

**Original Research**

**Late Adolescence Behavior About Preconception Care During The Pandemic**

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**ABSTRACT**

**Background:** *The number of early marriages in Malang City increases every year, but health problems such as obesity, CED, smoking and drinking alcohol behavior, premarital sex, are still common. Thus, at this phase it is important to start planning and preparing for the future, one of which is through preconception care. The purpose of this study is to describe the late adolescents behaviour regarding preconception care in Sumbersari, Malang.*

**Methods:** *The design of this research is descriptive quantitative with a survey approach. The sample in this study were late adolescent aged 18-22 years old in Sumbersari, Malang and obtained 70 samples by using purposive sampling. Data of this study was collected online by using google forms. The tool of collecting data was researcher-made questionnaire which consist of 4 indicators (life style, nutritional preparation, health reproduction, and substances exposure). From the validity and reliability test of the questionnaire obtained 26 questions for boys and 25 questions for girls. Analysis data procedure was using descriptive analysis techniques.*

**Results:** *From 70 late adolescent obtained that their preconception care behavior was mostly in the enough category with 53.3% in men and 60% in women.*

**Conclusion:** *Based on the results of the study, it is known that the preconception care behaviour in adolescents during the pandemic is sufficient. It means that preconception care behaviour in adolescents still requires improvement.*

**Cite this as:** Aurelia, Y., Kostania, G., Antono, S., & Mansur, H. (2021). Late Adolescence Behavior About Preconception Care During The Pandemic. *Jurnal Kebidanan Dan Kesehatan Tradisional*, 84-94. <https://doi.org/10.37341/jkkt.v0i0.260>

**INTRODUCTION**

Adolescence is a transition period from children to adults. According to the theory of Santrock, (2002) adolescent phase begins at the age of 10 to 12 years and ends at the age of 18 to 22 years. Psychosocially, adolescents are divided into 3 stages, early adolescence, middle adolescence, and late adolescence (Batubara 2016). Typical features of adolescents are the search for identity, concern for appearance, vulnerability

**ARTICLE HISTORY**

Received : July 28<sup>th</sup>, 2021

Accepted : September 30<sup>th</sup>, 2021

**KEYWORDS**

late adolescent behaviour;  
preconception care;

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to commercial problems, pressure from peer groups, and lack of concern for health problems (Meeus 2016).

Most of the common problems that occur in adolescents are behavioral problems or deviant habits, both in terms of health, morals and social. This is based on *BPS* 2018 data which reports that smoking behavior in adolescents aged 15-19 years and 20-24 years has increased from 10.46% and 29.01% in 2017 to 20.59% and 33.41% in 2018. In East Java, the percentage of adolescents aged 15-24 years in Malang City who smoked was 29.2%, occupying the top 10 among cities/districts in East Java (BPS Jatim, 2018).

Based on East Java 2018 health profile, the percentage of people aged > 18 years were obese as much as 22.37% and 13.75% were overweight, higher than the Indonesian average. It was also reported that the trend for the highest percentage of first sexual intercourse were in 15-19 year age group, increased from 59% in the 2012 IDHS to 74% in the 2017 IDHS. 12% of unwanted pregnancies were reported by women and 7% were reported by men who have partners with unintended pregnancies (BKKBN 2017).

Moreover, 23.07% of adolescents have their first marriage age under 19 years. Early marriage in adolescents in Indonesia occupies the second country with the highest child marriage rate in Southeast Asia after Cambodia. This pandemic has made the number of early marriages increase, 34,000 applications for marriage dispensation were submitted to the Religious Courts in January to June 2020, this number increased from 2019 which was 23,126 cases of marriage dispensation. This situation is caused by economic problems, school closures which lead to a decrease in positive activities and the availability of information related to reproductive health, as well as the increase in pregnancies outside of marriage during the pandemic (Andina 2021).

In Malang City, based on data from the *KUA* as of January-July 2020, cases of early marriage rose from 47 cases to 140 cases in the same time period. Of all these cases, 50% were caused by pregnancies outside of marriage. The *PPPA* Ministry noted that until June 2020 the number of child marriages increased to 24,000 during the pandemic.

Based on that situation, it is considered important for adolescents, especially late adolescents (18-22 years) to get preconception care moreover in pandemic era. Late adolescence is considered the right age for adolescents to begin preparing for their reproductive life through preconception care because according to data from the Central Statistics Agency, (2019) the highest percentage of marriages occurs in adolescents with an age range of 19-21 years (33.41%). In addition, psychologically late adolescents begin to pay attention to their future and are considered to have started to be stable in terms of psychology, biology, and social (Batubara 2016).

