



The Effect of Pacotera Gymnastics on The Psychology of Home-Schooling Students

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Abstract

The Covid-19 pandemic causes students to experience online learning from home. This causes a decrease in physical activity and psychological impact. Necessary as to provide a stimulus by an exciting exercise, especially for children at the elementary school level rhythmic gymnastics called Pandemic Corona Tetap Gembira (Pacotera), modified rhythmic gymnastics for children aged 6-12 years, on children's psychology. The research method was a quasi-experimental design with one group pretest-posttest design and the sampling technique was purposive sampling with a sample of 30 students of SDN Wiyung I Surabaya. Data collection using a questionnaire Pediatric Symptoms Checklist 17. Based on the results of the T test that used to determine the differences in pre and post treatment of Pacotera gymnastics, showed that there were significant differences in the attention aspect (Sig. 0.01 < 0.05) and the externalization aspect (Sig. 0.03 < 0.05). Both score are smaller than before gymnastic, a lower score indicates less behaviour disorder, but there is no significant difference in the internalization aspect (Sig. 0.601 > 0.05). The conclusion is Pacotera gymnastics can improve Children's psychological condition while learning from home. This study contributes to elementary school teachers encourage their students to do Pacotera gymnastics before learning.

Keywords: Child psychology; learning from home; pacotera gymnastic

1. Introduction

The Covid-19 first discovered in Wuhan City, Hubei Province, China. On March 11, 2020, WHO declared this outbreak a global pandemic that caused the death of tens of thousands of people worldwide, including Indonesia (Kemenkes RI, 2020). The complexity of handling this outbreak has made world leaders implement very strict policies in order to break the chain of the spread of Covid-19. Social distancing is a choice to prevent the spread of the virus, although this policy has a negative impact on all aspects of life, one of which is the field of education. In connection with this, the Minister of Education and Culture (*Mendikbud*) issued Circular (SE) Number 4 of 2020 dated March 24, 2020, which regulates the Learning from Home process via online / distance learning (*Mendikbud*, 2020).

The on line learning process has several impacts on students which are decreased interest in learning, boring, irritability or depression (Irawan et al., 2020, Al Dhaeri A.S, et al., 2021). The on line learning process can damage the psychological construction of students so that it affects their cognition (way of thinking), experiences regeneration, and distorts their ability to affection (Cao et al., 2020). In addition, activities carried out at home and online learning models based on computers or phones cause students to become less mobile, or increase temporary behavior which will increase the risk of several health problems (Yahman, 2020). Anxiety, depression, lethargy, impaired social interaction, and reduced appetite are the manifestations reported during the Covid pandemic (Hu et al., 2020). Children are forced to stay at home for long periods of time due to isolation and school closures resulting in limited relationships with classmates and reduced physical activity (Jiao et al., 2020).

Research in Italy also states that the Covid pandemic has caused a significant decrease in activity which has a negative effect on mental health (Maugeri et al., 2020). Likewise, research conducted in China that students experience symptoms of anxiety due to the Covid-19 pandemic, the mental health of students is significantly affected when faced with public health emergencies (Cao et al., 2020).

The negative impacts of distance learning using internet is that there are still students who cannot use the internet properly and this makes students feel anxious and depressed (Oktawirawan, 2020, Dhawan, 2020). Furthermore, the large number of tasks assigned to the students makes them experience stress in carrying out the distance learning (Octasya, T., & Munawaroh, E. 2021). Their daily activities from day to night are only in front of the laptop to do their online tasks. This certainly has an impact on the health of students both physically and psychologically (Dhawan, 2020, Eryadini et al., 2020). A study revealed that there were more students who did physical activity before the Covid-19 pandemic than during the pandemic. The group of students who were not active in physical activity had a higher score of anxiety and depression than the active group (Rogowska et al., 2020). In the period of learning from home, it is very important to provide opportunities for students to have fun in order to prevent psychological impacts that may arise (Yahman, 2020, Irawan et al., 2020). In accordance with epidemiological studies that increased physical exercise will reduce the risk of depression (Zhao et al., 2020).

