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RESEARCH

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Prediction Model of Related Factors with Youth Fertility in Kalimantan

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Abstract

Adolescent fertility is an essential issue because it is associated with the level of morbidity and mortality of mothers and children. Kalimantan provinces own fertility problems. Teenagers are still complex, including Age Specific Fertility Rate 15-19 years is still significant. It is recorded that 4.6% of children aged 10-17 years in Kalimantan have got married. The objective of this study is to identify the predictive model of factors correlated with provincial youth fertility in Kalimantan. The analysis was conducted by employing descriptive and inferential methods and binary logistic regression. The results of the study were among 433 adolescents in Kalimantan, 11% were married, 9.9% had given birth or were pregnant with their first child, 14.1% experienced sexual relations and 3.1% encountered sex at <15 years of age. The data employed was the 2017 Indonesian Health Demographic Survey with a unit of analysis for adolescents aged 15-19 years in 5 provinces in Kalimantan totaling 433 respondents. The sampling technique employed total sampling. Statistically, it is discovered a significant relationship between age, marital status, adolescent sexual behavior, contraceptive use status, education level, economic status, and access to the internet with youth fertility in Kalimantan. The results of logistic regression analysis displayed that the variable of family planning use possess the most effect on adolescent fertility simultaneously with the strength of the relationship OR ($\text{Exp}\beta$) = 0.2. Suggestions for further research to further scrutinize relevant programs such as maturing age at marriage and parenting skill to suppress adolescent fertility.

Keywords: Adolescence, Fertility, Kalimantan, 2017 IDHS.

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1. INTRODUCTION

Adolescence is a transitional period between childhood and adulthood. The results of population projections in Indonesia were performed by the National Statistics Agency and National Planning and Development Agency in 2010-2015. The number of people in the category of adolescents in 2020 is 44.3 million people and 21.7 million are female adolescents or 1 in 4 of the population in Indonesia is a teenager (Badan Perencanaan Pembangunan Nasional, 2013).

In the hands of young people, it exists a big responsibility and a bright future for themselves, their families and the country. However, it is distressing if the current situation is investigated, in which numerous risky behaviors are prone to happen in adolescence. In general, the prevalence of smoking, alcoholic beverages and premarital sex among adolescents tends to increase, particularly among junior high school students or students in early adolescent (National Population and Family Planning Board of Indonesia, 2018).

The dating behavior of teenagers in Indonesia is no less worrying. The survey results discovered that 2% of male adolescents and 1% of women revealed that they had committed to premarital sexual intercourse and it was revealed in all age groups. The median age for the first time having premarital sexual intercourse was 18 years old (United Nations International Children's Emergency Fund, 2018)

Adolescent fertility is an essential issue from a health and social perspective because it is associated with the morbidity and mortality rates for mothers and children. Regarding adolescent fertility, marriage at this age is a phenomenon which still occurs globally. It is recorded that around the world, 21% of women aged 20-24 years are married in adolescence. Precisely, as many as 650 million women got married at the age of 18 years. The highest incidence occurred in South Asian countries (44%) and followed by sub-Saharan Africa (18%) (Triyanto, 2013).

Marriage in adolescence is a severe violation of his rights and potential. Marriage in adolescence causes adolescents to possess a lack of understanding of their rights and obligations as husband and wife, which may lead to the serious cases of Domestic Violence, unstable income, and divorce (Triyanto, 2013). Early marriage is also the biggest cause of children dropping out of school and losing hope to pursue goals and permanent job (Sekine & Hodgkin, 2017).

Being pregnant as a teenager also increases the risk of miscarriage, preeclampsia, infection, anemia and stress. Furthermore, there is a risk of giving birth to premature babies, low birth weight (LBW), congenital abnormalities and intrauterine fetal death (IUFD). During the postpartum period, babies are at risk of not exclusively breastfed, hence, they are prone to nutritional problems such as stunting. The most fatal impact is maternal death due to complications during pregnancy and childbirth (Sekine & Hodgkin, 2017). Based on the data, around 2 million women die each year and 50% are due to unsafe abortion (National Population and Family Planning Board of Indonesia, 2018).

