

GATEBALL AS AN ALTERNATIVE SPORT TO MAINTAIN PHYSICAL FITNESS OF ELDERLY

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Abstract

Elderly is defined as a process of decline, weakness and susceptible to various diseases and changes of physiology that is related to age. The characteristics of elderly are reduction of five sense work ability, organ disorders, psychological changes, and the emergence of a various diseases. It is nearly 50 % the decline of body function is affected by reduced activities. The decrease of the ability can be minimized by always keep the physical fitness and manage healthy lifestyle.

Physical fitness is a person's ability to perform everyday tasks without significant fatigue and still have spare energy to enjoy their leisure time. The good physical fitness is impossible without planning and an understanding of healthy lifestyles as well, there are three attempts to do to get the physical fitness that is by setting up diet, enough taking a rest and exercising regularly.

Good exercise for the elderly is a sport that can improve or maintain physical fitness. The components of physical fitness should be trained for the elderly include heart lung endurance, muscle strength and endurance, joint flexibility and body composition. One sport that is growing and dominated by the elderly is gateball sport. This exercise can be good for the elderly and physical fitness training specifically related to health. The benefit of sport gateball is to make a culture to maintain physical fitness in a way: create a community for the exercise gateball routine, the routine determines gateball exercise schedule, establish communication with other gateball community organizing regular matches with other communities. By coming together with the community can not only exchange information but also the confidence and spirit to stay healthy and fit.

Keywords: Elderly, physical fitness, gateball

Introduction

Elderly is an occurrence that will be experienced by every human being endowed with a long life by Almighty God. According to the Indonesia Law Number 4 of 1965, elderly is someone who reaches the age of 55 years that is powerless to make a living themselves for the purposes of daily life and receive a living from other people.

Elderly is not a disease, although it can cause a variety of impacts in social issues. In developed countries, the life expectancy grows longer; many people have more than 65 years old. In the Year 2011, CIA World Factbook estimates the life expectancy of Indonesia as a whole

is 70.74 Years, if distributed by sex then Indonesian male life expectancy is 68.26 and women 73.38 years (Yahmin, 2012: 1).

Yahmin (2012:1) states that signs of the elderly is a reduced by ability to work by the five senses, organ disorders, psychological changes, and the emergence of a variety of diseases. In the body function, it declines 50% due to reduced activity. Some of the effects that occur in various organs due to immobilization is on cardiovascular and respiratory organs, and body musculoskeletal composition, nerves system, sensory, and intellectual capacity function (cognitive, or in memory) (Nieman, 1989). With the body function decline in elderly, there are so many health problems that are faced, the health of the elderly which is directed at health care, the ability to keep productive, capable, independent and dependent to others.

Theoretically, elderly is the age at which in need of help from others because of reduced ability to work or organ function decline. In elderly, certainly, they want to be healthy and can do works without the hassle or the help of others. One way to do is to maintain physical fitness. Namely by adjusting the diet, good rest, and that the most important is by exercise or physical activity on a regular basis.

Sport is the most difficult because it must be adjusted to the abilities of elderly compared to regulate food intake and rest. Ignorance about the sport you play can also be fatal and cause injury. Before doing exercise, first to know the physical condition of the elderly is intended to measure the ability of exercise to be undertaken.

From the theories of the elderly, they should not be discouraged and resigned to the situation, because each person's condition is different. Physiologically, elderly has been decreased the functions of the body, but from the few studies that have been done that by doing physical activity or exercise can maintain the state of condition of the body to continue to work and not depend on others . However, not many is known to be appropriate type of exercise for the elderly in accordance with the needs and abilities.

Basically, any kind of exercise is good for the elderly as long as fit with the local capacity and not be harmful to the body as well as direct physical contact sports. The recommended types of aerobic exercise are such as cycling, walking, and swimming. However, the sport if done continuously will certainly be able to give rise to boredom. In Indonesia, the growing sport and is dominated by the elderly is gateball, but most of them do not know how and what kind of the sport in which it is good for the elderly.

The Definition of Elderly

Elderly is a phenomenon that will be experienced by everyone being endowed with a long life by God. According to the Indonesia Law Number 4 of 1965, elderly is someone who reaches the age of 55 years that is powerless to make a living themselves for the purposes of daily life and receive a living from other people. Meanwhil, according to the Indonesia Law Number 12 of 1998 about elderly welfare, elderly is someone who has been more than 60 years old (Psychologymania, 2012).