Gymnastics is a form of physical activity that can be done anywhere, including at home. Gymnastics is also a form of sport that is taught in schools as one of the curriculums in learning Physical Education. Besides being able to improve students' physical fitness, gymnastics can also have a psychological effect on students (Arifin, 2018; Purnawati et al., 2018). Study about movement and psychological benefit of gymnastics, show that all children in the gymnastics cohort showed significant improvement in physical self-concept compared to the standard PE curriculum (Kliziene et al., 2021). A potential reason for the improvement is that gymnastics is non-competitive and may therefore lead to a less- threatening learning environment, which is more aligned to a task oriented mastery climate which, has been associated with positive student outcomes (Rudd et al., 2017).

Based on this description, the purpose of this study is to determine the impact of the *Pandemi Corona Tetap Gembira (Pacotera)* gymnastics on children's psychological factors while learning from home. This study will also provide information about the effects of staying physically active / sporting and having fun for children to reduce the negative impact of online learning for psychological aspects. This study is different from previous studies, because the gymnastics used in this study is new gymnastics, easy to do, does not take long, and can be done at home that does not require a large room, and accompanied by happy children's songs, and done by students who are studying online at home with the possibility of some psychological disorders due to the covid-19 pandemic.

2. Method

This type of research is using a quasi-experimental method with a one-group pretest-posttest research design and purposive sampling technique. The study was conducted at SDN Wiyung 1 Surabaya with the sample being grade 3 students who met the inclusion and exclusion criteria. The inclusion criteria were 8-10 years old, healthy and willing to be a research subject marked by signing an agreement. Exclusion criteria are students who are more than 10 years old and have health problems, and circumstances that interfere with giving consent to be research subjects.

The research sample is 30 students. The research begins with creating a gymnastic movement, which is called Pacotera gymnastic. The composition of 8 Pacotera gymnastics consists of 2 warm-up movements, 4 core movements and 2 cooling movements. Each movement is performed with a count of 1x8, with 2 repetitions of each movement. Movement 1: feet walking in place, palms open, raised at shoulder height with elbows bent at shoulder height with elbows bent, feet walk in place, palms

clasped, raised to shoulder height with elbows bent and raised to shoulder height with elbows bent, walking feet in place, palms clasped and raised to shoulder height with elbows bent and raised to shoulder height with elbows bent at the same time. Rotate hands simultaneously toward the front, feet on the ground, palms clasped and raised to shoulder height with elbows bent. and raised to shoulder height with elbows bent, walking feet in place, palms open, raised to shoulder height with elbows bent at shoulder height with elbows bent, feet on the ground, palms clasped and raised at shoulder height with elbows bent and raised to shoulder height with elbows bent, walking feet in place with body bent palms clasped, hands make a round movement forward alternately right and left hands in front of the chest, jump up with the end of the open leg shoulder-width apart and both hands up with elbows straight.

Movement 2: body direction to the right, right hand position in front of face with the elbow bent and the back of the hand on top, the left hand is behind the waist, along with 4 step to the right side and the hand also moves like a cobra that will peck at the cobra that will peck, feet together, hands in front of shoulders with elbows bent and palms up. elbows and palms open, jumping around in a clockwise direction and on the count of 5-8: feet together, hands in front of the shoulders with a position clockwise and on the count of 8 ends with turning the palms up and being in line. palms up and in line with the shoulders movement 2 is repeated back to the left with the same count as the right. same count as the right direction.

