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PERCEPTION OF COVID-19 AND REPRODUCTIVE HEALTH OF FEMALE AND MALE ADOLESCENTS IN URBAN AREAS IN THE SUSTAINABLE DEVELOPMENT GOALS

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PERCEPTION OF COVID-19 AND REPRODUCTIVE HEALTH OF FEMALE AND MALE ADOLESCENTS IN URBAN AREAS IN THE SUSTAINABLE DEVELOPMENT GOALS

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Abstract

Sustainable Development Goals (SDGs) in goal 3 (good health and well-being) and goal 4 (equality in education) for all specifically targeted at vulnerable groups. Adolescents were a part of it. A decade of progress in reproductive health could be stalled by covid-19. The study aimed to analyze reproductive health and adolescents' perceptions during the covid-19 pandemic era in urban areas. This descriptive study used an online survey conducted in Jakarta. The sample consisted of 438 adolescents selected by convenience sampling technique. The results were that both female and male adolescents had poor knowledge about HIV/AIDS transmission (female = 77.0%; male = 74.7%) and pregnancy even if only by one sexual intercourse (female = 93.4%; male = 81.4%). The webinars and online counseling in total have more than 75% of respondents who rarely and never been given from educational institutions. There was a large difference between female adolescents (4.5%) and males (13.4%) in the proportion gap related to the perception that the covid-19 were at no risk of reproductive health problems. Conclusion. it was necessary to optimize the role of educational institutions on reproductive health knowledge through webinars and online counseling.

Keywords: Adolescent; Covid-19; Perception; Reproductive health; Urban.

1. Introduction

The first outbreak of covid-19 occurred on December 19, 2019 in Wuhan, Hubei, China. This condition is a series of cases of pneumonia with no known cause. As a result of being infected, these cases cause a group of severe respiratory illnesses and are associated with high ICU admissions and mortality (Huang et al., 2020). All cases are connected to Huanan seafood wholesale market in Wuhan (Sencer, 2022). Not only in China, this case has also been confirmed in other provinces in China, Japan, South Korea, Thailand, and the USA (Huang et al., 2020). Three months after the emergence of the first outbreak, covid-19 cases also attacked

Indonesia. It was first confirmed in early March 2020. The case was found to have tested positive for two Indonesian citizens who live in Depok who have a history of interacting with the color of the Japanese state who first contracted the disease (Nuraini, 2020).

The covid-19 can affect all age groups. However, children and/or adolescents are less susceptible to these infections (Cruz & Zeichner, 2020). Data regarding covid-19 cases in children and adolescents is also still scarce (Rothan & Byrareddy, 2020). Based on the results of a meta-analysis conducted on 17 studies in China, one conducted in the US population, and one carried out in the Spanish population, it is stated that covid-19 can also affect children and adolescents. However, it tends to have a mild course with a better prognosis than adults (Mantovani et al., 2021). The pandemic threatens the health opportunities of children and adolescents everywhere. Thus, globally these conditions should not divert attention to the health and welfare goals of children and adolescents (Requejo & Strong, 2021).

These Sustainable Development Goals (SDGs) are a refinement of the Millennium Development Goals (MDGs), which became a global and national commitment to the welfare of society. The scope of the SDGs consists of seventeen goals adopted in 2015. The third goal of the SDGs for good health and well-being with a holistic approach to the health of children and adolescents (Requejo & Strong, 2021; United Nation, 2021). This goal was still relevant amid the COVID-19 pandemic (Requejo & Strong, 2021). The covid-19 pandemic has halted or reversed progress in health and shortened life expectancy. A decade of progress in reproductive health, maternal health, and child health could be stalled by covid-19 (United Nation, 2021). The ensuring health and well-being for all in goal 3 SDGs are aimed for all but specifically targeted at vulnerable groups (United Nation, 2021). Adolescents were a part of the vulnerable groups (Kusumaryani, 2017). Reproductive health is intact, healthy physical, mental, social, and free from disease or disability related to the reproductive system, function, and processes (Ministry of Health, 2017). The adolescent reproductive health situation is reflected in the quality of adolescents, and still, many of the do risky behavior to their health (Kusumaryani, 2017).