According to WHO, quoted by Psycologimania (2012), the elderly definition is categorized in four types:

1. Middle age is 45 – 59 years old
2. Ederly is the age between 60 – 74 years old
3. Old is the age between 74 – 90 years old
4. Very old is the age above 90 years old

From the definition above, it does not mean that all elderly are helpless and receive income from other people. The helplessness can be minimized with a healthy lifestyle and physical activities that are good. It is said that the elderly who are older than 60 years and can carry out their activities as well as day-to-day job without the help of others to say that the elderly have a good potential.

Many studies from experts find that elderly who have a relaxed lifestyle and tend to sit idle can increase the risk of death from heart disease due to weakening of the muscles work function. From these studies, it is the elderly who are encouraged to keep exercising and physical activity with the dose, frequency, and volume which are measured or with assistance from experts.

PHYSICAL FITNESS

A. The Definition of Physical Fitness

Physical fitness is derived from English Physical Fitness, which literally means the physical suitability or fitness physical. This means that there is a physical conformity with the type of work performed in everyday life or in other words that is fitted by which it is a physical component to the tasks in meeting the demands of everyday life (Suharjana, 2012: 2). Physical fitness can also be referred to physical fitness or physical preparedness. The term

is often referred to the physical fitness in fitness clinic (fitness center) and gymnastics, physical fitness term is often used in schools while the preparedness is often used among the military, such as police officers, soldiers and cadets.

In general, fitness is a question of physical fitness (physical fitness) which is the ability of a person to do works efficiently in daily basis without incurring excessive fatigue so they can enjoy their leisure time. (Djoko Pekik, 2004: 2). Elderly who have good physical fitness that will be very useful in everyday activities because it has more ability to do the job.

In elderly whose physical fitness exercise is very low at a lower intensity for example 40% of maximum heart rate, it would be safer and can improve physical and mental fitness so they do not rely on others (Giam, 1993).

B. Physical Health Components

Djoko pekik (2004: 5), physical fitness that relates to health has four main components, namely:

1. The durability of the heart lungs that is heart lung's ability to supply oxygen to the working muscles in the long term.
2. Muscular strength and endurance
Muscle strength is the ability of muscles against a load in one attempt.
Muscle endurance is the ability of the muscle do the work set in a long time.
3. Flexibility: the ability to move joints freely. \
4. Body composition is the ratio of body weight in the form of fat to lean body weight expressed in percentage of body fat.

C. How to Get Physical Fitness

Good physical fitness will not be obtained without going through the planning and understanding about healthy lifestyle that are good also, there are three attempts to do to gain physical fitness; eating, exercising, and taking rest (Djoko Pekik, 2004: 7).

1. Eating

Keeping your diet is one of the factors that affects health and fitness. With increasing age of a person, the body's metabolic rate tends to decrease, and then the nutritional needs of the elderly will need to be balanced with the needs. Caloric needs of

the elderly would be reduced; it is largely attributable due to reduced physical activity.

Puti Rizka (2011: 1) claims that good menu for the elderly is:

- a. Food contains nutrients which consist of energy, builders and regulators substances.
- b. The proper number of calories consumed by elderly 50% is derived from carbohydrate, vegetables, nuts, and grains.
- c. Limiting the amount of fat that is in foods.
- d. Large number of fibrous foods in fruits, vegetables, and various starches.
- e. Consuming calcium-rich foodstuffs such as fish and non-fat milk.
- f. Many foods that contain iron such as beans, liver, spinach, or green vegetables.
- g. Limit salt intake, avoid foods that contain alcohol.
- h. Try soft foods and easy to chew.
- i. Try to avoid foods that are too sweet, savory and greasy.

2. Resting

Rest is the body's right to make improvements and physical functions in which in this phase the body can also absorb oxygen work optimally. With adequate rest, the body will come back refreshed and ready to do the next job. For elderly, it takes a rest for 6-7 hours per day.

Anggelinasinta (2013) says that the resting functions for our body are:

- a) To regenerate the broken body cells to be new
- b) To add concentration and physical ability
- c) To accelerate the hormone production of body's growth
- d) To maintain the heart function
- e) To rest the tired body after working
- f) To improve body immune from diseases.