Movement 3 : Feet step to the right side with palms hands are in line with the shoulders and elbows are bent at the same time by moving the palms to the right and left sides. Feet then close together, with palms in line with shoulders and elbows bent at the same time as moving palms to the right and left. In line with the shoulders and elbows bent at the same time by moving the palms to the right and left sides, The feet step to the left side with the palms of the hands in line with the palms in line with the shoulders and elbows bent at the same time as moving the palms to the right and left sides by moving the palms to the right and left sides, The feet are then together, with the palms of the hands in in line with the shoulders and elbows are bent at the same time as moving the palms to the right and left sides.

Movement 4 : Feet together, body bent to the right, position of both hands at the waist, when count 1 right hand Lift the right hand to the side of the ear with the elbow bent, count 2 hands return to the waist, the body bends to the left, the position of both hands is at the waist. Position of both hands at the waist, when count 1 the left hand raises beside the ear with the elbow bent, count 2 hands back to the waist, both hands on the waist, feet shoulder width apart. Both hands on the waist legs crossed with position of the right foot in front, both hands at the waist count 7 feet opened shoulder width apart and count 8 feet in front. Shoulder width and count 8 feet together again, is repeated back to the left with the same count as the right. same count as the right direction. Pacoreta's modified gymnastics music is a combination of several children's music that is combined into one and adjusts to the beat of each movement. Pacotera's gymnastic movements include simple movements that are easy to do by children aged 6-12 years.

Furthermore, this exercise was tried on five elementary schoolstudents aged 8- 10 years, and when these students had no difficulty doing the gymnastics, a video was taken. Then the video is shared to the subject. Then the Pediatric symptoms Checklist 17 (PCS-17) questionnaire was distributed to the samples. Filling out quitionnaire was carried out the research subject's mother.

The research subjects did exercises before carrying out learning process by imitating the movements from Pacotera gymnastic video in duration of 8 minutes, three times a week which was carried out for two weeks. The sample's parents videoed while the sample was doing Pacotera gymnastic, and the results were sent to the researcher. The sample's parents filled out the Pediatric Symptoms Checklist 17 (PSC -17) questionnaire via a google form which was sent to the researcher at the

beginning before the sample did the Pacotera exercise and in the second week after doing the Pacotera exercise (Jellinek MS, Murphy JM, Robinson J, et al, 1988). Pediatric Symptom Checklist 17 Questionnaire (PCS-17) is a tool used to measure psychosocial problems in the form of a questionnaire consisting of 17 questions. Seventeen questions are divided into an internalization subscale, consisting of 5 questions, a 7-question externalization subscale, and a 5-question attention subscale, each of which has a score of 0 (never), 1 (sometime), and 2 (always). The scores of each subscale are added up and the total score is made into a total score. This questionnaire is designed to identify cognitive, emotional, and behavioral problems so that appropriate interventions can be initiated immediately (Liu et al., 2020).

The data that has been collected will be analyzed with the T-test. Previously, the prerequisite tests had been carried out, including descriptive analysis, data normality test, homogeneity test. All tests were carried out with a 95% confidence level using the SPSS version 23 program.

3. Result

In this study, parents filled out the Pediatric Symptom Checklist 17 (PSC-17) questionnaire. It is done before students do the *pacotera* exercise for two weeks and afterward. Descriptive data on the psychological state of the students can be shown in table 1 below.

Table 1. The Pre and Post results of descriptive and T test analysis

The Example	N	The Average Score Pre-Test	The Average Score Post-Test	df	t	Sig.
Internalization	30	0.63	0.57	0.70	0.582	0.601
Attention	30	1.60	0.73	0.87	3.791	0.01
Externalization	30	2.60	1.40	1.2	3.247	0.03
Total Subscale	30	4.83	2.70	2.31	3.467	0.02

The table above shows that doing *pacotera* exercises while studying at home can reduce all psychological aspects of students. In the aspect of internalizing the pretest to posttest the average score is 0.63 to 0.57. The average score of attention aspect is 1.6 to 0.73. Externalization aspect the average score is 2.6 to 1.4. Overall, the average score is 4.83 to 2.7. To determine that the data is normally distributed an analysis is performed using the Saphiro Wilk test.