The practice of early marriage in Indonesia is quite immense. The results of the 2012 IDHS revealed one in ten young women who had given birth and or were pregnant at the time of the survey. Approximately, 95.2% of adolescents who have given birth possess one child, the remaining 4.8% own two or three children. Moreover, 11.1% of female adolescents first got married at the age of 10-14 years. The results of the 2017 IDHS are also not much better, the survey results revealed that 7% of women aged 15-19 years have been mothers; 5% had given birth and 2% are pregnant with their first child (National Population and Family Planning Board of Indonesia, 2018). Other results display that 20% of women aged 15-19 years understand that their friends have committed to abortion (National Population and Family Planning Board of Indonesia, 2017).

One of the targets of the National Medium-Term Development Plan for national development listed for 2020-2024 is the development of the youth population. However, the results of Indonesia Demographic Health Survey (IDHS) in 2012 portrays that the Age Specific Fertility Rate (ASFR) of age 15-19 years in Indonesia are still high, which is 36 and the target of Health in 2024 is 18. It implies that Indonesia owns a numerous things to plan in acquiring these expectations (Kementerian Kesehatan Republik Indonesia, 2020).

Kalimantan Island is in the middle of the Indonesian archipelago and comprises of 5 provinces, which are West Kalimantan with the capital city of Pontianak, Central Kalimantan with the capital city of Palangkaraya, South Kalimantan with the capital city of Banjarmasin, East Kalimantan with the capital city of Samarinda and most recently North Kalimantan with the capital city of Tanjung Selor. All of the provinces possess fertility problems, particularly adolescents, which are still complex, encompassing Age Specific Fertility Rate (ASFR) 15-19 years, Total Fertility Rate (TFR) and child marriage that is significant. It is recorded that 4.6% of children aged 10-17 years in Kalimantan have got married (Kementerian Pemberdayaan Perempuan dan Perlindungan Anak, 2018).

West Kalimantan is one of the provinces with the highest ASFR nationally, which is 46 (National Population and Family Planning Board of Indonesia, 2018). The results of the 2017 IDHS in West Kalimantan display that 8% of women aged 15-19 have already become mothers and 6% had given birth and 2% are pregnant with their first child (National Population and Family Planning Board of Indonesia, 2018).

It is not much different from the condition of youth fertility in other provinces in Kalimantan. East Kalimantan owns a total of 289,204 teenagers with the TFR figure that is still above the national figure of 2.7 and the median age at first marriage is 21.7. It is also discovered that 8% of women aged 15-19 years in East Kalimantan possess either given birth or are pregnant with their first child (National Population and Family Planning Board of Indonesia, 2018). Central Kalimantan occupies the lowest national median age at first marriage, which is 20.8 with a TFR of 2.5. It was also uncovered that 13.8% of women aged 15-19 years in Central Kalimantan had either given birth or are pregnant with their first child. This figure is the second highest nationally after North Maluku (National Population and Family Planning Board of Indonesia, 2018)

Another province in Kalimantan is South Kalimantan. South Kalimantan possesses an expansive population category description with most of the population in the young age group with high birth rates. TFR is South Kalimantan's 2.40 with an ASFR of 15-19 years of age of 56. It is still far from the 2017 target with a TFR of 2.3 and ASFR of 15-19 years of age of 42. South Kalimantan is also identified as one of the provinces with the lowest median age of marriage nationally, that is 20.8. It was also revealed that 9.2% of women aged 15-19 years in South Kalimantan own either given birth or are pregnant with their first child.12 North Kalimantan is a new province established on October 12, 2012 and is a division of Central Kalimantan province. North Kalimantan gains the lowest national median age at first marriage, which is 21.9 with a TFR of 2.8. It was also unveiled that 5.4% of women aged 15-19 years in East Kalimantan had either given birth or are pregnant with their first child (National Population and Family Planning Board of Indonesia, 2018).