Goal 4 SDGs aim to quality education. Slow progress in school completion is likely to get worse. It shows that goal 4 SDGs have not been achieved to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (United Nations, 2021). Knowledge of adolescent reproductive health has not been adequate. According to the Indonesian Demographic and Health Survey (IDHS) in 2017, only 50.5% of female and 48.6%

of male adolescents aged 15-19 know that a woman can get pregnant after one intercourse (BPS et al., 2017).

Another problem that could not be addressed until the end of the MDGs and needs special concern is gender inequality (Bhutta et al., 2021). It becomes an idea of not achieving the SDG's fifth goal, gender equality. Globally, in 2021 Indonesia belongs to the category of developing countries with high gender inequality with the Gender Inequality Index (GII) was 0.70 index. In 2007, it was only 0.66 index. So, in more than a decade, the GII is still increasing at an annual average rate of 0.45%. One of the dimensions of GII measurement is reproductive health (Knoema, 2021). Up to 10 million girls will be at risk of child marriage. Over the next decade because of covid-19. In addition to the 100 million who were projected to become child brides before the pandemic (United Nation, 2021). This will bring up the risks associated with their reproductive health.

The ensuring health and well-being for all in goal 3 SDGs are aimed at all but specifically targeted at vulnerable groups (United Nation, 2021). Adolescents were a part of the vulnerable groups. The proportion of adolescents who are part of the productive age group will increase compared to the young and elderly in 2020-2030, making Indonesia experience a demographic bonus (Kusumaryani, 2017). According to National Family Planning Coordinating Board, the age range of adolescents is between 10-24 years and unmarried. Adolescence is a transition period in one's life. Where at that time it became a bridge between childhood and adulthood (WHO, 2021).

Reproductive health is intact healthy physical, mental, social, and merely free from disease or disability related to the reproductive system, function, and processes (Ministry of Health, 2017) The adolescent reproductive health situation is reflected in the quality of adolescents (Kusumaryani, 2017). There are still many adolescents who do risky behavior to their health, future, and social environment (Kusumaryani, 2017).

Knowledge of adolescent reproductive health has not been adequate. According to the Indonesian Demographic and Health Survey (IDHS) in 2017 only 50.5% of females and 48.6% of male adolescents aged 15-19 know that a woman can get pregnant after one intercourse. Most of them discuss reproductive health with their friend (BPS et al., 2018). Adolescents are part of the human life cycle that is vulnerable to adverse health and disease, one of which is due to high-risk sexual behaviors (Sharma et al., 2022). Besides Indonesia, the lack of adequate knowledge about reproductive health, especially among adolescent girls, also occurs in the Iranian cities of Tehran, Mashhad, Qom, and Shahroud (Mosavi et al., 2014).

Results from a survey of observer organizations on sexuality and reproductive health issues in August-October 2020 show that the adolescents aged 18-24 years who are not married but have intercourse 6.74%. Of adolescents who had sexual intercourse during the covid-19 pandemic, 51% used condoms, 44% did not use contraception, and 5% used long-term birth control pills. Sexual and reproductive health disorders are at risk (Pakpahan, 2020).

Most adolescents live in urban areas, and the proportion accessing the internet is more than in rural areas (BPS et al., 2017). Approximately 80% of adolescents in Indonesia, especially in Jakarta, Banten, and Yogyakarta, use the internet every day (Kurniasanti et al., 2019). Covid-19 pandemic makes the condition becomes risky. Internet usage in adolescents increased by 52% compared to before the pandemic (Siste et al., 2020). It is not directly at risk in adolescent reproductive health. Social media that the internet can access participates in influencing adolescents to get health information that is not true or hoax (Ministry of Health, 2018). Adolescents perceive that there is not enough access to sexual and reproductive health information sources. The reliability and validity of the information are also still lacking. In addition, knowledge and utilization of adolescent health services in urban areas also improved (Sharma et al., 2022). In Europe, the lack of information related to reproductive health has also been a finding (Avery & Lazdane, 2008). However, in previous studies, adolescents in Iran experienced easy access to inaccurate sources of information, and risky sexual behavior among adolescents also increased (Mosavi et al., 2014).

