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The Effectivity of Shalat on Cognitive Function in the Elderly

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Abstract

Background: When humans enter the old phase, humans will experience physical, mental, social, and health changes and many older people feel alone, frustrated, and finally lose confidence in their health. One of the efforts to improve the health of the elderly can be made by increasing physical activity such as prayer.

Objective: Our study aims to review the effect of Islamic prayer (shalat) on the cognitive function of moslems aged 60 and over.

Method: Journal searches are conducted with English studies relevant to the topic and are carried out using ProQuest, SagePub, PubMed, Google Scholar, and Semantics databases. The journal year used is limited from 2015 to 2020. The related journals used in this research are four journals.

Results: The study results reported that about 95% of the elderly said that praying five times a day would help their cognitive function healthy. These similarities suggest that exercise can help older adults maintain their cognitive abilities, whether prayer or exercise only. Prayer as physical activity may be beneficial for general and selective cognitive aspects, especially among older adults.

Conclusion: prayer is an activity that can be done by the elderly and has several sound effects on cognitive function.

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INTRODUCTION

Indonesia is a country with the fourth-largest population after China, India, and the United States. China, India, the United States of America, and Indonesia have around 1.35 billion, 1.24 billion, 313 million, and 242 million populations.[1] The amount of people aged 60 and above is 24.49 million (9.27%) from the total population.[2] According to WHO, the world's population increases by 1.7% each year. While the elderly population increases by 2.5%, it is estimated that age distribution will change significantly in 2050. The population segment that increases the fastest are elderlies aged above 80 years old.[3]

The term elderly means a stage after adulthood and is the last stage of the human life cycle.[4] Based on Indonesian Ministry of Health (2015), the Elderly is divided into elderly (60-69 years old) and high-risk elderly (70 years old and above or having health problems).[5] Someone who has reached above 60 years old is elderly, based on UU number 13 year 1998.[6]

An elderly can be classified as presenile, senile, high-risk elderly, potential elderly, and non-potential elderly. In potential elderly, everyday life activities can be done without any problem, whereas non-potential elderlies need the assistant of others for their needs.[7] When a person reaches old age, he will change physically, mentally, socially, and a lot of them experience loneliness, frustration, and they can even lose their self-confidence.[8]

One of the efforts in increasing the health quality of the elderlies can be made by increase-ing physical activities like shalat. One of the activities done by moslem elderlies is the five daily shalat. Shalat consists of raka'ats, which consist of some prayers to be recited repeatedly with each raka'ats.[9] If done correctly, movements in shalat can prevent, treat, and even rehabilitate diseases. Evidence also proved that shalat and yoga have positive effects on mental health, heart rate, and blood pressure.[9] If shalat is done perfectly, it can increase health quality in elderlies.[10]

In elderlies, maintaining or increasing cognitive function at later days and slowing the aging process have been significant issues, especially for those responsible for the public health policy. Cognitive function is based on abilities such as perception, memory, verbalization, and thinking. Physical practices or mind-body practices that could be beneficial for cognition are cardiovascular activities.[11]

An increase in age will cause a disturbance in cognitive function. Other risks can disturb cognitive function, such as heredity, education level, not doing physical activities, brain injuries, toxins, and chronic diseases.[12] How-ever, a decrease in cognitive function in elderlies can be prevented by increasing phy-sical activity, such as shalat .[11]

METHODS

The method used in this article is a literature review. Journal searches are done with relevant English studies and databases from ProQuest, SagePub, PubMed, Google Scholar, and Semantik. The years of journals used are limited to 2015-2020. Four journals were used for the study. With the keywords *Effect salat of exercise, which resulted in 4250 journals,* four most relevant ones were chosen, and 4246 were excluded.