The causes of early marriage can be affected by various factors, encompassing low education, economic needs, the culture of young marriage, arranged marriages and free sex in adolescents which causes unintended pregnancy (before marriage) (National Population and Family Planning Board of Indonesia, 2018). The results of research on

adolescent fertility factors illustrate that there is a significant relationship between the incidence of adolescent fertility with the area of residence, education, work status, and family welfare. Women at high risk of fertility at adolescence are those who are living in rural areas, possess low education, do not work and own low economic status (Raharja, 2014). Other research emphasizes that education and knowledge are not factors influencing early marriage, but the role of parents and culture is the dominant factor regarding the case (Nurzia, 2019).

The determinants of fertility in adolescents are required to investigate more deeply because they contribute to various impacts both on the health of mothers and babies. Moreover, these impacts may affect various sectors of a country. Therefore, the researcher is eager further scrutinize the Prediction Model of the Associated Factors Adolescent Fertility in Kalimantan.

2. RESEARCH METHOD

The type of research employed was analytic research with a cross-sectional research design. Research conducted was a secondary data study by applying the 2017 IDHS data in Kalimantan which aims to examine the determinants of adolescent fertility in Kalimantan. The primary data collection of the IDHS was also implemented through an ethical review with a certificate of Institutional Review Board Findings Form ICF IRB FWA00000845.

Sampling technique used purposive sampling. The unit of analysis in this study was WUS aged 15-19 years in 5 provinces in Kalimantan and possessed a complete dataset on 2017 IDHS, as many as 433 adolescents. The analysis was administered using descriptive and inferential methods and binary logistic regression utilizing SPSS program.

The dependent variable investigated was the incidence of adolescent fertility, which was women aged 15-19 who had given birth or were pregnant at the time of the survey. The independent dependent variables in this study encompass adolescence, marital status, adolescent sexual behavior, contraceptive use status, knowledge of contraception, desire for the number of children to live in, education level, economic status, job status, reading ability and access to the internet.

The flow of data processing can be presented in the chart below.

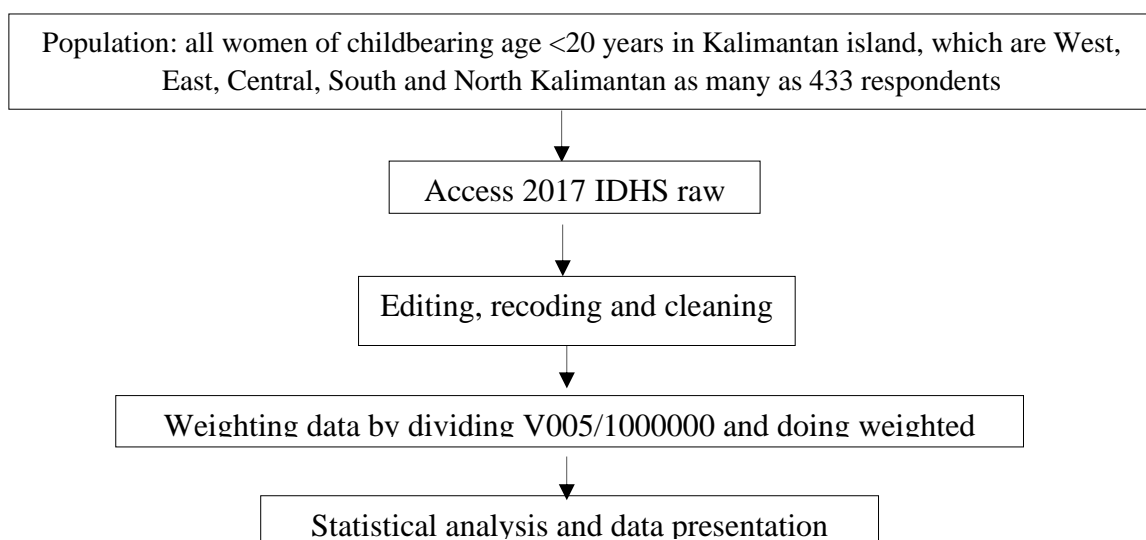


Figure 1. Research Flow

3. RESULTS AND DISCUSSION

The study was conducted on 433 adolescent respondents in Kalimantan with the number of each province as follows:

Table 1. Frequency Distribution of Respondents by Province.