Jakarta is one of the urban areas in Indonesia with adolescent reproductive health conditions at risk. The study on adolescents aged 15-18 years shows that 42.2% have risky reproductive health behaviors (Desiana, 2020). Another study also states that the level of knowledge of adolescents about reproductive health is poor to have risky behavior on reproductive health (Nurzaman et al., 2018). Inadequate knowledge, poor attitude, easy internet access during the covid-19 pandemic in obtaining information, and other factors can trigger a variety of health-related perceptions of adolescent reproduction. Therefore, this study aimed to analyze of reproductive health and adolescent perception during the covid-19 pandemic in Jakarta.

2. Methods

This study was a descriptive quantitative using a cross-sectional design study with an online survey. This study was conducted in Jakarta as one of the urban areas in Indonesia (West Jakarta, Central Jakarta, South Jakarta, East Jakarta, and North Jakarta). The population of this study was all adolescents in Jakarta with the range 18-24 years old and unmarried. The sample

consisted of 438 adolescents was included in this study that selected by convenience sampling technique. Inclusion criteria were able to use an android mobile phone, domicile in Jakarta from January 2020 until the survey conducted, and was willing to fill out an electronic questionnaire. The exclusion criteria were adolescents with a history of reproductive disease and were incomplete in filling out the questionnaire.

These variables of this study consisting of gender, age, domicile, residence before the covid-19 pandemic, residence during the covid-19 pandemic, current education, knowledge of adolescent reproductive health, the role of educational institutions, and the perception of covid-19 on adolescent reproductive health disorders. There was a total of six items assessing knowledge of adolescent reproductive health. The items consisting of wet dreams, menstruation, fertile period, HIV/AIDS, pregnancy, and the consequences of unwanted pregnancy. The role of educational institutions consisting of three items. There were provided materials on adolescent reproductive health, webinar, and counselling. The answers of each item were categorized into always, often, rarely, and never. Perception of covid-19 on adolescent reproductive health disorders was categorized into no risk, low risk, moderate risk, and high risk.

Data collected in August 2021 by online survey used google form, distributed via WhatsApp status, WhatsApp group, Twitter, Instagram, and line. Filling in the answers is done by the respondent himself through his device. The survey link was shown about the information of this study and a statement of willingness to participate in this study. It appeared before the respondent start filled out the questionnaire. Before being distributed to research respondents, previously the instrument was tested to ensure its validity and reliability. The test was conducted on respondents who have similar characteristics to the research respondents, among 30 adolescents in Depok, West Java.

The descriptive analysis was used in this study to show the frequency distribution and percentage by statistical software. Each answer was calculated one by one. The frequency distribution and percentage of each question were calculated and reported by table or bar diagram. It was divided into female and male reports.

3. Results and discussion

3.1. Characteristic of female and male adolescents

The characteristic of respondents was showed in Table 1. This study was collected 438 adolescents that consisted of 244 female and 194 male adolescents. All of them came from five

districts in Jakarta that consisted of West Jakarta, Central Jakarta, South Jakarta, East Jakarta, and North Jakarta. They are five administrative municipalities, while one administrative regency, the Thousand Islands, is not included in this study. Jakarta, which is the sixth most populous province and also the capital city of Indonesia, has become the center of attention, including in the covid-19 pandemic (Martinez & Masron, 2020). Based on the distribution, most of them were range age 21-22 years old. Most female adolescents lived in East Jakarta (37.7%), while males lived in West Jakarta (33.5%). Most of them were stay with their parents before pandemic (female = 90.6%; male = 89.2%) and during pandemic (female = 95.9%; male = 89.2%). It can be concluded that during pandemic occurs when an increasing number of female adolescents live with their parents (Table 1).

