

## SUMMARY

### **The Influence Of Games For Brain Stimulation Towards Cognitive Function And Livelihood Of The Elderly In Taking Part On The Activities At Werda Bhakti Luhur Nursing Home, Sidoarjo**

Aging is a natural process that occurs throughout life time, which not only started from a certain time but from the beginning of life. Based on the population distribution data Ministry of Health Republic of Indonesia in 2013, East Java possessed a number of senior citizens above the Indonesian average, the number of elderly in 2012 reached 7.56% of the entire population. Based on the initial survey conducted by researchers at Werda Bhakti Luhur nursing home which is a part of holistic services horizontally provided for the elderly population, it showed that the elderly experienced cognitive impairment. From the survey conducted on March 13rd, 2015, from as many as 10 elderly people who dwell at the nursing home, researchers through the help of MMSE (Mini Mental State Examination) questionnaire found that 40% of the elderly obtained scores for less than 20 which indicated elderly impaired cognitively and for the remainder 60% obtained scores above 24, which indicated that the elderly are not impaired cognitively. Based on the data, the overall activity of the elderly in a nursing home were decreasing, while according to the information provided by the nursing personnel and self-observations by the researcher, the elderly preferred to sit around their personal room or in front of the television instead of taking part in activities conducted on the hall.

Activities held in the nursing home had described activities that lead to physical and social activities, but were the responded with less of concern from elderly that affects the liveliness of the elderly in the nursing home. In the theory of PAPM (Precaution Adoption Process Model) a change will followed by indifference from the elderly concerning to the importance of the activities carried out in the nursing home until the elderly participating actively in the activities held through an approach that can create engagement.

Training to enhance the brain's ability has to be something new, challenging and interesting (Agoes, 2010). The method might ask participants to taking part in the following activities, aimed to be fun and using games as the method. Games can help to stimulate the enthusiasm of participants and to increase the involvement. The game is a very effective method for improving cognitive function (Bastable, Susan, 2002).

Based on the background, the issues raised in this study was to analyze the influence of games for brain stimulation on cognitive function and the liveliness of the elderly in Werdha Bhakti Luhur nursing home. The purpose of this study was to analyze differences in cognitive function and liveliness of the elderly in nursing home by follow the activities provided.

This study used pre-experiment pre-test post-test study design. The population was elderly in Werdha Bhakti Luhur nursing home with sampling was done using simple random sampling and the sample size obtained was for as many as 59 respondents. The instrument used were questionnaires and observation sheet

given before and after the games.

The results of study conducted obtained after the statistical tests was performed, which was using Paired Sample T-Test with level of significance of  $\alpha = 0:05$ , it was obtained that the  $p = 0.00$ . Since the value of  $p < \alpha$ , then  $H_0$  was rejected,  $H_1$  accepted, meaning that there was difference in cognitive function and liveliness of the elderly before and after the intervention.

In the PAPM process, there are differences in the percentage of respondents in each stage (there are 7 stages existed) from before to after the game is done. This caused the introduction of the activities carried out using the games to be appealing to the elderly to follow. Variation of the activities carried out for every 2 times in 1 week using different activities and groups can keep the curiosity of the elderly regarding to kinds of the activities and give willingness to be directly involved in any activity offered.

In cognitive function there were differences in the value prior to before and after the game done. The mean of cognitive function before brain stimulation was 22.00 and after brain stimulation was 23.95. The  $p = 0.00 < \alpha$ . This showed that there were differences in cognitive functions before and after the brain-stimulation games. This was because the kinds of interventions provided encourage the elderly to use the memory-capacity to remember an event that just happened and to invite them to activate their own thoughts through creative work carried out during the activities.

Concerning to the liveliness of the elderly to follow the activities, there was a difference from the value prior to before and after the games was done. Mean of the liveliness of the elderly before the brain-stimulation games was 28.95 and the mean after the game was 95.31 with  $p = 0.00 < \alpha$ . This showed that there were differences in the liveliness of the elderly to follow the activities before and after the game at nursing home. This happened because the method of different games and activities used, made the elderly to consistently participating in each activities, hence the frequency of participation among the elderly increased.

Difference in the result before and after the game was done showed their benefits in intervention provided. Changes in every stage in the process of PAPM, cognitive function and liveliness of the elderly to follow the activities carried out, can be an example for different kinds of activities possibly provided Werdha Bhakti Luhur at nursing home. Researchers suggests to the foundation to increase the frequency and to do a variety of activities using the game as a method in conducting activities, which lead to stimulation of the brain thus cognitive function and liveliness of the elderly can be maintained.

**ABSTRACT****The Influence Of Games For Brain Stimulation Towards Cognitive Function And Livelihood Of The Elderly In Taking Part On The Activities At Werda Bhakti Luhur Nursing Home, Sidoarjo**

Dementia with cognitive decline as early symptoms is a disease caused by damage in the brain cells. A decrease in the level of liveliness among the elderly is the trigger of the decrease in cognitive function. Games for brain stimulation is a recommended activity so that brain's function can be maintained, affecting the elderly to actively take a part. Based on the survey conducted in Werda Bhakti Luhur Nursing Home, some of elderly were found to be in cognitive decline while the numbers of elders taking part in the activities were just in small number. The purpose of this study was to analyze the effect of brain stimulation games on cognitive function and degree of liveliness of the elderly taking part in the activities. This study used pre-experimental one-group pre-test and post-test study design. The population in this study was elderly in Werda Bhakti Luhur nursing home, while sampling was done using simple random sampling which later resulted to as many as 59 respondents. The instruments used were questionnaire and observation sheet utilized before and after the intervention. After the results of this study being analyzed using Paired Sample T Test with a significant level of  $\alpha = 0:05$ , it was obtained that the value of  $p = 0.00$ , while the value of the  $p < \alpha$ , the  $H_0$  is rejected, and  $H_1$  is accepted, which meant that there was difference existed in the cognitive function and degree of liveliness of the elderly, before and after the intervention conducted. After the games, cognitive function is more preserved and the elderly are more active in taking part in the activities, hence the researchers suggest that the nursing home to make a variety of activities through the use of games that stimulates the brain in aims that the cognitive function and liveliness of the elderly can be maintained.

**Keywords:** cognitive function, games for brain stimulation, liveliness