Variable	n	%
West Kalimantan	163	37.7
Central Kalimantan	53	12.1
South Kalimantan	112	25.9
East Kalimantan	83	19.2
North Kalimantan	22	5.1
Total	433	100

Table 1 illustrates that the largest number of respondents came from West Kalimantan, which are 37.7% and very few respondents came from North Kalimantan, which are 5.1%.

Table 2. Frequency Distribution of Respondents based on Individual Characteristics and Behavior.

Variable	Category	n	%
Fertility adolescents	Had never been pregnant and never given birth	390	90.1
	Had ever been pregnant and given birth	43	9.9
Age	15-17 years	301	69.5
	18-19 years	132	30.5
Marital status	Unmarried	379	87.5
	Married	50	11.5
	Divorced	4	1
Adolescent sexual behavior	Never having sex	372	85.9
	Having sex	61	14.1
Age at first having sex	Never having sex	372	85.9
	<15 years	13	3.1
	15-17 years	34	7.7
	18-19 years	12	2.8
Age at first childbirth	<15 years	10	29.4
	15-17 years	12	35.29
	18-19 years	11	32.35
	Mean ± SD	16.5±1.574	
Number of children born	1 child	31	92.2
	2 children	3	8.8
Contraceptive use status	Not applying family planning	407	94.1
	Applying family planning	26	5.9
Desire for the number of children	0-2 children	335	77.4
	>2 children	98	22.6
Knowledge of benefits and types of family planning	Know the benefits and types of family planning	27	6.2
	Do not know the benefits	406	93.8

	and types of family planning		
Education level	≤9 years	51	11.8
	>9 years	382	88.2
Economic status	Middle to lowest	297	68.6
	Middle upper to top	136	31.4
Employment status	Not working	332	76.7
	Working	101	23.3
Residence	Urban area	187	43.1
	Rural area	246	56.9
Reading ability	Not literate	3	0.8
	Literate	428	94
	Blind	1	0.3
Internet access	Using the Internet	322	74.5
	Not using the Internet	110	25.5
Total		433	100

Based on table 2 on above, it is presented that most of the respondents (69.5%) were aged between 15-17 years, 88.2% of teenagers had pursued study up to SMA/equivalent and 94% of youth were literate. For economic variables, 68.6% of adolescents were in the wealth quintile index middle to lowest, 23.3% of adolescents have worked and 56.9% live in rural areas. Although many of whom live in rural areas, almost all respondents (74.5%) possess owned and actively utilized the internet in the past month.

Among 433 adolescents, almost all respondents were unmarried (87.5%) but there were also 4 (1%) adolescents who had got married but ended up divorcing. Although most were unmarried, 9.9% had ever given birth or were pregnant with their first child with an average age at first delivery of 16.5 years. Further analysis, 14.1% had had sex and 3.1% had sex at the age <15 years.

Table 3. The relationship between the characteristics of the respondents and the incidence of adolescent fertility.

Variable	Category	Fertility Adolescents				Total	%	p-value	OR	95% CI
		Had never been pregnant and never given birth	%	Had ever been pregnant and given birth	%					
Age	15-17 years	285	73.1	16	37.2	301	69.5	0.000	4.58	2.373-8.841
	18-19 years	105	26.9	27	62.8	132	30.5			
Marital status	Unmarried	377	96.7	1	2.4	378	87.5	0.000	1189	151.6-9322.6
	Married	13	3.3	41	97.6	54	12.5			
Adolescent sexual behavior	Divorced	372	95.4	0	0	372	85.9	0.000	3.389	2.299-4.995
	Never having sex	18	4.6	43	100	61	14.1			
Contraceptive use status	Not using family planning	387	99.2	29	47.6	407	94.2	0.000	141.9	39.167-514.094
	Using	3	0.8	22	52.4	25	5.8			

