADL), such as eating, bathing, managing urine and feces, dressing, and moving within a limited distance.

DISCUSSION

From the data of this study, the age distribution of prospective Hajj pilgrims is above 40 years old with the majority over 60 years old. Age distribution is a crucial factor that must be considered as aging raises the risk of degenerative processes that reduce physical functioning, and it will influence a person's capacity to do everyday tasks. In Indonesian Journal of Community Health Nursing Maryam (2018) stated that the increasing age of the elderly will have an impact on their inability to perform physical activities, so they have to depend on their families [5,6]. The reduction in physical function that comes with aging has an influence on crucial functions such as a level of independence, social involvement, and quality of life. A person's capacity to do daily activities (ADLs) is progressively impaired as they age due to their declining physical condition. Changes in the human body's physiology, cognition, and psychology are signs of aging. The progression of impairment is influenced by declining fitness components such muscle strength, balance, and the cardiorespiratory system [5]. These dependences of the elderly are due to the condition of the old people who experience many setbacks due to lack of exercise and have a sedentary lifestyle. The elderly who has reached the age of 60 years old and beyond are those who face the danger of suffering a deterioration in a variety of things, including the level of physical fitness. This is also consistent with studies done by Juanita and Safitri (year) regarding aging in the elderly people which showed that increasing age has an impact on the declining body physiologically. Therefore, it will elicit mild, chronic diseases and even acute diseases. Chronic diseases that occur in the elderly people is an important concern because this can affect their level of physical fitness[7]. Aging does not necessarily represent an absolute condition for declining function in elderly because with a good prevention program the effect of the process can be reduced. Fitness exercise programs for old people have been shown to improve their quality of life because it can increase and improve health function. The quality of life may be improved by participating in sports at the correct intensity which can also boost immunological function, mental health, metabolic health, muscle strength, and cardiovascular function [8].

Gender is included in the collected data because the study found the effect of gender on exercise habits and quality of life. Gender differences contribute to differences in decision-making and perceptions of health in different countries and cultures. Women in developing countries have been reported to have a lower quality of life than men although it is not fully understood what has caused it [9,10].

Psychosocial conditions have been suspected to affect the active lifestyle of a person. The degree of physical activity and engagement of a person in their surroundings is influenced by a number of critical elements, including stress and social support. This is because this aspect has a reciprocal influence because of changes in individual lives both psychological and social. A person's cognitive performance may diminish with time which can damage their quality of life. However, social involvement, which involves

the maintenance and growth of active social interactions, might stop that from happening. Life transitions may lead to several issues, including poverty, dependency on others, and health issues, especially among the elderly. A person is more susceptible to illness and difficulties if their capacity to react to stress, endure recurrent loss, or experience bodily changes is impaired.

The World Health Organization (WHO) defines quality of life as an individual's perspective within the framework of the culture and value system of the location in which they reside, and how that perception relates to their own objectives, expectations, standards, and interests. This relates to the concept of physical health, psychological conditions, one's beliefs, social relationships, and involvement in the surrounding environment. Many factors can affect a person's quality of life, such as physical factors, independence, and cognitive factors (including communication capacity) that are interrelated with one another [11].

Sending and receiving messages or news between two or more individuals is known as communication, and it is done by comprehending the intended message (KBBI). Richard Weaver (year) claimed that communication have some characteristics such as it has to be done by at least two people, there has to be feedback, it does not have to be communication done by face to face, it does not to have purpose, but it has to produce some influence or effect. In addition, it does not have to use words, and it does not have be influenced by context. To achieve effective communication, a receptive and expressive communication language is needed. By having good communication behavior, it can increase social interaction to create social relations with everyone [12].