Based on current education, over half of the respondents were bachelor or postgraduate students (female = 61.9%; male = 51.5%) (Table 1). During the pandemic, teaching and learning activities use online learning and avoid face-to-face learning. This is a strategy in reshaping education when the campus is closed (Yulia, 2020). Therefore, during pandemic many students no longer live in boarding houses near campus and choose to return home to live with their parents. Most of them are adolescents, where it is a transition period between childhood to adulthood. One of the problems that adolescents are prone to problems is loneliness (Wedaloka & Turnip, 2019). They feel that they experience unpleasant social isolation, leading to feelings of loneliness, boredom, and depression. In addition, they are also worried about the health condition of their parents at home (Sharma et al., 2022).

The results showed that there was an increase in the proportion of female adolescents living with their parents during the covid-19 pandemic compared to male adolescents. This shows that the level of loneliness of female adolescents both in terms of emotional and social dimensions is much higher than that of male adolescents (Wedaloka & Turnip, 2019). In severe conditions, the covid-19 pandemic increases anxiety levels and becomes a psychological stressor for adolescents (Akbar & Yenny, 2020). So, they prefer to live with their parents than without parents.

Table 1. Characteristic of the Respondents (Female n=244; Male n=194)

Variables	Category	Female	Male
		n (%)	n (%)
Age	18-20 years	70 (27.7)	56 (28.9)
	21-22 years	137 (56.2)	105 (54.1)

Variables	Category	Female	Male
		n (%)	n (%)
Domicile	23-24 years	37 (15.1)	33 (17.0)
	West Jakarta	39 (16.0)	65 (33.5)
	Central Jakarta	17 (7.0)	16 (8.2)
	South Jakarta	79 (32.4)	49 (25.3)
	East Jakarta	92 (37.7)	41 (21.1)
	North Jakarta	17 (7.0)	23 (11.9)
Residence before pandemic	with parents	221 (90.6)	173 (89.2)
	without parents	23 (9.4)	21 (10.8)
Residence during pandemic	with parents	234 (95.9)	173 (89.2)
	without parents	10 (4.1)	21 (10.8)
Current education	no education	10 (4.1)	4 (2.1)
	senior high	12 (4.9)	28 (14.4)
	diploma	18 (7.4)	42 (21.6)
	bachelor/postgraduate	151 (61.9)	100 (51.5)
	graduated from collage	53 (21.7)	20 (10.4)

3.2. Knowledge of adolescent reproductive health

Table 2 shows that knowledge of adolescent reproductive health was divided into two groups: female and male. Assessment of knowledge is divided into true and false categories. A total of six questions were asked of the respondents, which included signs of puberty in male adolescents, signs of puberty in female adolescents, understanding of the fertile period, HIV/AIDS transmission, causes of pregnancy, and the impact of unwanted pregnancies.

Most adolescents identified as having good knowledge of the four items of reproductive health. It includes knowledge of the signs of puberty in male adolescents, signs of puberty in female adolescents, understanding of the fertile period, and the impact of unwanted pregnancies. The proportion of correct answers on each question item in the questionnaire was more than 80% (female = 90.2-99.2%; male = 84.5-93.3%). In female adolescents, poor knowledge about menstruation is only 0.8% (Table 2). On menstrual health problems, they are easier and more concerned to contact their peers or close friends than their teachers. In contrast, male adolescents, prefer to seek knowledge about reproductive health from social media, and the internet rather than talking to their fathers or teachers at school (Sharma et al., 2022).

Two-thirds adolescents (female = 77.0%; male = 74.7%) had poor knowledge about HIV/AIDS (Table 2). The AIDS number in Indonesia also increased during the pandemic from 7,036 cases in 2019 (37.8% of cases in 2019 dominated by the 20–29 years) to 8,639 cases in 2020. DKI Jakarta is the fourth-most region with many HIV cases in Indonesia (Ministry of Health, 2020a; 2020b).

