APPLICATION OF HARDWARE CAPITAL THERAPY TO IMPROVE THE QUALITY OF LIFE WITH HYPERTENSION IN THE AREA OF PUSKESMAS ROWOSARI SEMARANG

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ABSTRACT

Elderly is a population at high risk of impaired cognitive function. Reduced memory, intellectual function and the ability to learn are changes in cognitive function that can reduce the quality of life of the elderly. Playing “Remi” card is one of the non-pharmacological therapies that can improve cognitive function in the elderly. Types of research used is descriptivewith a case study debiting method. The subjects used were 2 people with criteria aged 60-74 years, not color blind, not illiterate, can sit. Measurement of cognitive function using Mini Mental State Examination (MMSE). Intervention playing “remi” card games with the method of “tepuk nyamuk” for 5x meetings in 2 weeks. The results of the analysis, subject I increased from a score 23 to 27, subject II from a score of 26 to 28. The results of the case study concluded that there was an increase that reaching 8.66 cognitive function. “Remi” cards game with the method “tepuk nyamuk” is recommended as a nursing intervention in the management of cognitive enhancement function in elderly.

Key words: Elderly, “Remi” cards game, “tepuk nyamuk” method, cognitive function

1. INTRODUCTION

The family is a group of people who have ties of marriage, adoption and birth which aims to create and maintain a common culture, improve the physical, mental, emotional, and social development of the individuals in it as seen from the pattern of interdependent interactions to achieve common goals. Families have several stages of development, one of which is a family with an advanced stage of development. Elderly families have many problems due to decreased physical function and strength, financial limitations, loneliness so that families with the elderly are at high risk of disease.

Elderly or elderly are individuals who are in the age stage of late adulthood or the so-called late adulthood stage, with an age range starting from 60 years and over. The elderly at this stage undergo an aging process characterized by biological decline that is seen as a symptom of decline. The decline in cognitive function abilities is due to the morphological and biochemical changes in the central nervous system in the elderly. The weight of the elderly brain decreases due to reduced protein and fat content so that the brain becomes lighter. Axons, dendrites and nerve cell bodies undergo many changes. Dendrite, which functions as a means for communication between nerve cells, changes to become thinner and loses contract between nerve cells, cell conductivity decreases so that movement becomes sluggish, and has an impact on the cognitive function of the elderly.

Cognitive function is a process in which all sensory inputs (tactile, visual and auditory) will be changed, processed, stored and then used for perfect interneuron connections so that individuals are able to...
reason on sensory input. Cognitive function is thinking skills driven by brain work, to process and process new information that we receive in a series of ways from reading, paying attention, learning to think and reasoning, solving problems, and remembering so that it is then stored in long-term memory. Changes in cognitive function in the elderly include memory, intellectual function and the ability to study. The elderly have a weakness in remembering short term (short term memory) but not by remembering the past (long term memory).

The decline in cognitive function needs to be overcome because it has an important role in daily activities such as making decisions, thinking and remembering things. The literature states that changes in cognitive function in the elderly are significantly associated with an increase in depression and have an impact on the quality of life of the elderly. In addition, the elderly who experience changes in cognitive function are more likely to lose contact with other people, even with their own families. The continued impact of the decline in cognitive function is said to be able to cause dementia in the short term and in the long term cause Alzheimer's disease.

The decline in cognitive function needs to be treated early so that it does not cause further effects for the elderly and their families. The literature states that changes in cognitive function in the elderly are significantly associated with an increase in depression and have an impact on the quality of life of the elderly. In addition, the elderly who experience changes in cognitive function are more likely to lose contact with other people, even with their own families. The continued impact of the decline in cognitive function is said to be able to cause dementia in the short term and in the long term cause Alzheimer's disease.

The decline in cognitive function needs to be treated early so that it does not cause further effects for the elderly and their families. Handling is done by honing brain function through various activities such as reading, brain exercise, recreation, interactive communication in places of worship, listening and playing music, positive attitude to life, being proactive and controlling emotions, completing crossword puzzles, playing puzzles and participating in card games. One of the therapies developed to improve the cognitive function of the elderly and proven effective from many other therapies is playing card games with the mosquito slap method.