The paired sample T test showed that the significant difference in the total score of the subscales which post *pacotera* exercise is lower than pre Pacotera exercise with significant p value is 0,02. So it can be concluded that *pacotera* exercise has an influence on decreasing children's behaviour disorder.

4. Discussion

This study was conducted to determine the impact of *Pandemi Corona Tetap Gembira (Pacotera)* gymnastics on children's psychological factors during learning from home. It is very important to know the score results from the Pediatric Symptom Checklist 17 (PSC-17) questionnaire to determine the behavioral trends after doing *pacotera* exercise.

Pacotera gymnastics is general gymnastics that includes several rhythmic gymnastics movements that are intended for early childhood, the movements are a series of movements that have been modified by harmonizing between music and motion, the music used is children's songs from several regions

in Indonesia. Pacotera gymnastics, like rhythmic gymnastics for children, is an easy, cheap, mass, fun and beneficial exercise. Energetic movements typical of children, easy and simple to understand are combined with movements like everything in the environment, for example one of the movements of the Pacotera gymnastics, which is following a movement like a walking chicken, so that it gives a positive psychological effect, namely a sense of joy to children who practice Pacotera gymnastics. Besides the movements being easy to do, the students feel happy and excited because the positive effect of the songs that accompany gymnastics is very attached to their memory because it was introduced when they were toddlers. The emotional reactions that arise as a result of doing Pacotera gymnastics are very positive. Focusing attention on gymnastic movements, the accompaniment of children's songs that remind the atmosphere of playing and exercising can provide a feeling of joy and mental calm.

As well as research by Purnawati et al, that Janger gymnastics which is based on local wisdom from the Janger dance in Bali, is able to have an impact on psychological aspects in the form of positive emotional reactions (joy, reduced tension) (Purnawati et al., 2018). Pacotera gymnastics is a form of physical activity that students can do when they have to learn from home. Physical activity is defined as any bodily movement produced by skeletal muscles that require energy expenditure. It is very important to have a fresh mind before any work, like office work, study or some creative work. The people who make exercise as essential part of their routine are happier and efficient than others. Exercise does not mean to go to gym or some club for daily activity (Elmagd, 2016). Hence students who learn from home, to relieve boredom and keep physical activity, need a sport, such as Pacotera gymnastics which is easy to do and can be done without requiring a special place.

The internalization score shows that the samples do not feel sad, hopeless, look down on themselves, gloomy, or worry about many things either before exercise or after exercise. Internalization is a process in which individuals learn and are accepted as part of, and at the same time bind themselves to the social values and norms of the behavior of a society (Saetban, 2020). From a public health perspective, promoting physical activity can serve as a mental health promotion strategy in reducing the risk of depression (Lieser M, 2019).

Internalization can influence a person in attitude, feelings, beliefs, and so on. This occurs from the process of absorbing an experience, action or repeated speech (Tivanny Octasya, Level of academic stress for students of guidance and counseling, 2021). Therefore, the internalization process takes a long time for changes to occur because it is influenced by many factors. So, the implementation of *pacotera* gymnastics three times a week for two weeks seems unable to show a significant impact on internalization factors. However, in two other aspects studied, which are attention and externalization, *pacotera* exercise has the effect of reducing significant behavioral disorders.

The attention score after exercise was lower than before exercise, indicating that the likelihood of the sample experiencing behavioral disorders was lower. This attention score includes feelings of anxiety, a lot of daydreaming, difficulty concentrating, acting without thinking, and being easily distracted. *Pacotera* gymnastics can make children happy because there are fun activities so they don't have time to daydream. One of the therapeutic efforts for psychological disorders is by exercising because exercise is one way that can be done to generate positive thoughts and feelings and can block the emergence of negative moods (Dirgayunita, 2016).

