

Association between Age of Menarche and Premarital Sexual Behavior of Young Adults in Indonesia: Data Analysis of Health Reproductive Survey Indonesia 2012

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Abstract

One of the most crucial periods in a woman's developmental period is entering the age of puberty marked by menarche. Age of menarche can be associated with sexual behavior in which a person with early menarche is at risk for premarital sexual behavior. The aim of this study is to present the interrelation of trade between menarche and premarital sexual behavior and the factors that have affected premarital sexual behavior. This research is used as cross-sectional survey. The study population is women whose ages are over 15-24 years. The number of samples are 7,446 women aged adolescents and adults who are not married. The dependent variable in this research is premarital sexual behavior. The results of this study concluded that the average age of menarche women is 13 years old, intimate sexual behavior shows fewer proportions and the majority are those who live in urban areas. There is a relationship between age, education, domicile, and age of menarche with sexual behavior, where age and higher education have a chance of doing premarital sexual behavior.

Keywords: Reproductive Health, Menarche Age, Sexual Behavior

Introduction

Puberty is a period of transition between childhood into adulthood. In this period, physical organ changes rapidly and the changes are not balanced with a teenager's psychological change. At the time of puberty, a phase called menarche or the peak of adolescent puberty happens. Menarche is the first menstrual period experienced by adolescent girls where the first menstrual blood loss from reproductive organs (Mary & Carol, 2003). The occurrence of menarche is a natural thing and will be experienced by every woman in her life cycle and become an active sign of female reproductive organs.

Several studies from various countries show that there is a change in age of menarche at younger ages than in previous years, including low and middle-income countries (Blum, Astone, Decker, & Mouli, 2014). This trend also occurred in Indonesia, data of Basic Health Research in Indonesia showed that 40.7% of adolescents experienced menarche at 13 years, and 32% at age 12 years. The research conducted by Suryansyah (2013) showed that adolescents begin puberty at age 9-10 years (48.2%), and at age 12-13 years, all teenagers have experienced puberty.

Menarche age is associated with various diseases, such as cancer, obesity, and cardiovascular. In addition, early menarche can also trigger sexual behavior, pregnancy in adolescents, and lead to early marriage (Yermachenko & Dvornyk, 2014). Menarche age is an important time because it is an indicator of reproductive health, population health, and chronic diseases in the future (Islam, Hussain, Islam, Mahumud, Biswas, Mohammed, & Islam, 2017).

Puberty is characterized by menarche activating sexual organs that can encourage sexual behavior. Teens who experience menarche early are at risk for sexual behavior because they

are not emotionally mature to control themselves. Some studies show that teenage sexual behavior begins at about 13 years of age, this sexual behavior begins with hugs, kisses, petting, and ends with coitus or intercourse (Schwartz, 2010; Smith, Agius, Dyson, & Mitchell, 2003). The prevalence of sexual activity among teenagers lately also received a lot of attention because it increased every years. A study in the US showed an increase in the number of adolescent girls who had intercourse from 7 percent in 1950 to 40 percent in 1982 (Brooks-Gunn & Furtstenberg, 1989). A UK study conducted in the 1960s, aged 15-19 year olds in an interview only 20 percent of boys and 12 percent of adolescent girls doing intercourse. Ten years later over 50 percent of 16-19 year olds were not virgins. In terms of adolescent demographics, in Nigeria more than half (53.5%) adolescents are sexually active. They were higher in rural areas than in urban areas and reported having more than one sexual partner (29.5%).

In Asia, sexual behavior is still a taboo subject to talk about. However, the amount of sexual activity of adolescents is also increasing from year to year. Young women in Korea kissed 27 percent, fell 14.8 percent, and 9.8 percent coitus (Youn, 1996). Research conducted by Zhang, Gao, Sun and Lou (2015) in Shanghai, Taipei, and Hanoi on teenage sexual activity, the proportion of teens who kissed (49.8%), petting (30.6%), and intercourse (27.5%) is higher in Taipei. In Indonesia, adolescents who have premarital sex based on SKRR 2007 data amounted to 801 of 18,510 adolescents.

Research conducted by Deardorff, Gonzales, Christopher, Roosa & Millsap (2005) revealed that there is a relationship between sexual behavior with age menarche. From the literature, the discussion regarding the relationship between menarche age and teenage sexual behavior are very little. Previous research has a relatively small sample and is dominated by the western context. Therefore, this study was specifically conducted to examine how the relationship between age of menarche and specific sexual behaviors such as handgrip, kissing, touching/stimulating, and coitus in adolescents and young adults in urban and rural areas using Adolescent Reproductive Health Surveys data in Indonesia 2012 which is part of Indonesia Health Demographic Survey (SDKI) 2012 data.