Playing card games are games using playing card types with the aim of equating patterns and groups of cards. The game was developed using the mosquito slap method which is played by at least 2 players. This game is the same as clapping, the only difference being the clapping part on the back of the hand between players. Mosquito slap method can improve cognitive abilities because of the auditory perception and the guidance provided comes from words and production in temporal harmony with certain hand movements. This game has many types of shapes such as love, trees, rectangles and numbers, red and black colors. as well as the rules of strategy-based games that can provide a stimulus to the brain. This will stimulate the limbic system which will be processed by the hippocampus and amygdala to be forwarded to the prefrontal cortex.

Various studies on card games to improve cognitive function have been widely carried out and explain the effective results such as research conducted by Yusti Muzdalifa Taplo, et al showed that the application of domino card playing activities was effective in increasing cognitive function and counting abilities in the elderly as much as 10.5%. Other studies by Retno Indarwati, et al in 2019 which showed an increase in cognitive function by being given playing card games with the mosquito slap method, with the result an increase of 11.07% in the treatment group.

The technique of playing playing cards with the mosquito pat method is by distributing cards to all players then one of the players takes out a card at the table and if the card issued at the table is the same as what was said then the player must quickly pat it if someone is late then he must take all the cards on the table. This will trigger the players to concentrate and remind the numbers on the cards. This game will have an impact on cognitive function if it is carried out regularly for approximately 15 minutes for 5 meetings. After the therapeutic activity of playing playing cards with the mosquito slap method was completed at the fifth meeting, the measurement of cognitive function in the elderly could be measured using the Mini Mental State Examination (MMSE) cognitive function measuring instrument.

Based on the description above that the application of playing card games with the mosquito slap method is effective for improving cognitive function in the elderly, the authors are interested in carrying out a case study with the title "The Application of Playing Card Games with the Mosquito Clap Method in Improving Cognitive Function in the Elderly in the Target Area of Rowosari Health Center Semarang."
Cognitive function is the ability to think and provide rationale, including the processes of remembering, judging, orienting, perceiving, and paying attention. Cognitive impairment is closely related to brain function, because the patient's ability to think will be influenced by the state of the brain. The client's own cognitive impairment will affect one's ability to think and rationally. Cognitive responses that arise differ depending on which part is affected. Behavior changes will also occur.23

2.3. Anatomy of Cognitive Function
Each cognitive domain cannot run independently in carrying out its functions, but as a unit, which is called the limbic system. The limbic system consists of the amygdala, hippocampus, anterior thalamic nucleus, subcalus gyrus, cingulate gyrus, parahippocampal gyrus, hippocampus formation and mamillary body. The alveus, fimbriae, fornix, mammillotalmic tract and striae terminalis form the connecting pathways of this system. The central roles of the limbic system include memory, learning, motivation, emotion, neuroendocrine function and autonomic activity. The following brain structures are part of the limbic system.

2.4. OVERVIEW ABOUT THE CONCEPT OF THE RULING CARD

Playing cards is a bridge game played by two pairs (four players) who have 52 cards. In a set of cards there are four colors. Each color consists of Spade Ace, King, Queen, Jack, 10, 9, 8, 7, 6, 5, 4, 3, and 2. As well as additional cards from the bridge, namely two joker cards, black and red. This is the order from highest to lowest. The purpose of the bridge game is to win tricks. There are many ways to play playing cards that are played by the community such as magic, encryption, board games, and house making. There are also famous in many countries such as poker, canasta, blackjack, solitaire, bridge with a number of players that can vary which is actually the name of one of the card games.

2.5. MOSQUITO CLAPE GAME

Mosquito slap game does not require game tools. Mosquito game does not know win or lose. This game has no penalties. They play in the open, such as a yard or field. Mosquito swab game is played by at least two people. The more players, the more exciting the game.26

Mosquito slap games have positive effects including training focus and anxiety between players, practicing balance, strengthening friendships in games, practicing tension in life and practicing sportsmanship in playing.