Preconception care is the provision of biomedical, behavioral, and social health interventions for women and men prior to conception. The goal of preconception is not only a good outcome of conception, but also to keep men and women healthy overall regardless of whether they plan to have children or not. Preconception behavior consists of lifestyle settings, nutritional preparation, reproductive health, and exposure to substances (Hemsing, Greaves, and Poole 2017). Preconception is given to every individual, whether male or female because more evidence proves that not only women are associated with negative reproductive outcomes, but also men (Mello et al. 2019).

The importance of increasing preconception care behavior in adolescents is supported by research that men who received preconception care were more likely to

and intend to change risky behavior and most women (83%) who planned their pregnancy reported 1 lifestyle changes in preparation for pregnancy (Goossens et al. 2019; Goossens and Beeckman 2018). In a 2018 national study, it was seen that there was a significant relationship between the use of preconception care and the BMI status of preconception women (Balebu and Labuan 2019).

Based on this explanation, the researcher decided to conduct a research on preconception care behavior in late adolescence during pandemic in Summersari, Malang. Due to minimum national research or journals that explore preconception care in adolescents especially in pandemic era. It is hoped that this research can be the basis for further research.

## MATERIALS AND METHOD

This research is descriptive quantitative study with survey approach. It was conducted among adolescent in Summersari, Malang, during February to June, 2021, after obtaining Ethical Clearance from the Institutional Review Board from State Health Polytechnic of Malang. The sample of this research was 70 adolescent who live in Summersari, Malang which were conducted with purposive sampling technique. Inclusion criteria for sample was late adolescent, not married yet, and could access google form, cause the data collection was done by online.

The research instrument used was a closed questionnaire. Two self structured and validated questionnaire was developed. The results of the validity test shown that there were 26 valid items for the male questionnaire and 25 valid items for the female questionnaire from the 42 items tested ( $r_{\text{count}} > 0.3610$  for male questionnaires and  $r_{\text{count}} > 0.3120$  for female questionnaires). While the results of the reliability test calculation show that the questionnaire items have a coefficient of  $r$  between 0.6000-0.79999 which means that the reliability of the item is high. Indicators measured from the adolescent preconception behavior were: life style, nutrition, health reproduction, and substances exposure.

Research data was analyzed by using descriptive statistic that calculates the mean and percentage. Furthermore, to determine the level of adolescent behavior values was using a mean hypothetic formula by Azwar (2012) that matches the average with the score interval in the range of categories, namely: good, enough, or poor. This research has passed the ethical feasibility test with the registration number: 108/KEPK-POLKESMA/2021.

## RESULTS

A total of 70 late adolescent who met the sample criteria were willing to become respondents. These late adolescents 57.1% were female, and 42,9% were male. Based on the table 1. known that majority of late adolescents have high school education (75.7%). Most of the respondents live with their parents (60%) and come from urban areas (68.6%).

**Table 1.** Characteristics Respondents of Preconception Care Behavior in Adolescents in Summersari 2021

<b>Characteristics</b>	<b>f(%)</b>
<b>Last Education</b>	
Elementary School	0 (0)
Junior High School	4 (5,7)
Senior High School	53 (75,7)

<b>Characteristics</b>	<b>f(%)</b>
University	13 (18,6)
<b>Total</b>	<b>70 (100)</b>
<b>Status of Residence</b>	
Dorms/Contract	26 (37,1)
Living with parents	42 (60)
Others	2 (2,9)
<b>Total</b>	<b>70 (100)</b>
<b>Origin</b>	
Rural	22 (31,4)
Urban	48 (68,6)
<b>Total</b>	<b>70 (100)</b>

Late adolescent, mostly planning to get married at the age of 20-25 years (54.3%) and plan to have children at the age of 21-35 years (91.4%). About 67.1% of adolescents did not plan to delay pregnancy after marriage.

**Table 2.** Family Planning of Late Adolescents in Summersari 2021

<b>Family Planning</b>	<b>f(%)</b>
<b>Marriage Age Plan</b>	
<20 years	0 (0)
20-25 years	38 (54,3)
26-30 years	22 (31,4)
>30 years	7 (10)
Not planning	3 (4,3)
<b>Total</b>	<b>70 (100)</b>
<b>Age Plan for Having Child</b>	
<21 years	0 (0)
21-35 years	66 (94,3)
>35 years	3 (4,3)
Not planning	1 (1,4)
<b>Total</b>	<b>70 (100)</b>
<b>Delaying pregnancy after marriage</b>	
Yes	23 (32,9)
No	47 (67,1)
<b>Total</b>	<b>70 (100)</b>

Based on the results of the study using a behavioral questionnaire for preconception care in men, it was found that 70% of male late adolescents had a habit of smoking from rarely to often, 36.7% had a habit of drinking alcohol, 90% had a habit of consuming caffeine >3 cups/day, 46,7% often sleep less than 6-8 hours, 53,3% continue to engage in risky behavior despite knowing the effect, just less than 20% of male late adolescent who seek information about health and taking seriously physical activity.