Based on the report of the Indonesian Adolescent Reproductive Health Survey (SKKRI) there was an increase in adolescent premarital sex in 2007 and 2012 (BPS et al., 2008; BPS & International, 2013). These conditions pose a risk to adolescent pregnancy and the transmission of sexually transmitted diseases. Adolescents are vulnerable to poor reproductive health (Avery & Lazdane, 2008). Adolescent pregnancies can lead to abortion and early marriage. This can be risky and have an impact on the fetus because there is not enough readiness in terms of health, education, economic, mental-emotional, and reproductive aspects (Ministry of Health, 2017). In addition, research conducted by Rina, Dewi, and Hasneli N in 2014 found a relationship between knowledge related to sexuality and adolescent attitudes towards one of the risky behaviors, namely premarital sex (Priyoto, 2015).

Illegal abortions are rife, although in Indonesia there is no exact data on the number of cases (Rochimawati & Sumiyati, 2020). In addition, the AIDS number in Indonesia also increased during the pandemic from 7,036 cases in 2019 (37.8% of cases in 2019 were dominated by the age group 20-29 years) to 8,639 cases in 2020. DKI Jakarta is the region that ranks the four with the highest number of HIV cases in Indonesia (Ministry of Health, 2020b).

Table 2. Respondents Knowledge of Adolescent Reproductive Health in Covid-19 Pandemic Era (Female n=244; Male n=194).

Knowledge of reproductive health	Female		Male	
	Good	Poor	Good	Poor
	n (%)	n (%)	n (%)	n (%)
A wet dream is a sign of an adolescent male start puberty	230 (94.3)	14 (5.7)	181 (93.3)	13 (6.7)
Menstruation is a sign of an adolescent female start puberty	242 (99.2)	2 (0.8)	180 (92.8)	14 (7.2)
The fertile period is the time in which it is possible for a woman to become pregnant if sexual intercourse	240 (98.4)	4 (1.6)	173 (89.2)	21 (10.8)

Knowledge of reproductive health	Female		Male	
	Good	Poor	Good	Poor
	n (%)	n (%)	n (%)	n (%)
HIV/AIDS can be transmitted through kissing, holding hands, and hugging	56 (23.0)	188 (77.0)	49 (25.3)	145 (74.7)
A woman can get pregnant even if only by a sexual intercourse	16 (6.6)	228 (93.4)	36 (18.6)	158 (81.4)
Unwanted pregnancies in adolescents can result in abortion, bleeding, school dropouts, and a moral burden for adolescents	220 (90.2)	24 (9.8)	164 (84.5)	30 (15.5)

The most significant gap occurred in respondent's knowledge about the pregnant event if only by sexual intercourse (female = 93.4%; male = 81.4%). Both were identified as the worst knowledge because the proportion of false answers was higher than 80% for the question in the questionnaires (Table 2). The results of IDHS also showed that nationally, only 50.5% of adolescent females age 15-19 years and 48.6% of male adolescents know that women can get pregnant after one sexual intercourse (BPS et al., 2017). In line with the previous studies in Europe, knowledge about HIV and sexually transmitted diseases is also a finding and needs to be considered among adolescents. They remain a vulnerable group whose population needs to be considered. Another thing that is also a concern for adolescents is gender differences (Avery & Lazdane, 2008).

A descriptive study through combined online surveys and telephone interviews among 2,156 adolescents in Kenya has been conducted on the effect of the covid-19 pandemic. The results of this study showed that this condition of the pandemic era has made the levels of inability to access sexual and reproductive health services very low. Nearly a third of respondents experienced fear and more than a quarter of them reported feeling stressed due to the pandemic (Karijo et al., 2021). Adolescent reproductive health choices and decisions are based on their knowledge that can either positively or negatively affect their lives (Kyilleh et al., 2018).

Reproductive health is one part of the SDGs goals that covid-19 stopped. That goal 3 was regarding good health and well-being (United Nation, 2021). In the health and adolescent development sector, the covid-19 pandemic in low- and middle-income countries had a serious DOI: <https://doi.org/10.7454/jessd.v5i1.1146>

impact. So, there are concerns about the achievement of the SDGs globally (Bhutta et al., 2021). During adolescence, there is a change in physical, sexual, social, and psychological happening simultaneously (WHO, 2021). Physical changes are not always accompanied by the ability to think and emotional maturity (Ministry of Health, 2018). Therefore, it is necessary to increase adolescents' knowledge, especially about intercourse that is done once, which can cause a pregnant woman.