	family planning									
Knowledge of benefits and types of family planning	Not knowing the benefits and types of family planning	25	6.4	2	4.7	27	6.2	0,6	1.4	0.321-6.144
	Knowing the benefits and types of family planning	365	93.6	41	95.3	406	93.8			
Number of children born	1 child	300	76.9	34	81	334	77.3	0.5	0.7	0.351-1.75
	2 children	90	23.1	8	19	98	22.7			
Residence	Urban area	170	43.6	17	39.5	187	43.2	0.6	1.182	0.621-2.249
	Rural area	220	56.4	26	60.5	246	56.9			
Education level	≤9 years	38	9.7	13	31	51	111.8	0.000	0.24	0.115-0.502
	>9 years	352	90.3	29	69	381	88.2			
Economic status	Middle to lowest	259	66.4	37	88.1	296	68.5	0.04	0.2	0.103-0.696
	Middle upper to top	131	33.6	5	11.9	136	31.5			
Employment status	Not working	301	77.2	31	72.1	332	76.7	0.454	1.3	0.646-2.65
	Working	89	22.8	12	27.9	101	23.3			
Reading ability	Not literate /blind	3	0.8	2	4.7	5	1.2	0.079	0.159	0.026-0.979
	Literate	387	99.2	41	95.3	428	98.8			
Internet access	Utilizing the Internet	90	23.1	20	46.5	110	25.4	0.001	0.345	0.81-0.657
	Not utilizing the Internet	300	76.9	23	53.5	323	74.6			

The results of the analysis revealed that there was a significant relationship between age, marital status, adolescent sexual behavior, contraceptive use status, education level, economic status, and access to the internet with youth fertility in Kalimantan, with all p value <0.05. Another analysis discovered that there is no significant relationship between the variables of knowledge about contraception, the desire for the number of children, place of residence, employment status and reading ability with adolescent fertility in Kalimantan with all p value > 0.05.

Table 4. Multivariate analysis of respondent characteristics with the incidence of fertility adolescent.

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C. I. for EXP(B)	
								Lower	Upper
Step 1 ^a	Age (1)	-.624	.696	.804	1	.370	.536	.137	2.097
	Marital Status (1)	-2.118	1.148	3.405	1	.065	.120	.013	1.141
	Adolescent behavior (1)	-19.380	2059.756	.000	1	.992	.000	.000	.
	Contraceptive use status (1)	-1.610	.759	4.496	1	.034	.200	.045	.885
	education category (1)	.290	.921	.099	1	.752	1.337	.220	8.125
	economic status categories (1)	.588	.932	.398	1	.528	1.800	.290	11.178
	178 reading ability categories (1)	1.944	2.955	.433	1	.511	6.987	.021	2288.754
	Internet categories1 (1)	-.074	.820	.008	1	.928	.929	.186	4.629
	Constant	1.864	.979	3.627	1	.057	6.448		

Logistic regression analysis Table 4 above displays that the application of family planning contraceptives simultaneously influences adolescent fertility with the strength of the relationship OR (Exp^β) = 0.2.

The regression equation model administered from the above analysis is: $y = \text{constant} + a_1x_1 + a_2x_2 + a_3x_3 + a_4x_4 + a_5x_5 + a_6x_6 + a_7x_7 + a_8x_8 + \text{and so on.}$

$y = 1864 + (-6.24)(\text{age}) + (-2118)(\text{marital status}) + (-1640)(\text{status of applying family planning}) + (-0.74)(\text{internet use}) + (0.167)(\text{education}) + (0.58)(\text{economic status}) + (-19,389)(\text{adolescent sexual behavior}) + (1,944)(\text{reading ability}).$

The results of univariate analysis display the incidence value Youth fertility in Kalimantan that is quite significant. Of the 433 adolescents in Kalimantan, 9.9% explained that they had given birth or were pregnant at the time of the survey. It presents that the number is higher than the national figure in the same year, that is 7.1% and a figure which is not much different from the 2012 IDHS results, that is 10% (Raharja, 2014). Of the number of adolescents who had given birth, it was discovered that 29.4% of adolescents gave birth at the age of <15 years and almost all new adolescents possessed one child (92.2%).