From nutrition intake known that 100% respondent consuming instant food or fast food >3 times/month. Late adolescent health reproduction during the pandemic shown that 50% of male adolescents often changing his underpants less than twice per day and 43,3% had masturbation every few days. During the pandemic 56,7% male adolescents often obey the health protocols with using personal protective equipment and wash his

hand to minimize exposure. For overall behavior, based on table 3, most of male late adolescent behavior have “enough” preconception behavior.

**Table 3.** Preconception care behavior in male late adolescent during the pandemic in Summersari Village in 2021

No	Category Preconception Care Behavior	Frequency (f)	Percentage (%)
1.	Good	11	36,7
2.	Enough	16	53,3
3.	Poor	3	10
<b>Total</b>		<b>30</b>	<b>100</b>

Besides, based on the result of the study using a behavioral questionnaire for preconception care in woman, it was found that 67,5% of female late adolescents had a habit of consuming caffeine >3 cups/day from rarely to often, 92,5% sleep less than 6-8 hours, just 12,5% to 20% who were often doing physical activity, only 22,5% seek information about health, 40% of the female adolescents can handle stress and at the same percentage, often feels lazy to checked their health to health care facility.

From nutrition intake known that 100% respondent consuming instant food or fast food >3 times/month and just 25% female who were consuming fe. Late adolescent health reproduction during the pandemic shown that 37,5% of female adolescents often changing his underpants less than twice per day and 50% has using vaginal douching. During the pandemic more than 60% female adolescents often obey the health protocols with using personal protective equipment and wash her hand to minimize exposure. In the table 4 shown most of female adolescents also have preconception care behavior in enough category (60%).

**Table 4.** Preconception care behavior in female late adolescent during the pandemic in Summersari Village in 2021

No	Category Preconception Care Behavior	Frequency (f)	Percentage (%)
1.	Good	14	35
2.	Enough	24	60
3.	Poor	2	5
<b>Total</b>		<b>40</b>	<b>100</b>

Based on the characteristics that shown in table 5 dan 6, the majority of male adolescents who had better preconception care had a tertiary education (71.4). Meanwhile, in female adolescent, the behavior of preconception care was better in respondents who had a high school education (35.5%). Based on the status of residence, some (50%) female adolescents who live other than their parents or boarding house and in the male adolescents who lived in a boarding house (57.1%) have better preconception behavior.

Based on their origin, female adolescents who came from urban areas have a higher percentage of preconception care behavior (32%) besides on the male adolescents, better behavior shown in respondent who is came from rural areas (57.1%).

**Table 5.** Male late adolescents preconception care behavior based on characteristics.

Male Adolescent Characteristics	Behavior		
	Good F(%)	Enough F(%)	Poor F(%)
<b>Last Education</b>			
Junior High School	0 (0)	1 (100)	0 (0)
Senior High School	6 (27,3)	13 (59,1)	3 (13,6)
University	5 (71,4)	2 (28,6)	0 (0)
<b>Status of Residence</b>			
Dorms/Contract	4 (57,1)	3 (42,9)	0 (0)
Living with parents	6 (28,6)	13 (61,9)	2 (9,5)
Others	1 (50)	0 (0)	1 (50)
<b>Origin</b>			
Rural	4 (57,1)	3 (42,9)	0 (0)
Urban	7 (30,4)	13 (56,5)	3 (13)

**Table 6.** Female late adolescents preconception care behavior based on characteristics.

Female Adolescents Characteristics	Behavior		
	Good F(%)	Enough F(%)	Poor F(%)
<b>Last Education</b>			
Junior High School	0 (0)	3 (100)	0 (0)
Senior High School	11 (35,5)	18 (58)	2 (6,5)
University	1 (16,7)	5 (83,3)	0 (0)
<b>Status of Residence</b>			
Dorms/Contract	4 (22,2)	13 (72,2)	1 (5,6)
Living with parents	7 (35)	12 (60)	1 (5)
Others	1 (50)	1 (50)	0 (0)
<b>Origin</b>			
Rural	4 (26,7)	11 (73,3)	0 (0)
Urban	8 (32)	15 (60)	2 (8)

Male adolescent showed better behavior in most of those who planned to get married at the age of 26-30 years (53.8%), almost most of the respondents who planned to have children at the age of 21-35 years (40.7%), and some Majority (53.8%) of adolescents who delay pregnancy. Female adolescent also showing better behavior in almost half of those who plan to get married at the age of 26-30 years (33.3%), plan to have children at the age of 21-35 years (30.8%), and some respondents who plan to postpone pregnancy after married (50%).