Strategies efforts need to be carried out in continuity in providing service facilities to adolescents, especially regarding knowledge about reproductive health. The social effects of the pandemic have also prompted the need for additional interventions for adolescents to meet their health and minimize the long-term consequences of the pandemic (Karijo et al., 2021). Thus, it is necessary to strengthen and improve services and reach of adolescent reproductive health programs (Mosavi et al., 2014; Sharma et al., 2022). This is useful for maintaining their sexual and reproductive health, especially pubertal and menstrual health, as well as preventing high-risk sexual behavior (Alimoradi et al., 2017).

3.3. The role of educational institutions in adolescent's reproductive health

Figure 1 described the role of the educational institution or school in adolescent reproductive health during the covid-19 pandemic era, especially in the last three months since data collection. The role included providing adolescent reproductive materials, webinars related to reproduction of risk behaviors, and providing online counseling. The response was on a scale of 1-4 with 1 being never, 2 – rarely, 3 – often, and 4 – always. The result of this study revealed that of the three items, totally more than half of them always (female = 39.8%; male = 24.2%) and often (female = 38.9%; male = 39.7%) is provided adolescent health reproductive materials from their educational institution or school. This study also showed that webinars and online counseling in total have a proportion answer of more than 75% of respondents who have rarely and never been given from educational institutions. Each of female adolescent amounted 45.1% (never) added 34.0% (rarely); and male adolescent by 35.6% (never) added 39.7% (rarely).

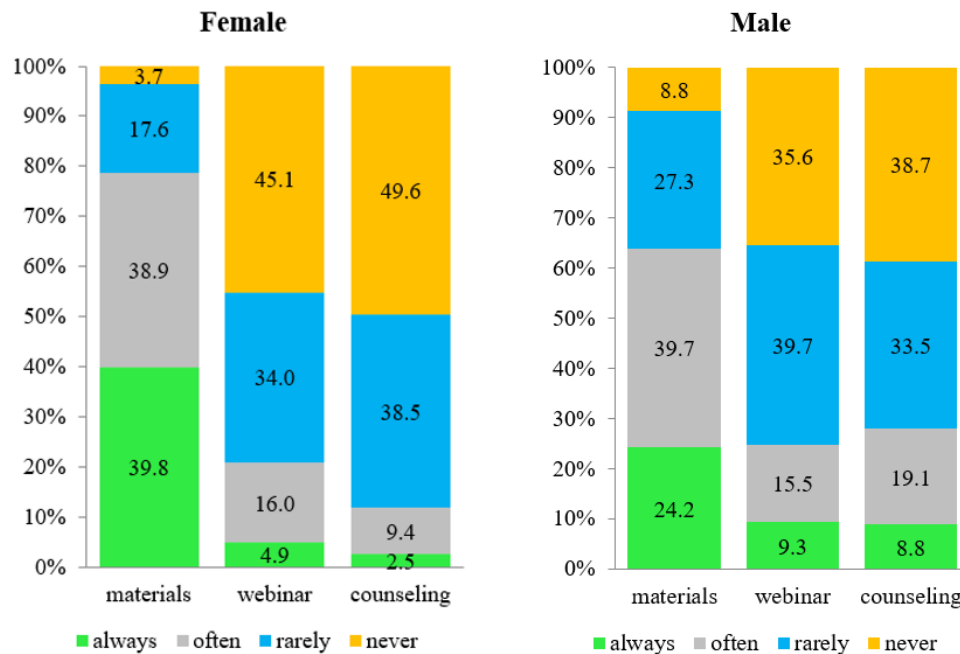


Figure 1. The Role of Educational Institutions in Reproductive Health.

