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Asmaball is an alternative sport games for asthmatics of senior high school

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Abstract

The main aims of this study are to create a modified soccer games for Asthmatic high school students. The modified game hopefully can be an alternative way for sport teacher to teach soccer for Asthmatic students and make the student interested in playing it. This study was research and development type by adapting Borg & Gall's (1983: 775) procedure of R&D research as follows: (1) data collection, (2) data analysis, (3) first draft product development, (4) expert validation and revision, (5) small scale product testing and revision, (6) large scale product testing and revision, and (7) final product development. Small scale product testing was done in Kolese Debritto Highschool, with 26 asthmatic students, class X and XI. The results of the study is a module of modified soccer for asthmatic Highschool Students. From the expert judgement, it can be seen that the modified soccer game is good and effective for asthmatic students who want to play soccer and can be used as therapy. The modified game can be an alternative way for sport teacher to teach soccer for asthmatic students and make the student interested in playing it.

Keywords: soccer, asthma, education, sport, management

Introduction

Asthma is a disease of the airways that transports air to and from the lungs, full recovery is available, but management methods can help asthmatics maintain a full and active life. Asthma sufferers, inside the walls of the airways, known as the bronchial tubes, become swollen or inflamed. Asthma is an incurable disease of the airways. This disease causes reserves and constriction in the lungs, flowing the air supply (Felman, 2018). Asthma symptoms often appear in periodic attacks or episodes of tightness in the chest, wheezing, shortness of breath, and coughing. During the development of asthma, the airways swell and become very sensitive to substances that someone might breathe. When this increases sensitivity to reactions, the muscles that control the airways are tight. As such, they may approve higher channels and exceed excessive mucus production (Felman, 2018). Asthma is a chronic inflammatory requirement that causes blockages and reversible airway symptoms such as: coughing, wheezing, chest tightness, shortness of breath, so that it can make it easier to carry out activities that increase physical activity. consists of: coughing,

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wheezing, chest weight, tightness, making it difficult for patients to carry out activities that promote physical activity.

This recurrence of asthma occurs due to a lack of understanding and care of the patient, with poor understanding and treatment it will be very dangerous if asthma recurs, cases of asthma in the world that result in deaths reaching 250,000 cases and this increases every year (Felman, 2018). Repeated asthma attacks often cause sufferers to have difficulty sleeping, fatigue throughout the day, interfere with daily activities, even increasing the frequency of absenteeism at school and work. Asthma is a collection of signs and symptoms of wheezing and / or coughing with the following characteristics: episodic and / or chronic arising, tend to at night / early morning (nocturnal), seasonal, trigger factors include physical activity and are reversible both spontaneous and with blockages, as well as a history of asthma or other atopy in patients / families, while other causes have been removed (Nelson WE, 1996).

Asthma sufferers are always increasing in developed countries, in Canada nearly 10% of the population in that country has asthma, which has become the focus of the medical agency in Canada (Kim & Mazza, 2011). In the United States about 8.3% of the population in this country has asthma problems with various types and levels of asthma (Felman, 2018). Based on data from the World Health Organization (WHO), the number of people with asthma in the world is estimated to continue to grow by 180,000 people each year and increase to 400,000 in 2005. Survey results in Medan, Palembang, Jakarta, Bandung, Semarang, Yogyakarta, Malang and Denpasar show the prevalence of asthma in children ranges from 3.7% - 16.4%. In Indonesia asthma is one of the top ten causes of morbidity and mortality, this is illustrated by data from the Household Health Survey (SKRT) in various provinces in Indonesia. SKRT in 1986 showed asthma ranked 5th out of 10 causes of morbidity (morbidity) together with Bronchitis and Emphysema (Prasetyo, 2010).

In the city of Yogyakarta in the period of 2015-2017 data collection was carried out by the Yogyakarta City Health Office experiencing an increase in asthma cases, within three years there were 2,393 cases of asthma recorded and there was an increase in each year (Wardhani, 2018). In addition, data from the Ministry of Health in 2018 shows that the Yogyakarta Special Province is the top three provinces that have asthma prevalence in addition to East Kalimantan and Bali (Kementrian Kesehatan, 2018).

The stage of education in high school is a time when students must begin to express all their abilities in the field of interest so that all things that attract students need to be tried and done. The characteristics of senior secondary students are to have more energy so that with that energy students will pour into activities they are interested in such as having an interest in a field they like, such as Art, sports and Social. The researcher conducted a preliminary survey in high school at Debritto College High School where students found that 10% of students suffered from mild asthma, in that condition students with homogeneous schools always develop their students' interest in all activities of interest and activities contained in extracurricular activities (Antonius Tri Wibowo & BM Wara Kushartanti, 2013).