2.6. HOW TO PLAY CARDS WITH THE MOSQUITO Clap METHOD
3. RESEARCH METHODOLOGY

3.1. Case Study Subject
The inclusion criteria in this case study include:
1. The elderly who have never received playing card game therapy with the mosquito slap method
2. Elderly who can sit
3. Seniors aged 60-74 years

The exclusion criteria in this case study include:
1. Elderly who are color blind
2. The elderly who are illiterate
3. Elderly with hearing loss
4. Elderly with severe cognitive function impairment.

3.2. Study Focus
The focus of this study is the application of playing card games with the mosquito slap method on improving cognitive function in the elderly.

3.3. Data Collection Method
The data collection method used was structured observation of cognitive function in the elderly, before and after giving playing card game therapy with the mosquito slap method. The steps for collecting data are as follows:
1. Manage licensing with Rowosari Health Center to conduct case studies
2. Explain the purpose, objectives, and time of the research to the head of the puskesmas or nurse who is in charge of the case study area and ask for approval to involve the subject in the case study. Find and determine respondents who fit the inclusion and exclusion criteria.
3. Measure cognitive function
4. Asking the patient to sign the informed consent as proof of approval of the case study on behalf of the subject
5. Identify and discuss with the subject the playing card game with the mosquito slap method, as well as the time contract for the implementation of the action
6. Keeping the meeting time contract and conducting a cognitive function assessment before giving playing card game therapy with the mosquito slap method using the Mini Mental State Examination (MMSE) observation sheet.
7. Intervention of playing card game therapy with the mosquito slap method with a duration of 15 minutes.
8. Conducting a re-cognitive function assessment as post-test data
9. Make a contract for the next meeting and repeat the procedure at points 7, 8, 9 & 10 to 5 meetings for 2 weeks.
10. Perform data processing
11. Presenting the results of data processing or research results in the form of tables and narratives

3.4. Location and Time of Case Study
The research was conducted in the target area of the Rowosari Health Center.

3.5. Data Analysis and Presentation

1. Data Analysis

The data obtained will be analyzed by comparing the results of measuring cognitive function in each subject before and after playing playing card game therapy with the mosquito pat method. Furthermore, the data will be analyzed by comparing the results of increasing cognitive function between subject I and subject II.

2. Data Presentation

The research data will be presented in the form of a comparison table for measuring cognitive function before and after being given playing card game therapy with the mosquito slap method on subject I and subject II which will be described.

4. RESULTS AND DISCUSSION

4.1. Overview of Case Study Subjects

Subject I

Subject I named Mr. K is 60 years old, male, did not complete elementary school, having his address at Krajan Village, RT 03 RW 02. The author conducted an initial assessment on March 12, 2020 at 18.00 WIB. The results of the study showed that Subject I was a motorcycle taxi driver, there were no other illnesses that he complained about. Subjects are not color blind, not illiterate, able to sit, do not have hearing loss. Subject I said that he had never participated in playing card game therapy with the mosquito slap method.

Subject I lived with his wife, including the nuclear family type, a family with a mid-child development stage, affective family care functions, socioeconomic status, reproduction is quite good and health care functions are not good in prevention efforts. The results of the study of 5 family nursing functions obtained data on the subject and the family knew if the subject was easy to forget, but assumed it was a common thing that happened to the elderly, for the cause and treatment they did not know so they did not do care at home to deal with symptoms of forgetfulness. The level of family independence is at level 3 where the subject is able to take advantage of health facilities, and has not been able to take active promotive actions.

The results of measuring the level of cognitive function at the beginning, the client did not know if he had moderate cognitive impairment with a score of 23. The results of the MMSE examination showed that the subject was unable to remember the season, repeated objects for more than one second, spelled the name wrongly from the back, incorrectly recalled the object at number 2, and cannot mention the name of the object shown. Objective data on subject I, the client looks easy to forget if he remembers the short term.

Subject II

Subject II lives with their child including single parent family type, family with middle child development stage, affective family care function, socio-economics, reproduction is quite good and health care function is good in preventing the subject always checks every time the medicine runs out to the puskesmas. The results of the study of 5 family nursing functions showed that subject II did not experience functional impairment and often checked his health every month to health services. The level of family independence is at level 4, the subject is able to take advantage of health facilities, and is able to take active promotive actions.