Marriage in adolescence causes adolescents to experience problems associated with education such as dropping out of school, medically causes reproductive health problems for women, which comprise of being vulnerable to several diseases such as uterine cancer, an unstable economy, and still vulnerable to a lack of understanding of their rights and obligations as husband and wife, thus, affecting a high divorce rate (Triyanto, 2013).

Being pregnant as a teenager also increases the risk of miscarriage, preeclampsia, infection, anemia, and stress. Furthermore, there is a risk of giving birth to premature babies, low birth weight (LBW), congenital abnormalities, and fetal death in the uterus (IUFD). The most fatal impact is maternal death due to complications during pregnancy

and childbirth. Approximately, 2 million women die each year and 50% are caused by unsafe abortion (National Population And Family Planning Board of Indonesia, 2018). Moreover, pregnancy with stress also causes the mother to experience hyperemesis and childbirth with the assistance of tools. During the puerperium, babies are also at risk of not receiving breast milk exclusively (Afriani & Mufdlilah, 2016). Inadequate nutrition during pregnancy and the golden period also makes a child at 2.62 times the risk of stunting in women who are pregnant under 20 years (Irwansyah et al., 2016).

Research on the impact of early marriage has also extensive been conducted in other countries, particularly those with high rates of early marriage, such as in Bangladesh. Marriage under 18 years of age in Bangladesh produces a high risk of Domestic Violence. Bangladesh possesses the highest prevalence of domestic violence in women in the world. In a study of 3,355 married women, nearly half (44.5%) revealed experiencing domestic violence and 68% got married at less than 18 years of age. The median age of marriage ranged from 14.8 to 18 years (Yount et al., 2017).

Marriage at an early age is also correlated with the existence of multiple responsibilities and has become a prior factor for depression, particularly in adolescent girls. Early marriages which are insisted to establish make teenagers own a sense of rejection and low self-esteem when compared to their peers who still possess the opportunity to socialize and take higher education (Ahmed et al., 2013).

Research in the Gambia revealed that teenage marriages happen mostly in certain ethnicities in which there is an understanding of anxiety about premarital sex which frequently occurs. Hence, parents prefer to marry off their children. A more in-depth analysis discovered that in reducing the number of early marriages, it is necessary to increase the adolescents' empowerment such as vocational schools in accelerating the absorption of youth workers (Lowe et al., 2019).

According to the age group, young women present that the younger the women are, the higher the percentage of fertility incidence. The result of other analysis states that the value is Odd Ratio 4.58. Thus, it can be implied that adolescents aged 15-17 years own a 4.58 chance to get pregnant or give birth at that teenage age. It indicates a positive relationship between fertility incidence and female adolescence. Adolescent women aged 15-17 years possess a higher percentage of fertility incidence (69.5%) compared to those over 18-19 years, which is 30.5%.

According to adolescent sexual behavior and marital status, it reveals that 50 (11.5%) adolescents have got married and 4 teenagers (1%) have got married but then divorced. Moreover, 61 adolescents (14.1%) reported having had sex and 43 of them had given birth or were pregnant at the time of the survey. Statistically, there is a significant relationship between adolescent sexual behavior and marital status with the adolescent fertility incidence in Kalimantan with p -value = 0.000. Married adolescents own 1189 times the chance to get pregnant or give birth. furthermore, adolescents who have had sexual intercourse possess a chance of 3,389 times to get pregnant or give birth. it is in accordance with another survey which discovered that 4.6% of children aged 10-17 years in Kalimantan got married (Kementerian Pemberdayaan Perempuan dan Perlindungan Anak, 2018).

Free sex, pregnancy and early marriage are correlated. Poor peer relationships may also create adolescent attitudes and behavior to commit juvenile delinquency such as drinking alcohol and smoking, starting to perform early sexual intercourse and eventually unwanted pregnancy (Husna et al., 2016). Literature studies using analysis of Social Cognitive Theory in identifying the outcome of premarital sex is a behavioral factor which increases the early marriage incidence. Early marriage is a form of paternal responsibility

and reduces family shame (Agustini, 2017).

