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Level of physical activity of Indonesian esport athletes in the piala Presiden esport 2019

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Abstract

Background: In the past years, Esport has been a phenomenon. It lies in a discussion of whether accepting esport as a part of sport categories or not. In fact, many argue about this because it has an impact on the physical activity and lifestyle of the players. This study focuses on the analysis of physical activity and lifestyle of esport athletes competing in annual sporting events throughout Indonesia. Method: In this study data collected from 50 athletes consisting of all men. The measurement method used in measuring the level of physical activity is the International Physical Activities Questionnaire (IPAQ). Result: From the completed questionnaire, it was found that the level of physical activity of the athletes reached 3120.2 (± 24.3) METs. This figure shows that athletes are still included in the category of high physical activity. Conclusion: The average level of physical activity of esport athletes is in the high category.

Keywords: *IPAQ, life style, esport, athlete*

INTRODUCTION

The development of the digital era has made changes in all aspects, including sports, which in recent years have begun to develop until finally giving birth to esports. Esport (Electronic Sport) or in Indonesian translation, electronic sports in the last five years have experienced rapid development, both in terms of industry and users, even since 2007 industry observers have been anticipating the potential for

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esports development. In the early 1990s, esports were well known, but limited internet access made them less competitive. In the 2000s, various forms and types of esports began to emerge that made it easier for them to play anywhere, and in the 2010s esports could be played on mobile phones and could be played by more than two people due to easier internet access assistance.

Increasingly, there are more and more users or esports players, as well as the industry in it. This is in line with the development of various esport clubs even now football clubs in Europe have esports clubs, because they almost have a lot of things from a competitive and industrial side. Even various sponsors immediately hunted down the organizers who held the competition. It's not difficult for esports clubs to find data because the industry is huge.

In Asia, esports was first played in a multi-event event in 2018, to be precise at the 2018 Jakarta-Palembang Asian Games. A proud development when esports was officially held in other multi-event events such as the 2019 Sea Games. This has further increased the number of esports users and players. This development makes almost all children play esports, but it is very difficult to avoid the negative impact of those who reduce their field activities (Lenhart et al., 2017).

Various perspectives occur in the debate about the benefits and risks of esports, such as the point of view of sports, health to industry. In terms of sports, it is said that "sports are all forms of physical activity through casual or organized participation aimed at expressing or increasing physical and spiritual fitness, forming social relationships or obtaining results in competition at all levels" (Eime et al., 2014). Another factor that indicates that esports is included in the sport category is the element of competition and has a clear organizational or developmental framework. Some have their own views on the presence of esports, such as Germany which has a standard in defining sports, which consists of three core categories, namely: 1) physical activity; 2) convey good ethical values; and 3) good organizational structure. According to this definition,

physical activity in chess fulfills the demands of the DOSB (Deutscher Olympischer Sportbund/German Olympic Sports Confederation), as well as accepting billiards, bowling, curling, darts, horse riding, or mini golf as part of the sport (Bauman & Craig, 2005). On the other hand, DOSB does not condone professional boxing, because it destroys the conditions for the delivery of ethical values (Hallmann & Giel, 2018). Each country has its own definitions and rules for categorizing these activities into sports categories.

Physical activity is one of the most debated topics in esports. Physical activity is one of the important factors in maintaining one's health not only in terms of sports but also from a health perspective. The definition of physical activity according to The American Heart Association is any activity that moves the body and burns calories (Difrancisco-donoghue et al., 2020), whereas, WHO has its own definition related to physical activity which explains that physical activity is any movement of the body produced by skeletal muscles that requires energy expenditure. (Hasan, 2020). Methods of measuring physical activity produce various methods, one of which is the International Physical Activity Quetionary (IPAQ). Based on the unit the results of the questionnaire were MET, or metabolic equivalent.

Physical activity is an important factor in maintaining health not only for children but also for all ages, from children to adults, it is important to maintain a balance of physical activity. The World Health Organization (WHO) explains that adults (18 - 64 years) should at least do 75 minutes of physical activity (high intensity) to 150 minutes (moderate intensity) in one week. For children (5 - 17 years), you should do physical activity for no less than 60 minutes in one week, while for muscle balance and fitness, everyone is advised to train all muscles by exercising at least twice a week.

The level of physical activity is related to the level of obesity because the lower the level of physical activity, the lower the calorie burn is, this has an impact on the accumulation of excess energy which tends to

gain weight. If only food intake remained high, it would have an impact on calorie accumulation which in turn would have an impact on weight gain. The obesity rate in Indonesia in 2017 for the category of children (5-9 years) reached 8.5%, while for adolescents (13-17 years) it was 4.6%. There are 85% of adolescents who lack physical activity whose data is obtained from the middle to lower-income group (Riskesdas, 2018). During these years the trend of physical activity increased, but in some groups, there was a decline. The comparison of the level of physical activity from 2001 to 2016 for the low-income group did not change, but there was a decrease in the middle group while there was an increase in the level of physical activity in the high-income group. All data are collected from the World Bank Revenue Group (Guthold et al., 2016). In the Basic Health Research conducted by the Indonesian Ministry of Health, it was stated that the level of physical activity of the Indonesian people was still low (Riskesdas, 2018). This is in line with the level of physical activity that has not improved, along with the increase in the mortality rate for non-communicable diseases.