3. Exercise

Exercise is a type of physical activity that is done consciously and with certain purposes. Systematic exercise is aimed to keep or maintain physical fitness that is aerobic activity. Non contact physical sports are not recommended for elderly. Gateball is an excellent exercise for maintaining the physical fitness of elderly. There is a concentration element, cardiac pulmonary component durability because the game is done for 30

minutes with a large field. Strength and muscular endurance components are used to hit the ball. Components of body flexibility are needed when hitting the ball and when the game gateball is underway.

D. Physical Fitness Exercise

Stages of exercise are a series of exercises in each workout process includes warming up, conditioning and calming, for this stage, it should be done sequentially.

1. Warming Up

Warming is done before doing the exercises in this case it is the gateball sport. Warming up aims to prepare organ function to be able to accept the imposition of a heavier weight than actual practice. Warming up if done properly can reduce the risk of injury, moreover, so in this case the elderly are susceptible to injury. Gateball sport is a sport that uses time as the game and use the tool as a support of the game.

Warming is done starting from the upper body component to the very low. Gateball is a sport that requires elements. Warming is done with a sequence ranging from low aerobic activity, stretching, calisthenics movements, and formal activities that include the actual movement.

2. Conditioning

After warming up, then followed by conditioning stage. Conditioning is done with a series of motion exercises with the model that corresponds to the purpose of the exercise program. As is the case with gateball sports, exercise conditioning is start gateball accordance with applicable regulations. Gateball sport can be played in accordance with the level of ability, it also can be played with a start time of 15 minutes, 20 minutes, 25 minutes and usually played for championship in 30 minutes and can be re-played.

3. Relaxing

This stage is often forgotten, usually after completion of conditioning, the relaxing is skipped. This stage is not as important as the other stages, which aims to restore the body like before doing the exercise. Relaxing also serves to return blood to the heart for re-oxygenation, thus, preventing a pool of blood in the leg and hand muscles. The stage is characterized by a decline in heart rate, body temperature and the decrease of the reduction which is usually performed by the reduced sweat about 5-15 minutes.

E. Kind of Appropriate Sport for Elderly

1. Sports for Elderly

Basically, any exercise provided for elderly should be done in accordance with the portion and has been routinely performed since they were young. In terms of the age of the elderly, it has been much decreased in physiological sides and in terms of its biomotor components. Doctors suggest that elderly sport should be harmless, less physical contact and be dynamic like aerobic such as walking, aerobic exercises that are specifically for elderly, swimming or a combination of these gateball sports.

Some benefits of exercise for the elderly are to slow down the degeneration process due to changes in the elderly, to facilitate physical health in life that is protective, which is to improve reserved power when sick, (Suryanto, 2010).

2. Gateball Sport

Gateball is a new sport that is growing in Indonesia, the sport is much in demand because it leads to more recreational sports although many are also competed for achievement. This sport is dominated by many elderly because it does not require strength and accuracy that is the most dominant element. Gateball sport can be played by men and women even combined between men and women and it is not limited by age therefore gateball is also called sport without boundaries.

a. The Game Rule

Sports gateball is a target sport with putting the ball into the gate or wicket. Gateball sport is played by two teams of red and white team in accordance with the ball being played. A team consists of 5 players, the red team consists of playing an odd ball number (1,3,5,7,9) while the white team plays even ball (2,4,6,8,10), to start the game by hitting the red team first ball and followed by the white team. This is a ball game targeted which is ball batted must pass 3 namely goal (goal 1 to 3) and is declared complete after about hitting goal ball pole.

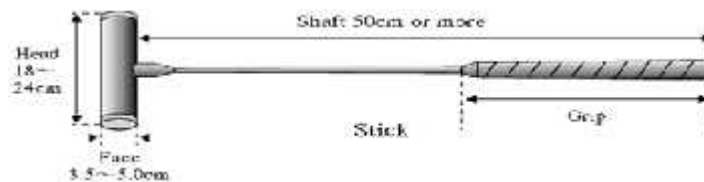
The winner is determined by the total amount earned during game time. Usually, the gateball game is 30 minutes. Each team consists of 5 core players with a substitution player, and one player acts as the captain of the team. The game begins by the holder of the red balls and white balls later and continued intermittently.

b. Equipments

There are some equipments to play gateball; the stick, ball, wicket, goal pole, and the gateball field.

1) The Stick

The stick is a T-shaped head as a hitter and as a place to grip the hit. The cylindrical head is with a length of 18-24 centimeters in diameter from 3.5 to 5 centimeters. While the stick rod is 50 centimeters or more in compatible length needs. No special material specifications are usually made of metal or wood.