The results of measuring the level of cognitive function at the beginning are still good with a score of 26 (no disturbance). The results of the MMSE examination were obtained, the subject was wrong in remembering the date, the subject repeated the object for more than 1 second, the subject was wrong in mentioning the name of the object, the subject was wrong in repeating the words "no if, and, or, but". The objective data of subject II, the client shows that his memory is still good, the client still looks like an adult in general who does not experience a decline in cognitive function.

4.2. Presentation of Study Focus Results

a. Results of Initial Measurement of Cognitive Function Level

This case study focuses on measuring cognitive function in the elderly. The results of measuring the cognitive function of Subjects I and II before taking playing card game therapy with the mosquito slap method, can be seen in table 1.

Table 1 Results of Measuring the Cognitive Function Level of Subject I and Subject II Before Playing Card Game Therapy was carried out with the Mosquito Clap Method
### Subject | Result MMSE | Cognitive Function Level
---|---|---
I | 23 | Moderate Cognitive function impairment
II | 26 | No Impaired Cognitive Function

Based on table 1, it is known that before the action, the results of the MMSE in subject I were 23 including the category of moderate cognitive function disorder and subject II was 26 including the category of no cognitive function disorder.

**b. Case Study Implementation**

On March 10, 2020, the author carried out a time contract with subjects I and II to carry out playing card game therapy with the mosquito-clap method together. Therapy was carried out at subject I's home by explaining the playing card game with the mosquito slap method to the two subjects and as for the family involved, the wife, children and grandchildren were then distributed evenly playing cards and the two suit subjects to determine who could start first, the game started with the start by subject II, the game is guided by the author to pronounce the sequence of playing cards from 2,3,4,5,6,7,8,9,10,J,Q,K,A and back again to number 2! The two subjects were still confused about how to play the game, so they were guided slowly by the researcher. Playing card game therapy was carried out for 15 minutes at each meeting, after 15 minutes the writer cleaned up the playing cards and contracted time for subject I and subject II to play playing cards using the mosquito slap method at the next meeting.

On Wednesday, March 11, 2020 at 18.30 WIB, the writer went to subject I's house and then waited for subject II to come to subject I's house to give playing card game therapy with the mosquito slap method. In this second meeting, the subject was accompanied by his wife and child. The two subjects said they had started to understand the game but were still under the supervision and guidance of the author, after 15 minutes had passed the writer stopped the game and contracted time for subject I and subject II to be given playing card playing therapy with the mosquito pat method for the 3rd meeting.

On Saturday, March 14, 2020 the author visited the homes of subject I and subject II to provide playing card game therapy with the mosquito slap method. In this third meeting, the subject was accompanied by his wife, grandchildren and neighbors who supported the therapy. When the author gave playing cards to subject I and subject II to shuffle and distributed cards evenly to subject I and subject II, the subject said he could follow and had started to be observant with the numbers issued and cards issued so he could pat quickly the subject had started to cooperate after 15 minutes the author ends the game and contracts time for subject I and subject II to be given therapy at the 4th meeting.

On Monday, March 16, 2020 at 18.30 WIB, the author went to the house of subject I and picked up subject II to provide therapy for playing card games with the pat method. When the writer gave playing cards to subject I and subject II, cooperatively immediately shuffled and distributed cards evenly to subject I and subject II, the subject seemed happy to play playing cards and the subject was able to play together even though sometimes there were people who forgot the order of the cards, subject I and subject II was fun playing until the time was more than 15 minutes and the author ended the game and contracted time for the 5th meeting.

On Tuesday, March 17, 2020 at 18.30 WIB, the writer went to subject I's house and picked up subject II to give playing card game therapy using the mosquito slap method for the fifth meeting or the last meeting. When the writer gave playing cards to subject I and subject II, cooperatively shuffled straight away and distributed cards evenly to subject I and subject II, the subject could play without the author's guidance and was cooperative like people who are proficient in playing playing cards using the mosquito slap method after 15 minutes have passed, the authors waited 15 minutes to measure the level of cognitive function after giving playing card game therapy with the mosquito slap method.