Students are much interested in Sports activities and one of the favorite sports activities is football, and students who have asthma are part of the football team. The problem now is that students who suffer from this asthma if they play with football games then always experience a recurrence so that they make the students into difficulties and of course will be a mockery in the eyes of their friends. Football has become a popular sport in the world and has become a special attraction for all people in the world, research data from Nielson Sport shows that soccer is a popular sport in the world and specifically in

Indonesia is ranked second in the world of soccer enthusiasts with 77% of citizens liking football, while number one soccer enthusiast is Nigeria with 83% of the population liking football (Nova Arifianto, 2018).

The problem that arises is that soccer enthusiasts who have asthma experience problems when playing conventional football with a large field, students always complain of tightness and exhaustion so sometimes they have to stop playing conventional football. Even if you don't exercise, you can reduce your fitness and by working on it, it will help people with asthma not to recur easily. Sports that are recommended for asthmatics are a type of exercise that has intermittent characteristics, intermittent exercise is alternating between aerobic and anaerobic characters alternately {FormattingCitation}. itself is a sport that uses intermittent understanding of the sport. The researchers conclude that alternating sports using an aerobic energy system and anaerobic energy system are highly recommended for asthmatics. The use of intermittent exercise is because when using the aerobic energy system it can train the muscles of the respiratory organs of asthmatics to get stronger and when using anaerobic energy systems train the respiratory organs to adapt to situations of oxygen deprivation, so that asthmatics become trained.

Methods

This research is a Research and Development study by modifying the shape of conventional football games into football that is safe for asthmatics, and is known to be Asmaball so that high school students who suffer from asthma can play safely. The stages of this development research are in accordance with the steps of the research according to (Borg, W.R & GALL, 2003), then the researcher adapted into 7 procedures, namely: (1). Collection of information in the field, (2). Conduct Analysis of Information That Has Been Collected, (3). Develop the initial product (Draft model), (4). Expert Validation and Revision, (5). Small and Revised Field Trials, (6). Large and Revised Field Trials, (7). Making Finals Products.

The subjects in this study amounted to 26 students and were followed by students with mild asthma scholars who liked and always played football with proof of illness and notes from medical records regarding asthma. This research involved several health experts and sports doctors namely Dr., Dr. Novita Intan Arovah, MPH, from game sports experts and football experts from the Faculty of Sports Sciences, Yogyakarta State University Dr. Herwin, M.Pd and sports teacher Christoporus Danang Wahyu, S.Pd, the three of them are experts who validate and provide evaluations from the initial product to the finished product, in addition students also give an assessment from Asmaball's game.

The instrument collected data using interviews and questionnaires, with grids according to their respective expertise regarding the safety of the game, health of asthma sufferers, suitability in the rules of the game, the joy of students in playing. The analysis of this research is quantitative descriptive analysis and qualitative descriptive. Quantitative descriptive analysis was carried out to analyze the following data: (1) value scale data as a result of the assessment of material experts on the draft modification of football games for asthmatics before the trial in the field, (2) data from material observers on soccer game modifications for asthmatics, (3) data from observations by material experts on the effectiveness of soccer game modifications and (4) asthmatic student observation data on the effectiveness of soccer game modifications. While qualitative descriptive analysis was carried out on: (1) data from interviews with asthmatic students and sports teachers (2) data on deficiencies and input on modification of football games

for asthmatics both before the trial and after trials in the field. Saifudin Azwar (2005) states that in interpreting raw scores into grades using the PAP approach, the criteria for values and limits are first determined, which will be presented as follows: (1). Formula $X < (\mu - 1.0\sigma)$ Limit $X < 16.67$ Category Less, (2). Formula $(\mu - 1.0\sigma) \leq X < (\mu + 1.0\sigma)$ Limitation of $16.67 \leq X < 33.33$ Category Enough. (3). Formula $(\mu + 1.0\sigma) \leq X$ Limitation $33.33 \leq X$. (3). Formula $(\mu + 1.0\sigma) \leq X$ Limitation $33.33 \leq X$ Good Category.

Results and Discussion

After conducting an analysis in the field, a draft of the Asmaball product was prepared, namely adopting a football game with changes in field size, number of players, playing time, number of goals, ball size and rules of the game. Then the initial draft was submitted to the validation expert and after obtaining validation and input from experts then the product was revised, the initial product draft was tested on a small and large scale. The results of the validation of the experts for the initial product obtained a score of 8 then included in the frequency distribution to get 100% presentation in the Good category, while the input from the experts became the material for the revision of the initial product before being tested.