Most respondents in the study were aged 21-22 years in the college-age range. Pandemic resulted in college activity, and education services must adapt to online learning methods, increasing internet activity (Hermanto & Srimulyani, 2021; Siste et al., 2020). Inadequate adolescents’ knowledge and easy access to the internet during the covid-19 pandemic in obtaining information can trigger a wide range of reproductive health-related adolescent perceptions. Public perception ultimately becomes a determinant in the behavioral decisions taken. So, is the perception of adolescents about reproductive health during the covid-19 pandemic era. Sexual behavior in some parts of Indonesia is increasing. Adolescent pregnancies outside marriage, early marriage, and adolescent abortions also increased during a pandemic (P2TP2A, 2020).

The national survey results stated that most of the youth, both girls and boys, chose friends to discuss their reproductive health (BPS et al., 2017). Meanwhile, the fourth goal of the SDGs is to ensure quality education, be inclusive and equitable, and enhance lifelong learning opportunities for all (United Nation, 2021). One of the scopes of reproductive health services is adolescent reproductive health. The objectives of adolescent reproductive health services include preventing and protecting adolescents from risky sexual behavior and preparing adolescents to lead a healthy reproductive life in the future (Ministry of Health, 2017).

Adolescents must be the center of development policies and programs in improving health across sectors such as education (Requejo & Strong, 2021). Educational institutions are a forum

that acts as one the support for adolescent reproductive health education. The approach used can be in the form of programs or methods in the school system as well as the use of supporting media (Chandra-Mouli et al., 2018). Not only knowledge about reproductive health, but also the availability of media can either positively or negatively affect their lives (Kyilleh et al., 2018). Webinars are one method that can be used to enhance the learning opportunities on reproductive health. The profits from these activities webinars one not pegged by geography (Topor & Budson, 2020), so they can be easily followed from home. In addition, online counseling is also effective for accessibility, privacy, and convenience in discussions (Amos et al., 2020).

In this study, the role of educational institutions still does not appear to have an effect. Meanwhile, qualitative research in Iran shows the need for interaction and collaboration between educational institutions, health systems, and policy-making institutions to achieve youth empowerment (Alimoradi et al., 2017). Therefore, it needs to be the role of educational institutions in increasing reproductive health knowledge through webinars and online counseling. However, the involvement of the adolescents themselves is also indispensable for the success of the collaboration (Chandra-Mouli et al., 2018; Requejo & Strong, 2021).

3.4. Perception of Covid-19 on adolescent reproductive health disorders

This study was revealed the perception of covid-19 on adolescent reproductive health disorders, which observed by the question “How risky is the covid-19 pandemic for adolescent reproductive health disorders?” Both the female (43.0%) and males (38.7%) mostly stated that covid-19 was moderately risky for adolescent reproductive health disorders. There was a significant perception gap proportion between female adolescents (4.5%) and males (13.4%) on stated that covid-19 was no risk to reproductive health disorders (Figure 2). In the group of female adolescents, there are still very few who consider covid-19 does not have risk to adolescent reproductive health. The risk of one of them is the incidence of dysmenorrhea resulting from anxiety during the covid-19 pandemic (Fharizy et al., 2021). Dysmenorrhea can cause sleep disorders to have an impact on academic performance (Ishikura et al., 2020).

During the covid-19 pandemic, everything feels risky including sexual behavior (Bowling et al., 2022). Risk perception is a form of assessing and interpreting risky situations based on a person's experience and beliefs (Slovic, 2000). The increasing use of the internet in adolescents and the information obtained health information that is not true or hoax, also increase their perception of risk (Ministry of Health, 2018; Siste et al., 2020). Previous research

in urban areas in India showed that adolescents in pandemic situations have neglected knowledge and utilization of health services. They consider that there is still a lack of access to adequate, validated, and reliable sources of sexual and reproductive health information (Sharma et al., 2022).

In addition, risk perception also plays a role in an essential decision-related determinant of health, such as the risk of adopting healthy behaviors, reducing unhealthy behavior, and rejecting or accepting a particular risk. Factors that influence the perception of risk include socioeconomic status, culture, affective, cognitive, personality, anxiety, and behavior (Arini, 2016; Kellerer, 2001; Nyre et al., 2013). Therefore, it is necessary for the development strategy for adolescent perception of covid-19 on their reproductive health.