### 4.3. Discussion

The results of the initial visit obtained were that subject I had moderate cognitive function impairment with a score of 23 in subject I and a score of 26 in subject II. Researchers measured the initial data with the MMSE questionnaire which consisted of 11 questions. The diagnosis raised from the two subjects was Memory Impairment (00131) with Dementia Management intervention (6460), and the action taken to
improve cognitive function was playing card games with the mosquito slap method which focused on improving cognitive function in the elderly.

The initial data obtained included the gender of subject I and subject II, male. Subject I was 60 years old and subject II was 70 years old, the level of cognitive function of subject I was moderate cognitive function impairment and subject II did not experience cognitive function disorders. The family considers it to be easy to forget it is normal, so they do not take any action. This data is in accordance with the literature which states that most people think that the symptoms of forgetfulness are commonplace in every elderly person, so they do not take treatment to overcome this condition.

Increasing age can cause anatomical changes, especially in the neurological system such as shrinkage of nerve cells in the brain so that it can lead to decreased cognitive function. With increasing age, the weight of the brain decreases by 10% of the number of neurons, which decreases by around 100,000 cells per day, which will later be at risk of experiencing brain shrinkage. This is a physiological factor in the decline in cognitive function in the elderly. The lack of handling by the family is due to the fact that there are still many people who do not know that cognitive function in the elderly can be improved with proper treatment. The family plays a big role in the care of the elderly, this is a researcher's consideration to involve the family during the case study.

The study data obtained by the researcher is different from the literature which states that as age increases, cognitive function declines because Subject I, who is 60 years old, has impaired cognitive function, while Subject II, who is 70 years old, still has good cognitive function. Several factors affect the decline in the cognitive function of Subject I, including lack of knowledge due to low education level, lack of support from family, and lack of activities that hone cognitive function in Subject I.

Factors that affect cognitive function which is still good in Subject II are the level of knowledge and good education, the support from the family, and the many activities carried out by Subject II that are honing cognitive functions such as often playing chess and reading newspapers. The results showed that cognitive activity can maintain cognitive function in the elderly. According to Dini Tania Budianti's research, optimal family support is one way that families can give to the elderly to maintain cognitive function in the elderly, keep functioning properly and minimize the incidence of cognitive impairment. Education is a predisposing factor for impaired cognitive function. Education is able to compensate for all types of neurodegenerative, vascular disorders, and affect brain weight. People who are more educated, have more brain weight and are able to deal with cognitive and neurodegenerative improvements than people with lower education.

Researchers had encountered obstacles at the beginning of the case study because playing card games were considered a gambling game by the community and many elderly people were illiterate, which made it difficult to find subjects that matched the inclusion and exclusion criteria. After getting respondents, the researchers provided an intervention in the form of playing card game therapy with the mosquito slap method on subject I and subject II according to the SOP by involving the family. Family involvement in the nursing process aims to increase family independence in caring for elderly family members who have decreased cognitive function. The family has an important role in caring for the elderly who live with them. According to Putra's research, Hidayat Aisyah 2010 stated that the role of the family greatly affects the health status of the elderly, if the role of the family is lacking, the health status of the elderly is also bad.

The therapy begins with a pretest which is carried out for 5 minutes, the game is carried out after the Maghrib prayer at around 18.30 WIB, at the house of subject I, while the families involved are wife, children, grandchildren and followed by an evaluation of the games performed. Subject I said that after playing playing cards, they could remember and focus more on what was ordered. Subject II said that he had never played playing cards before and just found out that this activity could be therapeutic. Subject II felt preoccupation and fun with this game because it could learn to remember in the short term the numbers that would be spoken next. The next stage of intervention is carried out on Wednesday, Thursday, Monday and Tuesday according to the contract between the researcher and the subject.

The results of the nursing evaluation obtained after treatment for 5 meetings, in both subjects an increase in cognitive function. Subject I experienced an increase of 4 points in the MMSE score initially from 23 to 27, subject II experienced an increase of 2 points in the MMSE score initially from 26 to 28. These results showed that both subjects experienced an average increase of 8.66 cognitive function.

The results of the study (Kushariyadi, 2013) that the provision of memory stimulation affects the level of orientation ability in the elderly. Elderly orientation to people, time and place is very important information. The process of exchanging information about people, time and place in daily life activities verbally is seen through the use of words that individuals will use to talk. ordered.