Moreover, free sex during adolescence also causes a severe impact on female reproductive organs, encompassing increasing the risk of cervical cancer. The earlier woman performs sexual intercourse, the higher the risk of precancerous lesions on the cervix, thus, the greater the chance of suffering the cervical cancer. It is because at that age, there is a location change of the squamous-column joint. The juvenile cervix is more susceptible to carcinogenic stimuli because it contains an active metaplasia process, happens in the transformation zone during the developmental period (Hanum & Tukiman, 2015).

For the variable of desire, the number of children presents that 77.3% of teenagers are merely willing to have 0-2 children. There is no relationship between the desire for the number of children and adolescent fertility in Kalimantan with a p-value = 0.5. Adolescents who plan to own only 2 children will have a 0.7 times chance of not getting pregnant or giving birth at that teenage age.

Pregnancy planning is closely correlated with the knowledge and use of contraception for adolescents. The results of the analysis unveiled that almost all adolescents (93.8%) have already understood the benefits and types of family planning. A total of 25 teenagers or 5.8% have applied contraceptives. However, this number is not proportional to the number of married adolescents, which are 54 teenagers or only 46.29% of the total married teenagers. Statistical results discovered that there is a relationship between contraceptive use status and adolescent fertility in Kalimantan with a p-value = 0.000. Adolescents who do not utilize contraception possess 141.9 times the chance to get pregnant or give birth.

Adolescents who have had sexually active relationships possess a greater risk of getting pregnant and giving birth at that age. Pregnancy and childbirth in adolescence causes a severe health risk, psychology and social issues. Thus, one method that can be implemented to prevent this problem is the contraception application in adolescents.

Research results by Rizkianti et al (2017) on further analysis of basic health research 2013 discovered that as many as 54.2% of married women and their partners applied contraception. Multivariate analysis, age, education level, socioeconomic status and application of health insurance possess a significant relationship with contraceptive use. Fulfilling adolescent access to contraception is expected not only to concern on increasing adolescent knowledge but also increasing purchasing power, one of which is through the use of health insurance (Rizkianti et al., 2017).

Contraceptive application among adolescents and young women is also low in other countries, encompassing South Africa. However, the use of contraception in this age group also prevents to suffer from sexually transmitted diseases. The causes of the low number of unmet needs in this age group encompass false myths, lack of knowledge of the benefits and access to contraceptive use, less support from parents and partners, and fear of having a treatment at health facilities (Jonas et al., 2022).

The results of the univariate analysis uncovered that the percentage of adolescents who gave birth or got pregnant and living in rural areas was higher than those living in urban areas, which are 43.2% and 56.9%, respectively. However, statistically, it was discovered that there was no relationship between residence and adolescent fertility in Kalimantan with a p-value = 0.6. In almost all developing countries, the teenage pregnancy rate is higher in rural areas than in urban areas. The characteristics of cities which provide the availability of good educational facilities, the employment sectors and health facilities, and information and family planning tools encourage on delaying to have children. There are more differences in opportunities for education and employment in urban areas than in rural areas, hence, women tend to postpone the marriage, choose to

continue their education and apply for the job opportunity (Raharja, 2014).

For the variable level of education and reading ability of adolescents, it was revealed that 381 (88.2%) had completed basic education >9 years of elementary and junior high school, hence, 98.8% of adolescents were literate. Despite completing basic education, there were 29 adolescents who had given birth or were pregnant at the time of the survey. Thus, it can be implied that there is a relationship between education and youth fertility in Kalimantan with a p-value = 0.000. Adolescents who have completed education are 0.24 times more likely to not get pregnant or give birth at that teenage age. Education is a dominant factor which influences a person in making crucial decisions in his life, including marriage. Education also affects one's maturity in solving problems. Children with low education are at risk of getting married at an early age. Statistically, the low level of education of children elevates the risk of early marriage 4.5 times. Parents' education factor has also been discovered to influence their child's early marriage. Low parental education level escalates 3.7 times for the risk of children being married (Desiyanti, 2015).