From a series of health importance and the unstoppable popularity of esports, esports and health or physical activity are among the most discussed. The discussion was even discussed in all areas of expertise, some of which consisted of industry, sports, health, organizing, to education. Based on the definition of "sport" and "esport", there is no important element that states that esport is a part of the sport, especially because there is no element of physical activity as referred to by sport. On the other hand, based on recent developments in the industry and the business world, it can be said that esports is similar to sports because there is an element of competition.

These various phenomena have triggered academics to conduct research related to esports. A search was carried out on Google Scholar, the period from 2018 to 2020 has published more than 35 scientific articles discussing esports. Scientific articles published in various perspectives, consisting of physiology, physical activity, nutrition, sociology,

management, and quality of life. One of the most researched on the level of physical activity and health in esports players (Difrancisco-donoghue et al., 2019; Pereira et al., 2010; Trotter et al., 2020). In the study, the health risks experienced by esports athletes were written, such as a tendency to change the structure of the spine, decreased immune conditions, and irregular sleep patterns (Zwibel, 2019). Even though, in fact, professional athletes are always led to be in good physical condition at the time of the competition which requires them to still be led to take their time to exercise (Kari & Karhulahti, 2016).

From the results of research that has been conducted and published, there has been no specific research discussing the level of physical activity of professional esports athletes in Indonesia. Because the habits and lifestyles of Indonesian esports athletes become role models for teenagers who like to play esports, this is evidenced by a large number of followers on the social media of Indonesian professional esports athletes. Therefore, this study is intended to determine the level of physical activity of Indonesian professional athletes, to be preliminary data in providing recommendations to the main esports organizations or sports policymakers in the future esports development efforts.

METHOD

This study uses quantitative methods, with an emphasis on finding data about the physical activity of esports athletes. The measuring instrument used is an International Physical Activity Questionnaire (IPAQ). IPAQ is a questionnaire that can represent a person's level of physical activity. In the contents of the questionnaire, there are three main parts of the question; strenuous physical activity, moderate physical activity, and light physical activity. Other questions become supporting questions from the results of the three main questions. The athletes who were respondents in this study were those who participated in the national level competition held in Indonesia, the 2019 Esports Presidential Cup. All participants belonged to the age range of the youth category. These athletes are those who have passed the final stages of selection which are

held in various regions in Indonesia; 50 athletes qualify for the final round. In other words, the 50 athletes are representatives of all Indonesian youth who play esports, with a total of 21% of the total population of Indonesia (270,200,000 inhabitants). All athletes who qualify for the final round became respondents in this study. Thus it can be assumed that the respondents of this study were the 50 best athletes in Indonesia. The results of the IPAQ questionnaire are Metabolic Equivalents (METs) which measure the level of a person's physical activity.

The questionnaire was filled out when athletes or respondents who participated in the 2019 Esport President Cup competition gathered in Jakarta to compete. The implementation time is during March 2019 in Jakarta. Before distributing the questionnaire, the respondents received an explanation of the purpose and explanation regarding the questions contained in the questionnaire. In addition, respondents received an explanation of the benefits of the research carried out.

RESULT

Descriptive data related to age, anthropometric profile, level of physical activity, to other supporting aspects such as sleep duration and gameplay duration were obtained from 50 athletes who competed in the 2019 Esport Presidential Cup.

Tabel 1. Athlete Anthropometry

	Indicator	Description
Age	21.5 (± 1.01)	Adolescence
Height	171.1 (± 6.1) cm	
Weight	65.5 (± 11.1) kg	
Body Mass Index	22.4	Normal

The result showed that average age was 21.5 years, referring to the age criteria according to the ministry of health in 2009, that age was included in the late adolescence group.

Tabel 2. Level of Physical Activity

	Indicator	Description
Physical Activity (METs)	3120.2 (±24.3)	Level of Physical Activity High

The level of physical activity that is disseminated through IPAQ shows the METs number 3120.2 which falls into the category of high physical activity levels.

Tabel 3. Sleep Duration and Game Play Time

	Indicator	Description
Sleep Duration	420.5 (± 11.1) minutes	Enough
Game Play Time	183.9 (± 7.1) minutes	

The sleep habits of the samples were 420.5 minutes, in other words up to 7 hours in one day. Even if we dig deeper, the habit of sleeping time only starts in the morning. The habit of playing games in 50 samples reached 183.9 (± 7.1) minutes or 3 hours a day to play games or practice.