Source: *Gateball.worldpress.com*

2) Ball

Gateball ball is 7.5 inches diameter, weighed 230 grams and is made of synthetic resin. Gateball ball consists of 5 red balls and 5 white balls. Red for odd balls numbered 1, 3, 5, 7, 9 and even-numbered white balls 2, 4, 6, 8, 10.



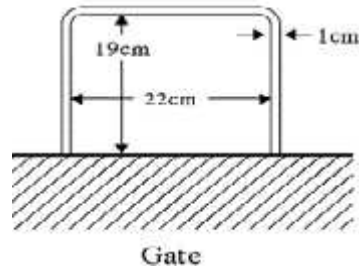
Sourcer: *Gateball.worldpress.com*

3) Gate

Gateball game requires 3 gates consisting of a gate that is the first gate that must be passed by each participant to start the game. The second and the third gate are the goals that must be passed to obtain a point and goal pole to end the game. Gateball

winner is determined by a point system that is obtained by inserting the ball into the gates.

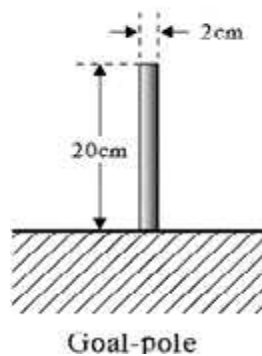
The gate is made of a cylindrical rod made of 1 centimeter diameter rod cylinder. U-shaped gate with a width of 22 centimeters and 19 centimeters high. Each gate is labeled according to the number of goal.



Source: *Gateball.worldpress.com*

4) Goal pole

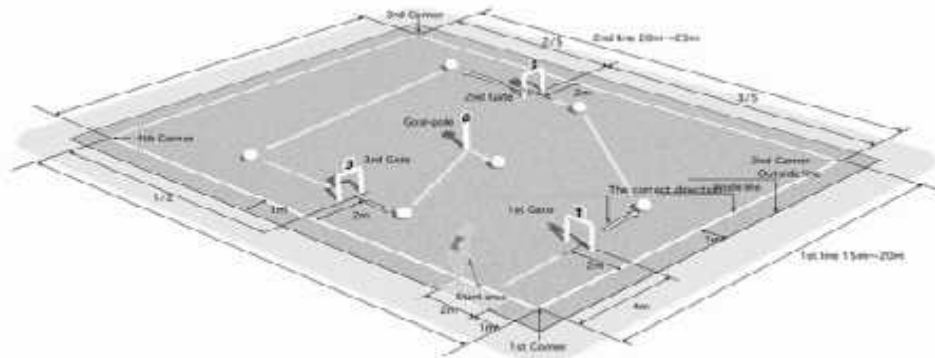
Goal pole is a pole that is placed amid which functions to end the match in addition to getting points. Goal pole is placed at the midpoint of the field. Goal pole is made of steel pipe with a diameter of 2 centimeters, plugged straight with 20 centimeters high. Goal pole color should contrast with the color of the field to be easily identified as the ultimate target.



Source: *Gateball.worldpress.com*

5) Gateball Field

Gateball field is rectangular with a size of 20-25 meters with a width of 15-20 meters. Usually this sport is played in field ground like a grassy field or clay.



Source: Gateball.worldpress.com

6) Terms in Gateball

1) First Hit

The firsthit is to start the game through the start line. The ball must be entered at the first hit the gate and then can continue to the next gates. The ball is not allowed to enter the field when failing to pass the first gate.

2) *Outball*

It is said outball if the result of a hit out of the field lines. After the ball out, the ball should be included again after waiting until the ball is recalled.

3) *Touch dan sparking*

Touch is when the ball is hit by a player who touches the ball or the others, both friend and opponents alike ball. Sparking is a way of extracting and moving the ball, either beneficial or detrimental positions. How to do sparring is take our ball and stepped on the ball and place the ball in place attached to the ball touched us and point it to our intentions.

d. The Benefits of Gateball for Elderly

Many studies suggest that the exercise would have many benefits, especially for the elderly. Exercise is very beneficial for health and physical fitness. Some

benefits of exercise is improving blood circulation, strengthen muscles, burn fats, improve muscle coordination and many others. However, sometimes the elderly feel bored to do exercise because of the same routine.