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RESULTS

Based on the studies on the effects of shalat on a moslem's cognitive function aged 60 and above (Table 1), shalat and routine exercise had a significant effect on cognition better than the control group. This similarity shows that exercise, whether shalat and exercise or exercise only, can help older adults maintain their cognitive function.[13]

Performance in SCFOP in the group that did shalat did not differ statistically from the ones that only did the routine exercise. The value of the equation above shows that exercise could help elderlies maintain their cognitive abilities. Physical activities may be beneficial for general and selective cognitive aspects, especially among older adults in America. This study concluded that there is a positive effect from physical exercise on cognitive performance in elderlies. Aside from that, the study (Table 1) also showed that shalat results in the effects similar to exercise, so shalat could be one of the alternatives to exercise for elderlies who could not do heavy exercises with fear of injuries and heart problems.[11,13] Based on other findings that were done on the mind-body and cardiovascular activities, the combined effect of both shalat and exercise could help maintain memory in elderlies.[14]

Table 1. Comparison of Cognitive Function in SCFOP

Parameters	Shalat dan Exercise N = 50, Men= 32, Women = 18	Exercise N = 45, Men=23, Women = 22	Shalat N = 56, Men=29, Women = 27	No shalat and Exercise N = 54 Men=23; Women = 31	*F*	df	P
Orientation	14,10 ±0,863	13,91± 0,996	14,27±1,053	13,98±0,90	1,381	3.201	0,25
Memorization	2,00 ±0,00	2,00±0,00	2,00±0,00	2,00±0,00	--	--	--
Range	1,02±1,801	1,07± 1,46	9,32±2,116	7,81±1,06	2,472	3.201	< 0,001
Recall I	5,49±2,31	4,25± 2,03	4,607±2,26	3,13±1,30	12,252	3.201	< 0,001
Long-term Memorization of Animal Names	9,20±1,01	8,73±1,23	8,77±1,388	8,63±1,26	2,103	3.201	< 0,001
Writing and Addition	7,36±1,687	6,07±1,97	6,88±2,216	4,89±1,17	18,924	3.201	< 0,001
Classification and Similarities	9,34±1,507	9,60±1,30	9,34±1,687	8,94±1,77	1,451	3.201	0,229
Recall II	7,59±2,00	6,95±1,81	7,009±1,9737	5,25±1,29	16,59	3.201	< 0,001
Total	97,42±9,40	93,16±9,50	94,18±11,35	84,53±5,16	19,11	3.201	< 0,001

Source :[13]

From (Table 1) it is also mentioned that elderlies who pray and exercise had a better performance level than those who only did exercise or those who did not do exercise nor shalat. The results on other things are also consistent

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with the change in the parameter that was observed.[13] Similar findings have also been reported in a study that was done in a 12-month duration, that when someone practices Tai Chi Ch'uan, cognitive function increases.[15] When a moslem does shalat and physical activities, there is also a need to do mental practices like reading the Qur'an, concentrating, and so on. Other than that, because moslems are obligated to do shalat five times a day, the duration of shalat can affect cognitive function.[13]

In other studies, it is reported that doing sujud during shalat increases blood supply to the brain, and this happens because the head is positioned lower than the heart level. An increase in blood supply to the brain has posi-tive effects on memory, concentration, the soul, and other cognitive abilities.[16,17]

As shown by other studies, shalat can influence a moslem's attention source by changing the chronic cognitive workload, such as a workload related to the mind or worries with daily activities even though there is no objective evidence for this mental interpretation.[18]

DISCUSSION

The Elderly is a stage of human development after adulthood and is the last stage of the human life cycle.[4] According to Indonesian Ministry of Health (2015), the elderly is divided into elderly (60-69 years old) and high-risk elderly (above 70 years old or with health problems).[5] Someone who has reached above 60 years old is included in the elderly group according to UU number 13, year 1998.[6] However, in the al-'Arab verbal dictionary, elderly is termed with the word 'Syaikh' starting from age 50 and above.[19]

By language, 'shalat' comes from shollaa, yusholli, tashliyatan, sholatun, which means mercy and prayer.[19] The meaning of shalat in terms of Syariah is worshipping Allah Subha-nahu-wata'ala with words and actions already taught, initiated by Takbir, ended with salaam, accompanied by specific rules, and intention.[20] Syekh Najmuddin Amin Al Kurdi, in his Tanwirul Qulub, mentioned that the position shalat has is the highest in terms of physical worship compared to other worships.[21] As mentioned in the hadith of the Prophet Shala-llaahu Alayhi Wassallam:

واعْلَموا أنَّ خيرَ أعمالِكم الصَّلاةُ

"Know that the best of your deeds is prayer" (Sunan Ibnu Majah, 279)

