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EFFECTS OF APPLIED RUM KLONG YAO PROGRAM ON PHYSICAL FITNESS IN NURSING STUDENTS.

OranuchChaopreecha^{*}, BoonsriKittichottipanich^{} & SudpranormSmuntavekin^{***}**

^{*,**,***} *Faculty of Nursing and Health, SuanSunandhaRajabhat University, Bangkok, Thailand,*
E-mail: ^{}oranuch.ch@ssru.ac.th, ^{**}boonsri.ki@ssru.ac.th, ^{***}sudpranorm.sm@ssru.ac.th*

ABSTRACT

This study was a quasi-experimental research that aims to study the effects of applied Rum Klong Yao on Physical Fitness in Nursing students. The sample used in this study were nursing students in Bangkok. There were a sample of 30 student nurses with 19-25 years old and selected by purposive random sampling.

The instrument of this study were 1) Applied Rum Klong – yao program. 2) Physical fitness test which was constructed by Supitr Samahito, et.al (2013).

The sample group was test by Physical fitness test and led into exercise applied Rum Klong – yao program for 8 weeks. The statistics for data analysis were percentage, mean, standard deviation and paired t-test.

The results showed that most of the subjects were the most of nursing students ever exercise 70% and the most of regular exercise was aerobic at 80% , walking at 76.67%, running 16.67% and swimming 13.33%. The duration of each exercise more than 30 minute was 60%.

After nursing student into exercise applied Rum Klong -Yao program found that body weight, BMI, Body fat ,decrease with statistical significance at level .05. And flexibility of the back hips and legs in the back, muscle strength. Muscle endurance of legs, agility and balance of body, cardiovascular endurance were good level than before at .05.

This applied Rum Klong – yao program could enhance physical fitness. Therefore, faculty of nursing should provide exercise program for nursing students or other students in order to promote them for healthy persons.

Keywords: applied Rum Klong – yao program, Physical Fitness, nursing students

INTRODUCTION

Exercising is one of health promotions to which Thai Ministry of Public Health advocate because this activity aims to prevent diseases. (Advisory Department of Health. Ministry of Public Health Thailand, 2009) According to the Thai public health survey No. 5 in 2014, Most Thai people's weight are over 25 kg/m² outracing average BMI number, particularly in Thai women, increasing from 40.70 % to 41.80 % and the male number rose up from 28.40 to 32.90 (Wichai Aekplakorn et al , 2014) since these people generate less physical activities which reduce physical fitness. Doing exercise promotes health to well-being enhancing muscle strength and circulatory system.

Present students spend their time in using social media and playing games which let them lack exercise, and lead to consequent problems such as overweight and underweight. (Paowattana et al., 2012) According to the survey of 277 second-year medical students at the faculty of medicine Siriraj, 8.8 % of these students regularly do exercise, and it was found that their physical fitness is at the low level when compared to people at the same age, owing to extremely studying hard. (Kulthanan et al., 2001)

As to nursing students, they study in the same way as medical students, so these people have an irregular exercise behavior. Nursing students have to be a well-being and healthy in order to be a health leader; it is necessary for them to fully develop physical and mental health. So, the researcher is interested in developing nursing students' health by doing exercises. Aerobic exercise is a highly well-known and suitable for students according to Puangnoi Saengkaew, (2014). Aerobic exercise of students at Lampang Rajabphat University suggests that there is a 0.5 statistical significance increase in the number of physical fitness, lung capacity, flexibility, waist line, respiration, pulse, hand grip strength of the students who do this kind of exercise for an hour and 3 days per week. In this case, aerobic exercise allows every part of muscles, generating oxygen to energy and leading to cardiovascular and circulatory system.

Thai dancing cover a variety of rhythm: slow and quick rhythms. The quick ones comprise of Issan dance and Rum Klong Yao. Rum Klong -Yao is a kind of dancing which allows the dancers use every part of muscles in the body and let them move by the beats such as jumping and walking, which is equivalent to the patterns of aerobic exercise. Hence, the researcher decides to study effects of applied Rum Klong -Yao on physical fitness in nursing students.