Gateball is a fun recreational sport, because gateball is a sport that requires strategy in the game. Gateball game is usually played for 30 minutes, so it will be plenty of time for physical fitness training, especially with regard to the health components.

Gateball can train endurance component of pulmonary heart because this game has a large field sizes so that players in this case is elderly will walk and run to catch the ball that has been hit in the field. Each player has the opportunity to do anything further hit when the ball goes into the gate or ball of the ball other friends and opponents alike, and so on. Players will unconsciously be always running to catch the ball and wait for the other players to stand next to the field to play the turn. Click Doctor (2014: 1) states that aerobic exercise means exercise for heart and lung health, in the form of body movement in general such as walking, aerobic exercise can be done for 30 minutes

Strength is the ability of muscles against a load in a single effort. In gateball game, because players can train strength, they will perform it repeatedly with full force if they need a hard blow and blow gently when the ball is in favorable positions. The game can also train gateball muscular endurance as players perform repeated blows alternately in accordance with the turns for 30 minutes.

Flexibility is the ability to move joints freely. Abidil Smith, (2013: 2) says that flexibility is the ability to move in all directions with movement amplitude (range of motion) is large and broadly in line with the function of movable joints. The game can train gateball flexibility because in each game the player makes a hit with a hard or soft with the joints as needed will adapt the body especially arms joints, and legs that are used as a footstool in making a hit. Gateball ball hit direction is adjusted to the needs to be intended not with the monotonous movements that its position is constantly changing according to the needs.

Body composition is the ratio of body weight in the form of fat to body weight which is stated in percentage of body fat percentage. Exercise should be done

regularly at least three times a week and intermitten because the body will adapt. Exercise if done regularly of course can make the body expending energy and calories and it will certainly have an impact on both body composition and weight loss in body fat.

From the explanations about gateball, there are many advantages to make playing gateball as a sport culture for elderly so that it will be more prepared by many ways:

1. Organize a Gateball Community

Gateball game is played as a team sport it cannot be played individually, thus, it requires other members. It needs to make a community of gateball lovers, in addition to the community play an exercise; it is also beneficial to exchange information. It would be better if gateball community is made up of the elderly to be a good communication, the same feeling of shared passion to stay healthy and fit. This community is not just about gateball but can provide other information, especially about health and physical fitness.

2. Make Regular Training Schedule

Once gateball community is formed, the next step is to make exercise in a regular schedule. To obtain a physical fitness, the exercise is performed at least three times a week. Gateball community in Bantul Regency plans the exercise once every two weeks because the next day is usually used to practice with other community or practice group, usually every day of the week or holidays. The exercise is determined by the business level and agreement of each participant.

3. Make Communication with Other Gateball Communities

After the community is formed and regular exercise goes well, make gateball community to other communications. This communication will be very useful to know the development of information communication gateball of others. Communication is also useful to add to the spirit of the exercise, especially the elderly, because of mutual willing between communities in different capabilities.

4. Make a Tournament for Gateball Communities

The peak of the exercise is a match. Matches are made to overcome boredom in practice. Match or championship are made also to see how the exercise effect that has been carried out on a daily basis. With the championship, it is also expected in

elderly participants can measure the fitness level of each because the gateball game is constantly performed or completed within the time into as well. The match also serves to strengthen inter-community gateball.

CONCLUSION

Advanced age or often called as elderly is not a disease, although it can cause various social issue impacts. The signs of the elderly are the reduced ability to work by five senses, organ disorders, psychological changes and the emergence of various diseases. The body function decline of elderly is nearly 50 % due to reduced activities. The decrease in the ability can be minimized to always keep the physical fitness and set healthy lifestyle.

In general, fitness is a question of physical fitness (physical fitness) the ability of a person doing daily work efficiently basis without incurring excessive fatigue so they can enjoy their leisure time . Good physical fitness will not be obtained without going through the planning and the understanding about good healthy lifestyle, there are three attempts to do to gain physical fitness; eating, exercise, and taking a rest.

Many studies suggest that the exercise have many benefits, especially for the elderly. Gateball is a good exercise for the elderly because it is a strategy sport that can affect the physical fitness. The use of this sport makes a culture to maintain physical fitness in a way: create a community for the exercise a routine, the routine determines training schedule, establish communication with other gateball community organizing regular matches with other communities. By playing together with the community, it does not only exchange information but also emerge confidence and spirit to stay healthy and fit.

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