Ibnu Mulaqqin in his book *at-Taudhih Li Syah al-Jami'* ash-Shohih gives a reason why shalat is the best form of worship, because in it there is ruku' and sujud, which makes someone closer to Allah.[22] shalat is the relationship of Allah with His servant, and by having a dialogue with Allah, it is impossible to do shalat with negligence. shalat is a means to defeat the 'nafs,' which tempts a person so severely. When shalat is done correctly, it means that humans can communicate adequately with The Khaliq. On the contrary, if done with negligence, it will be filled with imperfections, and no intense communication is done between the words spoken and what is inside the heart.[21]

Shalat is a type of obligatory meditation for moslems. shalat helps the mind to be calm, and it increases concentration. shalat has many benefits for a person's health, happiness, and harmony. Doing shalat regularly will cause someone to stay healthy by burning extra calories, decreasing body weight.[10] Other studies

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have reported that around 95% of patients say that doing their five daily shalat will help them in maintaining their health.[23]

Shalat is the pillar of the religion, which is ranked second after the shahada. Shalat is the best foundation for every good deed in the world, which will bring mercy and honor to someone in the afterlife. Shalat is the first mahdloh worship that Allah obligates. In Islam, shalat is the pillar of the religion.[21]

According to behavioral neurology, the cognitive function creates interneuron relationships, resulting in someone responding towards sensory input, which includes tactile, visual, and auditory stimulus, which will be modified, processed, stored, and utilized. According to Sibarani, cognitive function is an activity that is done with awareness, like thinking, learning, remembering, and language utilization. Attention, memory, problem-solving, judgment, and executive function are included in cognitive function.[24]

The cognitive disturbance is a strong predictor of the elderly's functional abilities and assisted needs. Mild cognitive impairment (MCI) is diagnosed from an impairment in one or more of the cognitive domains without filling the diagnostic criteria for dementia (1). Almost 16% of elderlies experience MCI without developing into dementia, and it happens more in older men than in older women (2). The conversion ratio of MCI to Alzheimer's or non-specific dementia ranges between 12% to 15%, compared to 1-2% in healthy adults (3). There are substantial cross-sectional and longitudinal evidence that shows that elderlies with MCI have a higher risk of decreasing their functional abilities.[24]

Based on the 2008 PERDOSSI Neurobehavioral module, cognitive function consists of:[21]

1. Attention is the ability to ignore other stimuli which are not needed through action or by paying attention to a specific stimulus.
2. Language is the basis of communication and a modality in building cognitive function.
3. Memory is a mental status that can be recalled in later days and allow someone to store information.
4. Visuospatial is a constructional ability like mimicking, repeating pictures, and arranging blocks.
5. Executive function is a process of problem-solving or solving new issues in a complex way.

Shalat could increase dynamic stability and control in a healthy person and stroke patients.[25,26] There is a correlation between meditation and body posture to heart rate, blood pressure, and hemodynamic factors like yoga. Several studies have shown that shalat could help elderlies maintain health, and the mechanisms could be seen from several aspects.[27,28]

Shalat can maintain bone and joint health; the benefits of prayer movements are[29]:

1. Takbiratul Ihram improves blood flow, lymph flow, and arm muscle strength. When raising both hands, the shoulder muscles stretch, causing oxygen-rich blood to flow more. Then both hands are cuddled up in front of the stomach or lower chest. These positions are like the ones done with exercises that train the muscles and joints to prevent rigidity and joint pain, especially in the upper body.

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2. Bowing (rukuk) maintains the vertebral function (corpus vertebrae) by levering the body and the nervous system. This position trains the vertebra and hip to relax, hoping to prevent someone from having back and hip problems. Arms that rest on the knees relax shoulder joints and the arms, and it also increases blood flow to the neck and arm areas. Aside from that, rukuk is considered a micturition exercise done to prevent prostate disturbances.
3. Prostration (sujud) increases blood flow to the brain, improving brain function. Lymph flow is pumped to the neck and armpit areas. Heart level being above the brain will cause oxygen-rich blood to flow maximally to the brain.

CONCLUSION

Daily shalat and exercise influence cognition significantly in moslems aged 60 and above. There are positive effects of physical exercises on cognitive performance in elderlies.

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