**Table 7.** Male late adolescents preconception care behavior based on family planning.

Male Adolescent Family Planning	Behavior		
	Good F(%)	Enough F(%)	Poor F(%)
<b>Marriage Age Plan</b>			
<20 years	0 (0)	0 (0)	0 (0)
20-25 years	2 (22,2)	5 (55,6)	2 (22,2)
26-30 years	7 (53,8)	6 (46,2)	0 (0)
>30 years	2 (28,6)	4 (57,1)	1 (14,3)

<b>Male Adolescent Family Planning</b>	<b>Behavior</b>		
	<b>Good F(%)</b>	<b>Enough F(%)</b>	<b>Poor F(%)</b>
Not planning	0 (0)	1 (100)	0 (0)
<b>Age Plan for Having Child</b>			
<21 years	0 (0)	0 (0)	0 (0)
21-35 years	11 (40,7)	13 (48,1)	3 (11,1)
>35 years	0 (0)	3 (100)	0 (0)
Not planning		0 (0)	0 (0)
<b>Delaying pregnancy after marriage</b>			
Ya	7 (53,8)	5 (38,5)	1 (7,7)
Tidak	4 (23,5)	11 (64,7)	2 (11,8)

**Table 8.** Female late adolescents preconception care behavior based on family planning.

<b>Female Adolescents Family Planning</b>	<b>Behavior</b>		
	<b>Good F(%)</b>	<b>Enough F(%)</b>	<b>Poor F(%)</b>
<b>Marriage Age Plan</b>			
<20 years	0 (0)	0 (0)	0 (0)
20-25 years	9 (31)	18 (62,1)	2 (6,9)
26-30 years	3 (33,3)	6 (66,7)	0 (0)
>30 years	0 (0)	0 (0)	0 (0)
Not planning	0 (0)	2 (100)	0 (0)
<b>Age Plan for Having Child</b>			
<21 years	0 (0)	0 (0)	0 (0)
21-35 years	12 (30,8)	25 (64,1)	3 (5,1)
>35 years	0 (0)	1 (100)	0 (0)
Not planning	0 (0)	0 (0)	0 (0)
<b>Delaying pregnancy after marriage</b>			
Yes	5 (50)	4 (40)	1 (10)
No	7 (23,3)	22 (73,3)	1 (3,3)

## DISCUSSION

Behavior is influenced by internal and external factors. Internal factors are such as self-awareness and the character of each individual. While external factors are such as environment, supporting facilities, policies, and support. According to L.Green's theory, behavior is influenced by 3 main factors including: predisposing factor, enabling factor, and reinforcing factor. Predisposing factors is factors that facilitate and underlie the occurrence of certain behaviors that are manifested in the form of knowledge, attitudes, beliefs, reliance, values and culture as well as individual characteristics, that is: knowledge about reproductive health, attitudes, academic education, respondent characteristics, religious norms, legal norms and social norms.

Enabling factors is factors that allow for certain behaviors to occur which are tangible in the physical environment, the availability of facilities, that is the availability of print and electronic media, health workers (instructor). Reinforcing factors is factors that strengthen the occurrence of these behaviors, that is: income, support, criticism both from family (parents), peers, and teachers (Notoatmodjo 2010). The results of this

study already shown preconception behavior in adolescents based on their characteristics which is a predisposing factor of behavior.

The characteristics that assessed in this study include the latest education, status of residence, and area of origin. Based on the last education of respondent, known that adolescent with higher education has better preconception behavior. Higher education creates better preconception behavior because more knowledge and information is obtained, which is related to better decision-making abilities because they are able to consider good and bad actions more objectively. The higher a person's education, the better his knowledge. This knowledge will influence in shaping attitudes and behavior so that the higher a person's education will have a positive behavior (Fauziah and Maesaroh 2017).

Besides education, environment also has influence on behavior. Bozzini et al. (2021) stated that the factors that cause risky behavior in adolescents include the environment, family patterns, and the presence of other risky behaviors. Environmental factors in this study are seen from the status of residence and origin of adolescents. Residential status is considered to be factor that influence behavior because adolescents who do not live under parental supervision usually tend to feel free to act.