Research Methodology

This research is a quantitative research using secondary data of Indonesian Adolescent Reproductive Health Survey (SKRRI) 2012. The research design used is the cross sectional survey, that is to analyze the association between the determinant factor with effects, by observation or data collection approach in one place. The study population is women over 15-24 years. The total sample size was 8,902 spread over 5304 urban areas while in the countryside amounted to 3.598 people. The samples in the study were women aged 15-24 years who are not married. The research location is divided into 33 provinces. Each province is divided into districts (rural and urban districts). The district is subdivided into sub-districts and each sub-district is divided into villages. The whole village is classified as urban or rural. The dependent variable is the individual determinant. The dependent variable in this study is premarital sexual behavior. Premarital sexual behavior based on SKRR 2012 consists of experience during courtship IE hand grip, kiss, touching/stimulate partner, and coitus. These variables are then divided into two categories: intimate and non-intimate. It is categorized intimate whenever kissing, touching/stimulating partner, and or doing coitus, while categorized not intimate if kissing, touching/stimulate partner, and or coitus are never done (Pinandari, 2015). The independent variable in this study is age menarche. Age of menarche in questions is an age at first menstruation Menarche age variable is an ordinal numerical data with a unit of years. The outer variables in the study consist of age (years), education (Primary

School, Junior High School, Senior High School, Academy, and University), and domicile (rural/urban).

The KRR 2012 survey questionnaire was developed from the standard Demographic and Health Survey (DHS) format. Previously, the questionnaires were piloted in the provinces of Riau and Nusa Tenggara Timur to ensure that the questions were clear and understandable to the respondents. Trials are essential in order to provide information on covering changes from women aged 15-49 who have been married to all women aged 15-49 years, so there are new questions and DHS standard changes to DHS standard questions.

The questionnaire used was to be part of the questionnaire of the Indonesian Youth Surveillance Survey (SKRRI) 2007. Questions addressed to women aged 15-24 years and unmarried were also supplemented with questions about background characteristics, puberty experience, and sexual experiences.

The cleaning process involves taking the necessary variables from the total data that has been collected, comprising the age of menarche variable, sexual behavior (hondling, kiss, petting/stimulated, and coitus), education, age, and domicile (rural/urban). After the data is collected then the data that is considered missing or not included in the inclusion criteria research is issued. After going through the process of cleaning, the number of respondents become 7,446 women aged adolescents and adults.

Data selected from SKRRI 2012, then tested by using the STATA license program of Gadjah Mada University. Data analysis and statistical test conducted in this study includes descriptive analysis presented in the form of a frequency distribution, percentage, as well as narrative and inferential analysis. Bivariable analysis using chi-square statistical test.

Research Result

Social characteristics of respondent's demography are described in table 1. The number of samples used in this study was 7,446 women of adolescence and adulthood. Adolescents who are in urban elected as many as 4,587 and in the countryside as many as 2,859 teenagers. The average age of selected respondents is 18.42 years with 2.6 standard deviations and vulnerable ages 15-24 years. The proportion of adolescents involved in the study was more than dual-fold (67.11%) compared with young adult age (32.89%).

On the educational aspect, both in rural and in urban areas have shown better participation in education where lower education levels have fewer proportions than those above. Ten percent of respondents in rural areas are elementary school graduates (SD), while in urban areas less than ten percent are primary school graduates (SD). The greatest proportion of education achieved by respondents in rural and urban areas is high school graduates (SMA) reach 51 percent. Respondents who graduated from college and university reached 23.71 percent.

The age of menarche is the age of women's first period. The age of menarche respondents involved ranged from 9 years to 20 years with an average age of menarche was 13 years. Based on Table 1, the largest proportion of urban and rural respondents experienced menarche was at age 13 (28%). There were 1.45 percent of respondents had menstruation at age less than 10 years and at age more than 17 years that is 1.54 percent.

Sexual behavior based on Indonesia Central Agency on Statistics 2012 consists of dating behavior including handrails, kisses, touching/stimulating and coitus. In this study sexual behavior is differentiated into intimate and non-intimate sexual behavior. It is said to be intimate if a kiss, touching/stimulating, or coitus are done. Then it is said not intimate if kiss, touching/stimulating, and coitus are never done. In Table 2, we can see that most dating behavior is hondling which is 85.44 percent. Respondents who have done kisses as much as 34.82 percent and touching/stimulating their partner is as much as 8.81 percent. While the behavior of coitus or intercourse done by respondents is as much as 2.19 percent. Based on

the domicile, the proportion of sexual behavior is predominantly happened in urban respondents. The most intimate sexual behaviors such as performing coitus are almost done by more than half of urban respondents compared to rural respondents who have conducted coitus.