Communication skills in the elderly will change both verbal and non-verbal. This affects their ability to communicate, starting when they receive auditory or visual stimuli, process data in the brain, and provide good feedback to the communicant. In addition, psychological changes in the elderly are seen in emotional status, behavior, and self-concept which also influence communication ability. Therefore, unstable hormonal changes will affect emotional function in the brain, and this also affects the verbal and nonverbal communication aspects of the elderly. Because of those reasons, elderly people have many obstacles in the process of receiving and communicating the message content. The communication process that is disrupted causes a person's social interaction to be hampered, so it can interfere with the quality in conducting their daily activities [12].

Independence is the ability or condition in which individuals are able to manage or overcome their interests, such as without depending on others. Independence can also be interpreted as somebody's ability to do activities without active supervision, direction, or personal assistance. A person's independence function can be assessed by looking at the ability to perform activities of daily living (ADL). ADL stands for activities of daily living which include bathing, eating, using the restroom, continence, dressing, and moving (mobilization)[13].

The capacity to move freely, effortlessly, and frequently is referred to as mobilization. To be independent, mobility is necessary in order to satisfy basic demands for a healthy existence. On the other hand, immobility is a condition of a limitation of movement or limitation on the physical activity from the limbs to the body itself like turning, sitting, and walking, one

of which is caused by being in a fixed position with less gravity, such as when sitting or lying down. According to the Indonesian Ministry of Health, the top 10 ailments affecting the elderly in Indonesia in 2013 were diabetes mellitus, chronic obstructive pulmonary disease (COPD), hypertension, arthritis and stroke, cancer, coronary heart disease, and kidney failure. Those diseases can make elderly people to become less independence and in need of assistance to have medication or to do ADL especially from those closest to them as caregivers. According to a study by Sumbara (year), there is a correlation between an aged person's level of independence and their quality of life. According to the findings, the more independent a person is in conducting everyday tasks, the higher their quality of life is[13,14].

Several factors that affect the ability to mobilize are balance and cardiorespiratory endurance functions. Body balance is the capacity of the body to maintain stability and balance throughout motor activity. The purpose of balance is to maintain the posture, so someone can stand upright or stable and maintain their body position. The human body balance may be impacted by several variables, including age, gender, daily activities, medicines used, and a history of illnesses that may have interfered with the central nervous system in the past. A disturbed balance can increase a person's risk of falling. A fall risk is an event that causes a conscious subject to fall on the floor inadvertently[15]. Falls can occur when the body's postural control system fails to detect shifts and does not shift the center of gravity on the body to support it at the right time. An increased danger of falling is the main issue that elderly people frequently face. This is because the function of their organs has decreased. Besides decreasing body organs functions, it is also caused by a decrease in biological, physiological, psychosocial, and spiritual functions. Falls must be avoided especially in the elderly people (over 60 years) because they can cause serious injuries such as fractures (broken bones), head injuries, and the fear of falling again which encourages a person to reduce their physical activity. This will trigger an increased risk of illness and death which will increase the health burden due to the impact of care and independence [16].

Cardiorespiratory endurance is the body's capacity to conducting physical activities for a long time without feeling tired or excessively tired and still having energy reserves for daily activities. The organs of the heart, lungs, and blood that deliver oxygen to the muscles are the components of cardiorespiratory endurance. A person's body has a complicated internal structure. However, when they have strong cardiorespiratory stamina, their bodies will provide blood more efficiently. The risk factors for numerous health disorders will increase as life expectancy increases. The physical changes that come with aging affect both cardiovascular and respiratory functioning causing some changes in blood vessel flexibility and respiratory muscle strength. Age-related physiological changes include a decrease in body mass, an increase in body temperature, and an increase in maximum heart rate, stroke volume, and cardiac output. All these changes can result a disruption of person in conducting daily activities [17,18].

Hajj activities require physical activity that is heavier than the usual daily activities, so fitness or good cardiorespiratory endurance capacity is needed. Physical activity during a series of pilgrimages starts from their residence to their destination. Next, physical activity continues

while they start the process of Hajj, and it ends when they return home. Therefore, those activities require good fitness condition. In addition, this condition will also be influenced by environmental conditions in the holy land which are very different from environmental conditions in the country. Extreme weather (the highest ever reported was 53 degrees Celsius in 2017), food sources, sunnah worship performed by pilgrims, and density between pilgrims will also affect their energy needs. The unpreparedness of the physical and mental aspects will result in fatigue which will hinder the process of performing worship. Consequently, even if the pilgrim is declared to have sufficient cardiorespiratory fitness (which is described in METS), health care must still be carried out before their departure and while they are in the holy land.