The level of education also affects adolescents' awareness on the importance of reproductive health knowledge. The results of research conducted in Nigeria state that teenage marriage is more common in population groups possessing basic education levels and lacking of knowledge of reproductive health (Anayochukwu, 2022).

Early marriage also impacted on the number of teenagers who drop out of school. However, with the support of the social environment, married teenagers can actually continue their education. Education is understood to provide great benefits for adolescents' life. Higher education is able to increase self-efficacy, ability and enhance the welfare of life (Raj et al., 2019).

In terms of the variable of economic status and adolescent employment, the percentage of adolescents with middle to lowest economic status is as much as 68.6%, and of this percentage, 37 of whom had given birth or are pregnant. Hence, the result of further analysis illustrates that there is a relationship between economic status and adolescent fertility in Kalimantan with a p-value = 0.04. Adolescents with middle to lower economic status possess a 0.2 times chance of getting pregnant or giving birth at that teenage age. Furthermore, there were 101 (23.3%) who were already working and of those who had worked 12 of them had given birth or were pregnant at the time of the survey. There is a robust pattern and relationship between the incidence of fertility among adolescents and the welfare level. The higher the family welfare status is, the lower the percentage of teen fertility incidence will be. Adolescents with a high wealth index possess a lower risk of becoming adolescent mothers than adolescents with a low wealth index. Moreover, socio-economic conditions also impact negatively on the probability of becoming a mother in adolescent age (Raharja, 2014).

It is similar with the research in western Ethiopia. A cross-sectional study involving 373 women produced a conclusion that 167 women (44.8%) were married in the age range of 9 to 23 years, and the causative factors were due to the low family income, low parental education level, thus facilitating the practice of early marriage in the family (Bezie & Addisu, 2019).

A person's occupation reflects income, social status, education and health problems. Parents' job definitely influences their social status in society. A good job synergizes with the economic capacity of the family. Families who are in the poverty line will marry off their children to release a burden on the family. Marriage is considered capable of solving problems for the family (Desiyanti, 2015).

It is in accordance with the results of research conducted by Fitriyani et al., (2017). Apart from free sex, another shocking thing affecting adolescent fertility is the prostitution

factor, adolescents who prefer to commercialize their bodies due to life necessities and helping the family financial income. Free sex, changing girlfriends or boyfriends on the basis of consensual consensus to prostitution, most of which lead to the unwanted pregnancy and marriage because they want to cover up the shame (Fitriyani et al., 2017).

The results of the univariate analysis revealed that most adolescents owned access to the internet, with a percentage of 74.6% and 23 of them or 53.5% had given birth or were pregnant at the time of the survey. Thus, there is a relationship between having access to the internet and youth fertility in Kalimantan with $p\text{-value} = 0.001$. Adolescents who possess access to the internet that is active in the year past own a 0.345 chance of getting pregnant or giving birth at that teenage age.

Qualitative research on the factors affecting the marriage of female adolescents in the Indramayu region uncovered similar things. The development of mass media, cyber space, internet, and electronic information also influences the shift of cultural values in society and the association of teenagers. Due to this promiscuity, not a few were married because they were willing to cover up the disgrace due to the unwanted pregnancy (Fitriyani et al., 2017).

4. CONCLUSION

Among 433 adolescents in Kalimantan, 11% got married, 9.9% had ever given birth or were pregnant with their first child, 14.1% had had sexual intercourse, and 3.1% had had sex at <15 years of age. Statistically, there is a significant relationship between age, marital status, adolescent sexual behavior, contraceptive application status, education level, economic status, and access to the internet with youth fertility in Kalimantan. The results of logistic regression analysis revealed that the variable of family planning use impacted the most on adolescent fertility simultaneously with the strength of the relationship $OR (Exp\beta) = 0.2$. A suggestion for further research is to examine related programs such as maturing age at marriage and parenting skill to suppress adolescent fertility.

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