The externalization score after exercise is lower than before *pacotera* exercise, indicating that the probability of the sample experiencing behavioral disorders is lower. The total score of the subscale after exercise was lower than before the *pacotera* exercise, indicating that the possibility of the sample experiencing emotional and behavioral disorders was lower. This shows that *pacotera* exercise has a positive impact on students to reduce boredom and reduce the negative impact of studying at home

by reducing behavioral disturbances in students after they do *pacotera* exercise while studying at home during the Covid-19 pandemic.

According to WHO, children and adolescents should perform activities on average at least 60 minutes per day with moderate to vigorous intensity such as aerobic exercise for a week. The aerobic activity with high intensity, as well as activities that strengthen muscles and bones, must be done at least three days a week (Chaput et al., 2020). Likewise, *Pacotera* gymnastics are carried out three days a week, in the form of gymnastic movements that are easy to do and fun because it is like dance movements so it can be used to as aerobic activity and reduce the level of anxiety of the children. The *pacotera* gymnastic as idea to having an opportunity for playing and dancing, especially when it happens at school at home, lead to exciting expectations in the children and reduce stress (Hanna, 2017; Wengrower, 2019).

In particular, *pacotera* gymnastic in general have many benefits, not only physically but also mentally. *Pacotera* gymnastic as physical activity that daily exercise can reduce stress and anxiety, boost happy chemicals, improve self-confidence, increase the brain power, sharpen the memory and increase our muscles and bone strength (Elmagd, 2016). The effect of exercise to increase the brain power and sharpen the memory because exercise can stimulate the release of chemicals such as serotonin and dopamine, as well as parts of the brain that regulate memory and learning (Chekroud et al., 2018), so that students who study on line at home can still be improved his intelligence by doing *pacotera* gymnastic regularly before and after studying. Children who actively sample many types of sports and activities see benefits to their movement skill performance and psychological outlook, compared to children who have experienced a less diverse range of sporting activities (Rudd JR, 2017).

A person who is depressed has dysfunction of the hypothalamic-pituitary-adrenal (HPA) axis, increased secretion of Corticotropin Release Hormone (CRH), impaired glucocorticoid response and increased size and pituitary activity. A study states that regular physical exercise is one method to improve depression (Hu et al., 2020). Another study shows that the physical fitness of students has a significant relationship with mental health and student achievement (Yusuf, 2016). Moreover, several studies have shown that people who are more physically active tend to be less affected by mental disorders than sedentary people (Hoare, 2016; Lieser M, 2019).

Moderate physical activity can reduce depression and anxiety in students in China, so the study suggests promoting physical activities that can be done at home during the Covid-19 pandemic to protect students' physical and mental health (Xiang et al., 2020). Short duration aerobic exercise supports students' mental health and can be a daily exercise program for students that can be done at home with fun (Herbert et al., 2020).

This is in line with the research that *pacotera* gymnastic which is done by students when studying at home can reduce mental or psychological disorders of students. In addition, in order to maintain the health of students because their activities during the pandemic period were greatly reduced. This is also supported by research that low intensity exercise can reduce the incidence of depressive symptoms in Chinese students (Guo et al., 2020).

5. Conclusion and Recommendation

Exercise in daily basis provide great benefits for children and youth such as increasing energy, and prevent chronic disease and will help optimize growth. Exercise can also help promotes good mental health in children and adolescents, i.e. helps fight stress, anxiety, and depression. The more routine it is done, the more it is unlikely that someone will suffer the mental health problem. Good exercise habits make a difference significant effect on stress levels, due to decreased stress hormones, and increased feeling of good hormone (Chekroud et al, 2018., Wegner et al, 2020). At the time of the

Covid-19 outbreak, a community-based rehabilitation program was needed in the form of a physical activity program. These programs must be carried out in collaboration with community stakeholders (Ozdemir et al., 2020). Therefore, we recommend pacotera gymnastics for the schools and physical education's teachers as exercise can be done before and after studying especially when studying on line at home, so that students stay physically and mentally healthy.

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