DISCCUSSION

The level of physical activity that is in the high category carried out by esports athletes who qualify for the national round is indeed the focus of those who want to compete in prime physical condition in order to support a better game (Kari et al., 2016). The results of the METs of the samples in one week of less than 150 minutes of moderate exercise, this is in accordance with the WHO recommendation which recommends that everyone does more than 150 minutes of moderate exercise in seven days (Yin et al., 2020), however, this is also experienced by esports athletes from America and Australia, only 19% of esports athletes meet the minimum limit set by WHO (Trotter et al., 2020). Even so, professional esports athletes do regular sports, not only for their fitness but aim to be part of the handling and prevention of stress and injury (Karahan et al., 2015).

The sleep duration experienced by the sample is in the adequate category, according to the recommendation from the Ministry of Health in 2018 (Riskesdas, 2018). This is sufficient to answer the paradigm in

society that esports players tend to be sleep deprived, but when it comes to sleeping time, many of them start sleeping after midnight or early in the morning.

The average screen viewing duration of the sample was 183 minutes each day, or in other words, more than two hours a day taking up screen time. This resulted in eye discharge in 73% of the total sample. In line with these data, it is reported that 53% of esports athletes in America experience eye fatigue (Difrancisco-donoghue et al., 2019; DiFrancisco-Donoghue et al., 2020).

Time of high physical activity, then the duration of good sleep, is the beginning to avoid the possibility of other health problems. Points to note such as inappropriate sleeping time or sample bedtime. As well as the duration of sitting in front of a screen that is more than two hours, it can pose a risk of pain in the spine and neck area (Difrancisco-donoghue & Balentine, 2018), even sitting in front of a screen for more than 30 minutes has the risk of changing the neck posture which tends to be more forward (Gulbin et al., 2013).

Physical activity and sleep duration are part of the life habits of esports athletes. The same thing was done with esports athletes from Australia and America, but they had a tendency to smoke while playing/practicing esports which reached 3.7%, as well as the habit of drinking alcoholic beverages by 34.9% (Trotter et al., 2020). Data from esports athletes in Australia and America about the habit of drinking alcohol that cannot be compared with the habits of esports athletes in Indonesia, because every country has habits, culture and beliefs that affect one's habits.

The results of the study are expected to become recommendations for policymakers and parents to socialize that professional esports athlete who have a regular level of physical activity and sports because the current perception of children and adolescents is that sports players do not need to exercise. Meanwhile, esports athletes still need a fit body from regular sports to support their achievements (Lin & Zhao, 2020). Likewise

with adequate sleep duration, even though the hours of sleep are not in accordance with the health of the body's physiology, this can be a note and recommendations for improving sleep schedules for the health of athletes in the future. In addition, esports athletes and professional clubs should not ignore scientists who suggest that there are fitness, nutrition, psychological, medical, and physiotherapy experts (Bányai et al., 2020; Difrancisco-donoghue et al., 2019, 2020). These experts can help esports athletes stay in shape, healthy, and avoid physical to mental injuries, which in turn can support their performance in competition..

The other side of this research is to answer the debate related to esports and elements of sport. The question of the various arguments that arises is whether esports is worthy of being considered a sport or not. Some debates against esports to be categorized as a sport due to lack of physical activity, but this debate can be started with the answers from this study, because 50 respondents from various regions in Indonesia gathered through qualifying competitions held in each region in Indonesia. 50 respondents are representatives from Indonesia in various regions in Indonesia. In practical games, esports does not make the players move much because the game is controlled through software in the form of cellphones or computers, but the most interesting thing is the habits and readiness of the athletes which make the average level of physical activity of the athletes under the high category. Athletes and coaching teams recognize that playing esports requires high concentration, and that better concentration can be obtained if they are fit. A fit body allows athletes and coaches to take time every day to exercise to maintain and improve their fitness.

Further research should better be carried out to develop the quality of life and body composition of esports athletes, and find out whether there is a correlation between sleep quality habits and body composition on the performance of esports athletes. (DiFrancisco-Donoghue et al., 2020). With this data, it is hoped that it can further increase the awareness of

athletes and followers and fans of esports that playing esports still needs to pay attention to the interests of health.

The opportunities, behavior, and lifestyle of professional esports athletes are role models for fans. It can be seen from the professional esports athletes that they have many followers on various social media. How much better it would be used again to socialize the health side of esports. So this research can educate professional athletes and learn from their followers and fans on social media about their healthy lifestyle habits and exercise. In addition, this research is expected to answer several sides of the news that tells about the negative side of esports. The positive things from esports and the habits of esports athletes in exercising can trigger the wider community that playing esports must be accompanied by regular sports, the performance when competing in esports is still optimal.

CONCLUSION

This research can be a new argument because so far esports is considered an activity with minimal physical activity. Although based on this research, it turns out that there are more impacts that make them have high physical activity. What is needed during the game is not only a tactical analysis or skill in responding to something that appears on the screen but also the athlete's endurance to perform these activities over a long period of time. Therefore, esports athletes need to be in good health or in shape, but further studies are needed to determine the calories and heart rate that occur during an esport competition to identify whether the esports competition itself is included in the sports category or not. It is necessary to do more extensive research on respondents who are not esports athletes, whether the phenomenon of high levels of physical activity and sports habits is only done by athletes or all esports players because the percentage of non-athletic players is greater than athletes.

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