In accordance with the results of research by Wardani & Septianingrum, (2018) which states that adolescents who do not live with their parents are more at risk of falling into risky behaviors such as drug abuse. However, different results were seen in this study, late adolescent who did not live with their parents mostly had better preconception care behavior. It could be happened because there is another factor which influence their better behavior like peer influence, rules and regulation in their new environment, information, etc.

While origin affects the values held by a person such as cultural boundaries, norms, and habits. Male adolescent from urban areas had lower preconception care than those from rural areas, on the other hand, female adolescent from urban areas had better preconception care behavior. The results in male adolescents are not in line with the research of (Suarni, Fitarina, and Aliyanto 2020) which states that urban adolescents have lower risk sexual behavior than adolescents who live in rural areas. This is influenced by self-esteem, religiosity, and social activities.

Another factor that influenced preconception behavior is family planning, which were examined through the marriage age plan, the age plan for having children, and pregnancy delay after marriage also has big impact on preconception behavior. Based on the journal, men and women who plan their pregnancy will have more potential to change their behavior for the better (Starbird and Norton 2020; Stephenson et al. 2018). In an Australian study, 81% of women planning a pregnancy had started taking supplements and 47% had started consulting medical personnel (Chivers et al. 2020).

The grouping of age plan for marriage is based on health science, which states that the ideal age for biological and psychological maturity is 20 to 25 years for women, then 25 to 30 years for men. This age is considered the best period for marriage, because already matured enough and can mentally stable on average. While the grouping of age plans for having children is based on healthy reproductive age where the reproductive organs of both men and women are in the most optimal phase, namely in the age range of 20-35 years BKKBN (2011).

Besides character and family planning, attitudes of adolescents also take part in influencing behavior. Based on the result showed that both male or female adolescents has lack of health literacy and awareness about their health. A study on university

students in Taiwan stated that a high level of health literacy affects health status and positive health behaviors including eating, exercising, and sleeping behavior (Hsu, Chiang, and Yang 2014). During pandemic, television (TV) and family were indicated to be the main sources for pandemic-related health information (Riiser et al. 2020).

So, for other health information most likely also obtained in the same way. This information source is considered less compatible with the character of teenagers, especially now that social media is far more developed than TV and not all teenagers are able to exchange ideas with their parents. A study in Yogyakarta suggests that health education can be carried out quite effectively by using the WhatsApp communication media based on the following: the percentage of correct answers from the pretest 68.42% (13/19) increased to 76.19% post test (16/21) (Brahmana and Aristyasari 2021).

Preconception care behavior are still low because in Indonesia preconception care is rarely known by the society, the scope of its services is also small. As stated by Wilson, (2018) in his journal, the implementation of preconception is still not well socialized and applied by both patients and service providers. In Indonesia, actually there are many communities and youth health programs aimed at disseminating information and promoting health for adolescents, such as Genre, UKS, PKPR, *posyandu* of youth, and many more. However, its utilization is still very minimal and less widespread in the target of community.

This statement is supported by research from Sari, Musthofa, and Widjanarko (2017) show that most adolescent (61.5%) have low participation in PKPR activities. Information provided in the program is still in scope as to how to maintain reproductive health, reproductive health diseases, nutrition, and life style. Detailed information about preconception care is rarely or yet to be discussed in existing programs. Even more, the use of *posyandu* preconception in Banggai district, showed that the average visit of fertile women at *posyandu* was only 43.1% (Balebu and Labuan 2019).

This definitely affects the preconception care behavior in the society especially adolescent because this is among to enabling factor, that is the unavailability of facility or consultant that provide preconception care information for adolescent. It is quite unfortunate because in fact, preconception care already has its laws and regulations. However, the scope is only for women and is still very rarely discussed among health provider or society.

Enabling factors here can ultimately affect the reinforcing factor because the absence of socialization and information make people unaware of the existence and importance of preconception care. So that the reinforcement that should be obtained from the environment does not exist because the environment is still unfamiliar with preconception care.

## CONCLUSION

Based on the study, it is known that the preconception care behaviour in adolescents during pandemic is sufficient. It means that preconception care behaviour in adolescents still requires improvement by increasing awareness of health and optimizing services and preconception socialization by health providers. During a pandemic, this can be done by optimizing the role of peer groups in *youth* classes held online using zoom meetings or *whatsapp* groups, maximizing youth *health class* which can be offline with health protocols or online with social media, increasing interactive webinars with topic of adolescent health, and providing interesting reading regarding adolescent health. The sufficient behaviour of adolescent caused by their characteristics,

attitude (awareness and lack of literacy), minimum of information, and unavailability of health facility.

## ACKNOWLEDGEMENT

We wish to thank all the adolescents, professionals and other stakeholders who supported this study by responding in questionnaire, hosting the study observations or sharing their time and views.

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