The results of the assessment of small-scale trials are as follows: (1). Data from observations from experts for the initial product get a total value of 10 then included in the frequency distribution to get a percentage of 100% in the Good category. (2). The results of the effectiveness assessment data on the product get a total value of 7, then included in the frequency distribution get a percentage of 100% with the Good category. (3). The results of student assessment data from the initial product after students do the practice get a value that shows 30.67% Enough and 69.23% Good. After getting an assessment and input from experts and students in a small-scale trial, revisions were made to improve the product and ready to be tested again in a large-scale trial

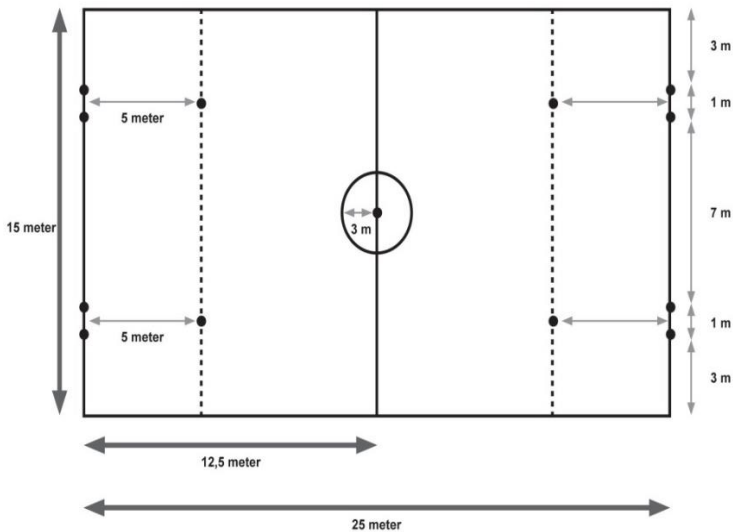
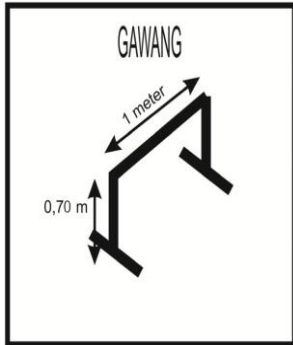
The results of the assessment of large-scale trials are as follows: (1). Data from observations from experts for the initial product get a total value of 10 then included in the frequency distribution to get a percentage of 100% in the Good category. (2). The results of the effectiveness assessment data on the product get a total value of 7, then included in the frequency distribution get a percentage of 100% with the Good category. (3). The results of student assessment data from the initial product after students do the practice get a value of 7.6% and 92.31% Good. After getting an assessment and input from experts and students in this large-scale trial, the final product is then refined and can then be applied to the general public.

Conclusion

The finished products from Asmaball include the size of the field, number of players, form and number of goals, size of ball, and rules of the game which are all different from the rules of the game of football. Every start of the game students are always stressed having to warm up either static or dynamic heating, then as a cover it ends with cooling. While the description of the size of the field is as follows:

1. Size of field Length of field 25 meters, Width of field is 15 meters, Area of penalty distance is 5 meters, Area of middle circle is 3 meters, Field line is 8 cm.
2. Gawang The number of goal 4 is 1 meter long and 70 cm wide and made of pralon.

3. Game time 2 x 10 minutes with 5 minutes rest time, Ball used.
4. 4th size ball or futsal ball.



Lapangan Asmaball

5. Game rules:
 - a) The game is played on the floor or artificial turf, if it is forced to be on the ground but must be watered so it is not dusty.
 - b) Players number 5 players without a goalkeeper and free substitution.
 - c) Players may score in 2 opposing goals.
 - d) All attackers must go out of the 5 meter line of the net when attacking.
 - e) Start the game from the center line Kick off from the middle two touches are done.
 - f) Starting the game from out is done like futsal with the ball placed on the line or behind the line with free time.
 - g) Every time a hands ball occurs a kick is carried out towards the goal without any blocking, the player may immediately kick the ball into the goal or passing to the teammates.
 - h) If a serious violation occurs the sentence is the same as handball.

- i) If a minor violation occurs from the outside, if the violation 3 times in one round will be a penalty.
- j) The distance of the keeper when the kick goal is outside the penalty box which is 5 meters from the penalty line.
- k) Distance of the opposing player on the throw in and when the corner kick is 2 meters.
- l) Games are not for achievement but as a means for recreation.
- m) It is recommended to use ket shoes.
- n) To distinguish members, it is better to wear a different vest or uniform so that it is a differentiator.

Asmaball's reconciliation is recommended for mild asthma sufferers, and for asthma sufferers should always exercise so that the body's condition becomes fit so that the asthma does not recur, asthma sufferers should always preheat and cool down after finishing the exercise. Asthma sufferers should always consult a doctor and always stay away from triggers for recurrence of asthma. Hopefully with this Asmaball game for lightweight asthma players who want and like football, they can still play football safely.

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