Physical activity of pregnant women during COVID-19 outbreak in Yogyakarta

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ABSTRACT

Introduction: The COVID-19 pandemic had an impact on everyone, including pregnant women. This pandemic has made pregnant women have limitations for physical activity. The moderate activity recommendation to pregnant women. Physical activity including household, caregiving, occupational, and exercise. Physical activity provides many benefits for pregnant women include physical and mental health. This study aimed to identify the physical activity of pregnant women during a pandemic.

Methods: The descriptive study used in this study with cross-sectional design. This research used 78 pregnant women who live with her husband, doesn’t have a complication of pregnancy, doesn’t have COVID-19. The data collection used the pregnancy physical activity questionnaire (PPAQ) Indonesian version.

Result: The result showed that 73% of pregnant women had vigorous activity, 21,8% had moderate activity and 5,1% of pregnant women had light activity. The activity of pregnant women to household/caregiving showed that 66,7% of pregnant women had vigorous activity. More than half of pregnant women in this research had sedentary activity 59% in sports activity, and 66,7% of pregnant women had sedentary activity in a type of occupational.

Conclusion: The pregnant mother had vigorous intensity during pregnancy in COVID-19 outbreak. The vigorous activity can affect the immune system.

Keywords: Pregnant women, physical activity, pandemic COVID.

INTRODUCTION

The incidence of Corona Virus Disease (COVID) in Indonesia has not decreased. The people tested positive for COVID is still high. The government data from shown that 3,440,396 people tested positive for COVID-19.1 Yogyakarta provinces are in fifth place in the number of COVID-19 cases. The data from Yogyakarta government shown the confirmation of COVID is 119,136 people and 3,459 people of death rate in July 2021.2

The transmission of COVID-19 is faster and easily transmitted to other people including pregnant woman. Women during pregnancy will experience a decrease in immunity so they are more susceptible to contracting COVID-19.3,4 The incidence of COVID-19 in pregnant women in Indonesia currently reaches 536 with a mortality rate of 3% and 4.5% of pregnant women need intensive care.5

Pregnant women must be maintaining the immune system. The immune system can increase with regular activity and physical activities with moderate intensity.6 The government policy is to avoid crowds, social distancing, and postpone prenatal classes included exercise for pregnant women in areas of low risk, medium risk, and high risk.7 This makes pregnant women do not routinely do exercise during pregnancy. The pregnant women with the education class of pregnancy exercise had a good physical activity.7

During pregnancy, the mother should continue to do activities to maintain the well-being of the health status. Pregnant women who do less physical activity during pregnancy can increase the risk of caesarean section 1.63 than pregnant women with good physical activities during pregnancy.8 The activities were recommendation for pregnant women including walking, stationary cycling, aerobic exercises, dancing, and stretching exercises.8

The pregnant women had anatomic and physiologic changes. The most distinct changes were weight gain and a shift in the point of gravity that results in progressive lordosis.9 Another study showed that 89.4% of pregnant women had low back pain with mild, moderate, and severe pain.10 Regular physical activity during pregnancy can increase the health status and decrease the discomfort of pregnant women. Therefore, it is important to know the physical activities of pregnant women during pandemic COVID-19.

METHODS

This study used a descriptive study as a research design with a cross-sectional approach. The population of this research was 350 pregnant women around the area of clinic of Banguntapan 1 Bantul Yogyakarta. The sample of this research was 78 pregnant women selected using the Slovin formula. This study used purposive sampling to get the sample. The inclusion criteria are as follows: pregnant women how to live with husband and can operate handphone, have no pregnancy complication, not tested positive for COVID-19, doesn’t have pregnancy complications, and a pregnancy physical activity questionnaire (PPAQ) Indonesian version.
COVID-19, and pregnant women who were willing to be the respondent.

The demographic question developed by the researcher to collect the characteristics of pregnant women, participant characteristics including age, gestational age, parity, profession, education level, economic status, and pregnancy distance. The physical activity was measured using a modified Indonesian version of the Pregnancy Physical Activity Questionnaire (PPAQ-I). The instrument of PPAQ has been translated to several languages such as Polish, Arabic, Japan, also Korean and has been used broadly worldwide. The PPAQ is a semi-quantitative questionnaire that asks the participants to report their activities. This instrument has 32 questions to measure the activities including household/caregiving (13 questions), occupational (5 questions), Sport/exercise (8 questions), transportation (3 questions), and inactivity (3 questions). Each activity was classified by intensity into four categories such as sedentary (<1.5 METs), light (1.5 to < 3.0 METs), moderate (3.0 to < 6.0 METs), and vigorous (≥ 6.0 METs). The data analysis in this research is univariate. The univariate analysis used to analyze demographic status and physical activity of pregnant women.

RESULTS

The total number of pregnant women who participated in this study was 78 people. The result of this study showed that the average pregnant woman was 25 years old (Table 2). The gestational age of pregnant women was 59% in the third trimester with 52.6% of primigravida. The family income showed that 60.3% had a family income of more than IDR 1,800,000 million rupiah. The pregnancy distance of pregnant women was 41% more than 2 years ago and 66.7% of pregnant women had high school or junior level education (Table 1).