The results of this study support the results of previous research conducted by Yusti Muzdalifa Taplo, et al. It showed that the application of domino card playing activities was effective in increasing cognitive
and numeracy functions in the elderly as much as 10.5%. Another similar study was conducted by Retno Idarwati, et al with the results that after the action of giving playing card game therapy with the mosquito slap method, it was given to the elderly. This study provides treatment in the form of playing card games with the mosquito slap method for a duration of 15 minutes, for 5 meetings in 2 weeks and the results show that there is an effect on increasing cognitive function as much as 11.07%. This shows that there is a significant effect of giving card games using the mosquito slap method to increase cognitive function in the elderly in nursing homes and Hargdedali Surabaya as much as 11.07%.

Playing card games are games using playing card types with the aim of equating patterns and groups of cards. This game was developed using the mosquito slap method which is played by at least 2 players. This game is the same as clapping, the only difference being the clapping part on the back of the hand between players. Mosquito slap method can improve cognitive abilities because of the auditory perception and the guidance provided is derived from words and produced in temporal harmony with certain hand movements.

Playing card games with the mosquito pat method have many types of shapes such as love, trees, rectangles and numbers, red and black colors and strategy-based game rules that can provide a stimulus to the brain. This will stimulate the limbic system which will later be processed by the hippocampus and amygdala to be forwarded to the prefrontal cortex. Stimulus in the prefrontal will stimulate the planning, organizing and problem-solving functions as well as the prefrontal response to thinking so that it affects the increase in cognitive function. This game provides a solution for energy. health, especially nurses who have a high workload because they can provide game therapy which will have a positive impact on the elderly who have decreased cognitive function because this game can improve cognitive function in the elderly.

After the arrival of the researcher, the family health care function and the level of family independence, there was a change after receiving information about how to care for a sick family, the subject's family became more understanding and the level of family independence there was a change, such as Subject I would have routine health checks at the puskesmas and Subject II would maintain it by checking regularly. health to the puskesmas and will continue to support his family in maintaining health. Changes in the level of independence in the subject from 3 to 4.

5. CONCLUSION
1. Hasil pengukuran tingkat fungsi kognitif subjek I dan subjek II sebelum tindakan terapi permainan kartu remi dengan metode tepuk nyamuk didapatkan skor pada subjek I yaitu 23 (gangguan fungsi kognitif sedang) dan subjek II 26 (tidak ada gangguan fungsi kognitif).
2. Penerapan permainan kartu remi dengan metode tepuk nyamuk untuk meningkatkan fungsi kognitif pada lansia yang dilakukan pada subjek I dan subjek II selama 5x pertemuan dalam 2 minggu selama 15 menit setiap pertemuan.
3. Hasil yang didapatkan setelah dilakukan terapi permainan kartu remi dengan metode tepuk nyamuk selama 5x pertemuan dalam 2 minggu pada subjek I yaitu skor 27 (tidak ada gangguan fungsi kognitif) dan subjek II yaitu skor 28 (tidak ada gangguan fungsi kognitif).
4. Terdapat perubahan tingkat fungsi kognitif setelah diberikan terapi Subjek I mengalami peningkatan fungsi kognitif dari skor 23 (gangguan fungsi kognitif sedang) menjadi 27 (tidak ada gangguan fungsi kognitif). Subjek II mengalami peningkatan dari skor 26 (tidak ada gangguan fungsi kognitif) menjadi 28 (tidak ada gangguan fungsi kognitif).
5. Perbedaan peningkatan fungsi kognitif subjek I dan subjek II adalah rerata 8,66 di karenakan adanya faktor usia, ilmu pengetahuan, aktivitas dan dukungan dari keluarga.
6. Perawat keluarga dapat berperan sebagai edukator dan caregiver untuk meningkatkan 5 fungsi perawatan kesehatan dan tingkat kemandirian keluarga ke dua subjek.

BIBLIOGRAPHY
2. WI M. Ilmu Keperawatan Komunitas. jakarta: Salemba Medika; 2009.


22. Utara US. Fungsi Kognitif. http://repository.usu.ac.id/bitstream/handle/123456789/47805/Chapter%201.pdf?sequence=5&isAllowed=y

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