In this study, it was found that the fitness condition of the prospective Hajj pilgrims was quite good but during the sit-to-stand test process as a fitness test, and the results were found to be below the average for most of the pilgrims. This difference in findings raises the assumption that the low sit-to-stand test value is caused more by the musculoskeletal aspects that interfere with the implementation of the function test activity. With increasing age as described above, there will also be a degenerative process in the muscles and bones. Musculoskeletal disorders are conditions that can cause disability which will significantly affect health status, especially in the elderly subjects. The triad of interrelated pathologies are sarcopenia (impaired muscle function), tendinopathy, and arthritis (impaired muscle function of joints). These three things will be associated with pain, impaired mobility, increased risk of falls and fractures, and the inability to perform activities of daily living. In this study, it was found that the independence of the prospective Hajj pilgrims is mostly independent with a sufficient level of fitness. However, most of them use walking aids, so this illustrates that the possibility of their musculoskeletal conditions will cause interference when conducting all worship activities. Therefore, the organizers need to provide an education related to fall prevention and decreased fitness due to the conditions before and during the pilgrimage.

This study has limitations because it was conducted only by analyzing secondary data descriptively and was conducted on a limited place of departure point, so it could not provide comprehensive information related to the condition of all Indonesian Hajj pilgrims in 2022. Therefore, it is recommended that next research can be conducted with better research methods on a more various departure place.

Hajj is a worship that not only requires mental readiness, but also physical readiness. Therefore, the Hajj pilgrims can conduct a series of worship activities properly and smoothly as expected. Physical fitness, which is defined as a person's capacity to conduct everyday activities for an extended period of time without experiencing physical exhaustion, is an essential aspect to support Hajj activities. A thorough examination including a function test of the ability to perform physical activity showed that although in general it was good, the musculoskeletal condition aspect quite affected the independence of the prospective Hajj pilgrims. With this condition, health risks will arise, and Hajj organizers have to be aware of this risks (especially the health team), so preventive steps can be prepared to prevent unwanted things during the worship process.

CONCLUSION

This study showed a limitation of function that may jeopardize the candidate of Hajj Pilgrims to do all of the Hajj rituals. Functional assessment screening done by Physiatrist (PMR Specialist) showed as an important thing to do before departure to get baseline data on the physical performance and emotional capability of Hajj pilgrims. It will help to make the functional diagnosis and make a rehabilitation program to support the candidate of Hajj pilgrims to do all the Hajj rituals and prevent morbidity and mortality caused by unpreparedness.

Table 1. Characteristics of Hajj Pilgrims Candidates at Five Embarkations

Characteristic		Total (n)	Percentage (%)
Gender	Male	310	43
	Female	410	57
Age	< 40 years old	4	0,5
	40-50 years old	60	8
	50-60 years old	291	41
	>60 years old	365	51
Psychosocial Status	Good	720	100

Table 2. Communication, Mobilization, Balance, Cardiorespiratory Endurance Functions, and Independence Status of Hajj Pilgrims Candidates at Five Embarkations

		Total (n)	Percentage (%)
Independence Function	Independence	560	78
	Mild Dependence	134	19
	Moderate Dependence	22	2
	Heavy Dependence	4	1
Communication	Good	720	100
Mobilization Function	Independence	66	9
	With assistance	654	91
Balance Function	Good	559	78
	Risk of falling	109	15
	No assessment	52	7
Cardiorespiratory Endurance			
Sit To Stand	Below Average	472	65
	Average	193	27
	Above Average	55	8
METS	<4	108	15
	≥4	612	85

METs : Metabolic Equivalent of Task

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