The purposes of the study

1. To compare physical fitness of nursing students before and after exercise with applied Rum Klong – yao.

METHODOLOGY

This study was a quasi-experimental research. The researcher uses the research plan one group of pretest-posttest design for 8 weeks by using measurements of before and after the experiment.

The populations are nursing students aged 19-25 years old

The samples are 30 nursing students aged 19-25 years old by purposive sampling as qualifications following

- 1) Nursing students living in Bangkok
- 2) Nursing student willing to participate in this study
- 3) Nursing student being non- congenital disease to do exercise.

Research Instrument was includes

1. Experimental tools: These tools cover the exercising program by applied Rum Klong -Yao for nursing students

Exercising steps in this program as follows:

- 1) Warming up by stretching fingers, arm and leg muscles, joints for 3 – 5 minutes
- 2) Demonstrating and practicing Rum Klong -Yao with music for 30 minutes 3 days a week for 2 months.
- 3) After doing exercise, cool down muscles by strengthening muscles with slow music

2. Data collection tools include

2.1. The questionnaire was general information

2.2. Physical fitness test (Supitr Samahito, et.al. 2013) was consist of

- 1) Skinfold Thickness was reliability = 0.96 validity = 0.89 , recorded by the average the subcutaneous fat thickness in 3 positions converted to the percentage of body fat.
- 2) Hand Grip Strength was at reliability = 0.89 , validity = 0.92 , recorded by highest score of hand grip strength in 2 times

- 3) 60 Seconds Chair Stand was reliability = 0.91, validity = 0.96, recorded by the number of chair stand within 60 seconds
- 4) Sit and reach was reliability = 0.96, validity = 1.00, recorded by the best reach in 2 times
- 5) Zig - Zag Run was reliability = 0.81 , validity = 1.00, recorded by running from the starting point and zigzagging run through 6 obstacles to measure the speed
- 6) 3-Minute Step Up and Down Test was reliability = 0.81 , validity = 1.00, recorded by heart rate per minute

Table 1
Interpretation of physical fitness test for 20-24 years old participants

Skinfold Thickness	thin	Fairly thin	slim	plump	fat
	<15.6	15.7 - 20.2	20.3 - 24.8	24.9 - 29.4	> 29.5
Handgrip Strength : Evaluate for body fat percentage	Lowest	low	medium	good	Excellent
	<0.43	0.44 - 0.50	0.51 - 0.57	0.58 - 0.64	>0.65
60 Seconds Chair Stand : Evaluate for muscle strength and muscle endurance of leg	Lowest	low	medium	good	Excellent
	<20	21 - 27	28 - 34	35 - 41	>42
Sit and Reach : Evaluate for flexibility of the back Hips and legs in the back	Lowest	low	medium	good	Excellent
	<1	2 - 8	8 - 15	16 - 22	>23
Zig-Zag Run: Evaluate for Agility and balance of body	Excellent	Good	Medium	Low	Lowest
	<21.13	21.14 - 22.35	22.36 - 23.57	23.58 - 24.79	>24.80
3 Minutes Step Test: Evaluate for Cardiovascular endurance	Excellent	Good	Medium	Low	Lowest
	<112	113 - 127	128 - 142	143 - 157	>158

Data collection

The researcher collected data by interviewing general data and testing physical fitness of nursing students as follows

- 1) Collecting data before the experiment by interviewing generation information such as weight and height
- 2) Testing physical fitness of nursing students
- 3) Warming up by stretching of fingers, muscles, limbs and joints for 3-5 minutes
- 4) Exercising by applied Rum Klong -Yao, 30 minutes, 3 times a week for 8 weeks
- 5) Cooling down muscles by strengthening muscles with slow music
- 6) After 8 weeks, the participants are tested again

Statistic analysis

The data was analyzed by frequency, percentage: in addition, mean, standard deviation was used for general characteristic for samples, to compare mean of the physical fitness with paired t test.