The intensity activity of pregnant women showed that more than pregnant women had vigorous activity (73%). The activity of pregnant women to household or caregiving showed that 66.7% of pregnant women had vigorous activity. More than half of pregnant women in this research had sedentary activity 59% in sports activity and 66.7% of pregnant women had sedentary activity in a type of occupational (see Table 3).

DISCUSSION

Table 1 showed that mean of pregnant women was 25 years old. The age of pregnant women was good for...
reproductive. The maternal age to pregnancy is recommended from 20 until 35 years old. Maternal age was an effect on the health of pregnant women and the baby. The advanced maternal age pregnancy increased the preterm delivery, perinatal death, and APGAR score at newborn baby was below 5. The maternal age was more than 35 years with a non-regular exercise risk of giving birth to a baby weight that more than 4000 gram.\(^{18}\)

This study showed that 59% of pregnant women in the third trimester. The exercise was a recommendation for pregnant women in the third trimester. Pregnant women who were vigorous during the third trimester were able to increase the length of gestational age and reduce the risk of prematurity.\(^{19}\) Other research showed that in the third trimester the pregnant women had sedentary and light intensity physical activity.\(^{20}\)

Most of the pregnant women in this research were a housewife and had family income more than 1,800,000 million rupiah. The pregnant women are housewife and have middle income had more physical activity during pregnancy. Pregnant women who were housewives was significantly associated with physical activity; the pregnant women may be feeling more comfortable doing household activities than engaging in exercise during pregnancy.\(^{21}\) Most pregnant women tried to maintain their unique role doing house chores. The other study showed that pregnant women who maintain this role to increase their self-esteem.\(^{22}\)

All participants in this research had formal education. The education level had significantly associated with physical activity. Pregnant women with no formal education were more likely to be inactive.\(^{23}\) Pregnant women with high education level had high physical activity.\(^{21}\) Pregnant women with higher educational level maybe had more information about pregnancy and activity of pregnant women.

Most pregnant women in this research had vigorous activity (73%) with ≥ 6 METs. This research was not in line with others research. Other research showed that pregnant women do not adhere to recommendation for physical activity during pregnancy, the participation of pregnant women in physical activity during pregnancy were low and decline as the pregnancy progress.\(^{24,25}\) Vigorous exercise influences the intermittent periods of hypoxia because the blood has flowed to the working muscles. During pregnancy, blood flow to the uterus in the first trimester is 50ml/minute and increases to 500ml/minute in the third trimester.\(^{19}\)

This study showed that the level of activity in sport was sedentary (59%). During pregnancy, however, more pregnant women don’t practice jogging, prenatal exercise class, swimming, and dancing. During COVID-19 outbreak, the Government postpones prenatal class exercise in risk areas including the Yogyakarta province. Furthermore, the other research showed that pregnant women changed the exercise routine during pregnancy.\(^{26}\) The barrier of physical activity in pregnant women during COVID-19 including lack of time, motivation, confidence, knowledge and support, fatigue, security issue, also pregnancy discomfort.\(^{27}\)

This study showed that more of pregnant women had sedentary activity in occupational activity (66.7%). In other research showed that occupational activity of pregnant women is normal.\(^{28}\) The discrepancies in the physical activity with other researcher may be due to differences in sample characteristics. Most of pregnant women in this study are housewife.

The intensity activity type household of pregnant women in this research was vigorous activity. The vigorous activity in pregnant women influenced by COVID-19 outbreak. The COVID-19 outbreak caused the decreased economy. As a result of this, the household sector economy stagnated and even a sharp decline in household income.\(^{28,29}\) This research showed that activity type household was vigorous activity where 66.7% of pregnant women had ≥ 6 METs. The economic limitations make people save on expenses; household activities that can be done alone were forced to be carried out by pregnant women. In this research, the pregnant women in household activity including light cleaning (make beds, laundry, iron out things away) need more than 30 minutes every day, and the Shopping for food, clothes, or other items of the pregnant mother more than 30 minutes. The activity to caregiving more than 30 minutes. The activity to caregiving needs more energy. Regular physical has positive effects on the human body. Physical activity is proven to influence energy and bodily composition. The recommended activity for pregnant women was at least 150 minutes of moderate intensity per week during pregnancy.\(^{30}\) Moderate intensity exercise provides a positive impact on health. Moderate exercise will boost the immune system.\(^{6}\)

CONCLUSION

The pregnant mother had vigorous intensity during pregnancy in COVID-19 outbreak. The activity type of physical activity had vigorous activity to caregiving, while the activity type of sport and occupational had sedentary intensity. The intervention must be research in pregnant women in physical activity.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest in this study.

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ETHIC APPROVAL

This research approved by ethic commission of the Faculty of Medical and Health Science, Universitas Muhammadiyah Yogyakarta with the number 064/EC-KEPK FKIK UMY/III/2021.

AUTHOR CONTRIBUTION

All authors contribute to this study from the conceptual framework, data collection, data analysis and approving the final version of the manuscript.

REFERENCES