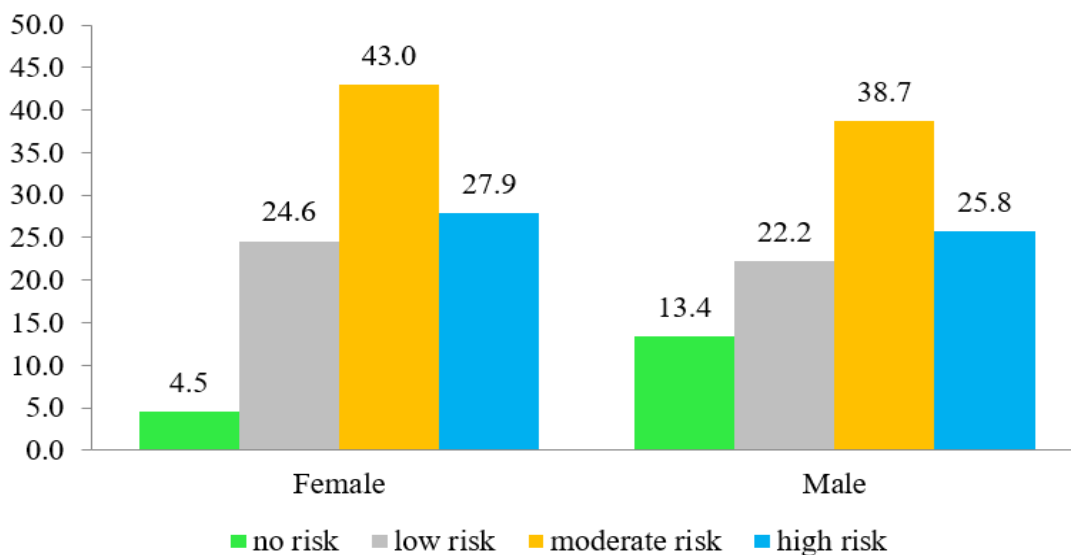


Figure 2. Respondent’s Perception of Covid-19 on Adolescent Reproductive Health Disorder in Female (left) and Male (right).

4. Conclusion

In this study, both female and male adolescents in urban areas had poor knowledge about HIV/AIDS transmission and pregnancy events if only by one sexual intercourse. Information on reproductive health through webinars and online counseling from educational institutions belongs to the rare category and is never obtained by adolescents. In addition, the perception gap between female and male adolescents in the group considered that the covid-19 pandemic was a risk of reproductive health problems. Therefore, it is necessary to optimize the role of educational institutions to increase adolescent knowledge about reproductive health through webinars and online guidance.

The limitation of this study was that this study used online questionnaires so that only adolescents could access technology and understand how to fill out the questionnaires online. The location of this study was conducted in the urban areas of Jakarta, and there was one district administration area that was not included. The findings of the study cannot be assumed to be the same in other settings. The sampling technique does not use random sampling, so the study results cannot be generalized to the general population. The suggestion for further study is that sample selection should be made with a random sampling technique to generalize the results to the population. Further research would be better if the data collection was carried out through direct interviews by enumerators, to reduce information bias. The protocol and procedures of this study have been approved by The Ethics Committee of Universitas Muhammadiyah Prof. DR. HAMKA Jakarta (letter No. 03/21/07/01196).

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Author Contribution

Terry Y. R. Pristya has contributed to the conceptualization of this research, formal analysis, writing for original draft preparation, writing for review, and editing. Chahya Kharin Herbawani has contributed to methodology, preparing questionnaires, and supervision collecting data. Ulya Qoulan Karima has contributed to validation, supervision collecting data, and data curation. Arnur Oktafiyanti has contributed to project administration. Nadia Ramadhanty has contributed to software in collecting data and resources. Asto Ginawang was contributed for investigation.

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