RESULTS

Section 1: According to the general Information collected from 30 nursing students.

Section 2: According to the comparison the mean score of physical fitness in nursing student

Table 2
Percentage and number of exercise behaviors in nursing students (N= 30)

Item	n	%
In the past month, did you exercise?		
never	9	30%
ever	21	70%
What kinds of exercise you often do?		
walking	23	76.67%
running	5	16.67%
aerobic	24	80%
swimming	4	13.33%
others		
How long do you do exercise?		
Less than half an hour	12	40%
More than half an hour	18	60%

Section 1: According to the general Information collected from 30 nursing students, we found that the most of nursing student ever exercise 70% and the most of regular exercise was aerobic 80% , walking 76.67%, running 16.67% andswimming 13.33%. The duration of each exercise more than 30 minute was 60% (table 2)

Table 3
Comparison of mean Physical fitness of nursing students in pre and post exercise

Variables	Pre exercise		Post exercise		df	t	P
	mean	SD	mean	SD			
Body weight (Kgs)	54.13	4.460	52.86	4.627	29	7.284	.00
BMI (kg/m2)	21.84	1.84	21.33	1.922	29	7.309	.00
Body fat	25.45	2.096	23.62	2.912	29	5.439	0.00
Flexibility of the back Hips and legs in the back	5.23	1.194	6.57	1.357	29	9.633	0.00
Muscle strength of arm and hand	0.41	0.054	0.42	0.052	29	1.876	0.071
Muscle strength and muscle endurance of leg	30.77	5.010	43.53	4.547	29	16.15	0.00
Agility and balance of body	20.50	2.033	19.14	2.034	29	9.94	0.00
Cardiovascular endurance	113.0	9.318	104.37	9.030	29	8.255	0.00

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Section 2 : According to the comparison the mean score of physical fitness in nursing student, we found that before and after the experiment, nursing students represent a decrease in the number of body weight, BMI and body fat, with a statistical significance at .05(table 3)

The result of comparison on the mean score for flexibility of the back Hips and legs in the back ,muscle strength and muscle endurance of legs, had significant higher average scores at the 0.5 level. In the same way, agility and balance of body and cardiovascular endurancehad significant good level scores at the 0.5 level, but the figure of muscle strength of arms and hands before and after the experiment remains constant (table 3).

CONCLUSION AND FUTURE WORK

The result of this research represents that after 8 weeks of exercise by applied Rum Klong – yao, the data of physical fitness related health in nursing students consist of body weight, BMI, body fat, was decrease with statically significant at level .05. And Flexibility of the back Hips and legs in the back, Muscle strength .muscle endurance of leg, Agility and balance of body , cardiovascular endurance were higher level than before at .05, accorded with Puangnoi Saengkaew et al.,(2014). who studied Students' Health Promotion by Exercise : Aerobic Dance they found that the physical fitness before aerobic dance was at a low level on the criteria but after aerobic dance , it was medium level. And the study of Oraphun Lueboonthavatchai and Suchart Panlarp (2016) who studied The Effect of exercise program on physical fitness and mental health status of nursing students in private university, Bangkok. They found that the major finding revealed that the physical fitness and the mental health status of nursing students who participated in the program were significantly higher than that before at .05 as well.

According to this study, applied Run Klong-Yao within 8 weeks, 3 days a week in 30 minutes enhances the physical fitness of nursing students.

SUGGESTIONS

The result of this research represents that after nursing student into exercise applied Rum Klong – yao program could enhance physical fitness of nursing students. And Thai dance is the art and culture of Thai people which can apply to exercise because Thai dance is a kind of social performance accompanied by rhythmic classical music, entertaining the performer while doing this exercise. But this study lack studying of other variables such as well being and satisfaction. Therefore, the future study focus on:

1. The result of applied Thai dances on physical fitness and well-being of nursing students or elderly people
2. University/College should implement an additional policy into promoting students to perform physical exercise appropriately to achieve the physical exercise goals.

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