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## **Designing the Exercise Model for the Elders in Kamphaeng Saen District**

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### **Abstract**

To study the result of using the exercise model for the elders in Kamphaeng Saen district. This research is using one group pretest-posttest quasi-experimental research to study the result of the exercise model for the elders in Kamphaeng Saen district. The sample group was the selected 35 elders who lived in the Thai air force village, Flying Training School, Kamphaeng Saen district in Nakhon Pathom and whose qualifications met the criteria through purposive random sampling. Thus they were assigned to participate in the exercise model for the elders 3 times a week with 40 minutes in each time for 12 weeks. The results of the exercise model using for the elders in Kamphaeng Saen district: After the elders had participated in the program, their physical fitness in each component of the elders including the body mass index and the percentage of fat under the skin at 4 positions not statistically significantly showed the lower mean whereas their grip strength, exercise tolerance, agility, flexibility of the spine and lung capacity significantly increased at the level of  $p < 0.005$ . After participating in the exercise program, the score of the physical fitness of the elders was statistically significant higher at the level of  $p < 0.005$ .

*Keyword:* Exercise model

### **Introduction**

From a review of literature on exercise models for the elders in Thailand, they revealed that some physical activity models considered appropriate to the individual's age, gender and health were developed. The purposes of those exercises were not only for the development of their body strength but also for leading to their good quality of life, especially when their mental changes increased at the ages between 65 and 70. Gunlaya (2002: 10) reported that the elders must take time to understand themselves every time of changing in each year, especially in the ages between 60 and 75, when they feel frustrated most; need some social acceptance, acknowledgement and recognition; and will power and encouragement. From the diagram of Ruge (1987) it indicated that the elders in the ages of more than 65 years, their work abilities decrease and they like to separate themselves from others, feel bored, get depressed, feel lonesome and some even probably die. This indicated that their suitable activities should be developed for realization of their own good life quality. Therefore, it is interesting to study an exercise model to be used to solve the problems of the elders and to encourage them to use it in their daily lives to effectively promote both their body and mental health developing leading to further innovation of the exercise that is suitable for every gender and age in the similar situation.

### Research Objectives

To study the exercise model for the elders in Kamphaeng Saen district.

### Methods

This research is using one group pretest-posttest quasi-experimental research to study the result of the exercise model for the elders in Kamphaeng Saen district.

The sample group was the selected 35 elders who lived in the Thai air force village, Flying Training School, Kamphaeng Saen district in Nakhon Pathom and whose qualifications met the criteria through purposive random sampling. Thus they were assigned to participate in the exercise model for the elders 3 times a week with 40 minutes in each time for 12 weeks.

### Data Analysis

The tool used in this research included the program designed developed by the author of the exercise model for the elders and a physical fitness test, which was modified from the physical fitness test for the elders of Uai Getsing with 0.87 of reliability calculated from the Cronbach's alpha coefficient. The data were collected from both before the program of the exercise model for the elders started and after it had finished. The data that met the criteria were used for the calculation of the percentage, the mean, the standard deviation and T-score.

### Results

From the data analysis, they were shown as follows:

1. The results of the exercise model using for the elders in Kamphaeng Saen district: After the elders had participated in the program, their physical fitness in each component of the elders including the body mass index and the percentage of fat under the skin at 4 positions not statistically significantly showed the lower mean whereas their grip strength, exercise tolerance, agility, flexibility of the spine and lung capacity significantly increased at the level of  $p < 0.005$ . Meanwhile, slightly non-significant changes occurred in the mean of at-rest blood pressure and percentage of increased pulse rate after bench stepping test.
2. After participating in the exercise program, the score of the physical fitness of the elders was statistically significant higher at the level of  $p < 0.005$ .

### Discussion

1. Most of sample group was female aged between 60-75 years (80%). 80% had the good physical fitness. 65% had the positive thinking. 70% graduated in primary-education level. All were Buddhist. 80% had the exercise behavior at least 3 times a week.
2. The mean of the physical fitness components of the elders before and after the group sample participated in the program included the body mass index and the percentage of fat under the skin at 4 positions statistically significantly decreased whereas the higher mean of the grip strength, the exercise tolerance, the agility, the flexibility of the spine and the lung capacity significantly increased at the level of  $p < 0.005$ . Meanwhile, slightly non-significant changes occurred in the mean of at-rest blood pressure and percentage of increased pulse rate after bench stepping test.
3. The comparison of the mean of the physical fitness of the elders before and after the group sample participated in the program: After participating in the program of the exercise model for the elders, the mean of the physical fitness of the group sample statistically significantly increased at the level of  $p < 0.005$ .

### **The Benefits of this Research**

1. By using the program of the exercise model for the elders in Kamphaeng Saen district, the physical fitness of the elders was developed. This program helped them realize the importance of exercise so that they able to induce other elders to participate in it for their health and fitness development.
2. The elder caregivers were encouraged to perceive the importance of exercise and used this exercise model as a guideline pattern to provide the understanding of exercise model for the elders.
3. The results from this research were used as the guideline for development of the suitable exercise model for the elders in Kamphaeng Saen district and more effectively applied in elderly health care service.

### **Recommendation for Further Study**

1. The exercise model for the elders in Kamphaeng Saen district should be used in the exercise to promote the correct and proper exercise behaviors. Giving information and knowledge about the exercise should be considered for further application of this model.
2. The use of exercise model for the elders needs to be aware of safety, intensity and duration of exercise by periodically checking their pulse rate, observing their exhaustion and asking and suggesting them about their exercise.

### **Suggestions for the Future Research**

1. Study more about the results of the exercise model in several modalities that affect the elders' physical fitness involving their deterioration of the body and body fat.
2. Study more about the results of the program of the exercise model for the elders by using more sample groups and extending the duration of the experiment until around 6 to 12 months, which might more noticeably affect the physical fitness.

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