Table 1 Characteristics of respondent's social demography based on domicile

Variable	Domicile				Total	
	Rural		Urban			
	n	%	n	%	n	%
Age (year)						
15-19	2,163	75.66	2,834	61.78	4,997	67.11
20-24	696	24.34	1,753	38.22	2,449	32.89
Education						
Primary	296	10.35	201	4.38	497	6.67
Junior	711	24.87	671	14.63	1,382	18.56
Senior	1,473	51.52	2,369	51.65	3,842	51.60
Academic university	119	4.16	345	7.52	464	6.23
	260	9.09	1,001	21.82	1,261	16.94
Age of menarche (year)						
<10	44	1.54	64	1.40	108	1.45
11	103	3.60	263	5.73	366	4.92
12	539	18.85	1,035	22.56	1,574	21.14
13	801	28.02	1,292	28.17	2,093	28.11
14	752	26.30	1,097	23.92	1,849	24.83
15	459	16.05	607	13.23	1,066	14.32
16	118	4.13	157	3.42	275	3.69
+17	43	1.50	72	1.57	115	1.54

Table 2 Distribution of sexual behavior of adolescents and young adults

Sexual behavior	Domicile				Total	
	Rural		Urban			
	n	%	N	%	n	%
Hondling	2,336	81.7	4,023	87.7	6,359	85.4
Kissing	850	29.7	1,743	38.0	2,593	34.8
Petting	225	7.87	431	9.4	656	8.81
Coitus	62	2.17	101	2.2	163	2.19

In Table 3 we can see that the distribution of sexual behavior is differentiated into intimate and non-intimate. Sexual behavior of intimate respondents was greater in urban proportion (38.00%) than in rural areas (29.73%). Overall, more than half of the respondents had non-intimate sexual behavior.

Table 3 Distribution of sexual intimacy based on domicile

Sexual behavior	Domicile				Total	
	Rural		Urban			
	n	%	N	%	n	%
Tidak Intim	2,009	70.27	2,844	62.00	4,853	65.18
Intim	850	29.73	1,743	38.00	2,593	34.82

Table 4 Chi-square analysis of domicile with sexual behavior

Domicile	Sexual behavior		Total n (%)
	Not intimate	Intimate	
Rural	2,009 (70.27%)	850 (29.73%)	2,859 (100%)
Urban	2,844 (62.00%)	1,743 (38.00%)	4,587 (100%)
Total	4,853 (65.18%)	2,593 (34.82%)	7,446 (100%)
<i>Chi-square</i>	<i>Value</i>	<i>Df</i>	<i>P-Value</i>
<i>Pearson chi-square</i>	53,0464	1	0.000

The analysis of the relationship between two variables using chi-square in Table 4 illustrates that there is a relation between domicile variable and sexual behavior (P -value = 0.000). From the percentage, it can be seen that urban respondents have a greater percentage, of intercourse (38%) than rural respondents (29%). It is concluded that the dwelling has an influence on sexual behavior.

Table 5 Chi-square analysis of age with sexual behavior

Age (year)	Sexual behavior		Total n (%)
	Not intimate	Intimate	
15-19	3,575 (71.54 %)	1,422 (28.46%)	4,997 (100%)
20-24	1,278 (52.18%)	1,171 (47.82%)	2,449 (100%)
Total	4.853 (65.18%)	2.593 (34.82%)	7.446 (100%)
<i>Chi-square</i>	<i>Value</i>	<i>Df</i>	<i>P-Value</i>
<i>Pearson chi-square</i>	271.3598	1	0.000

Between age variables and sexual behavior, there is a significant relationship (p -value = 0.000). Respondents with younger age had nearly twice as much percentage of intimate sexual behavior on teenagers (Table 5). Chi-square analysis proves that the higher the age, the more effect on sexual behavior to have intercourse.

Table 6 Chi-square analysis of education level with sexual behavior

Education	Sexual behavior		Total n (%)
	Not intimate	Intimate	
Primary	329 (66.20%)	168 (33.80%)	497 (100%)
Junior	996 (72.07%)	386 (27.93%)	1,382 (100%)
Senior	2,578 (67.10%)	1,264 (32.90%)	3,842 (100%)
University	950 (55.07%)	775 (44.93%)	1,725 (100%)
<i>Chi-square</i>	<i>Value</i>	<i>df</i>	<i>P-Value</i>
<i>Pearson chi-square</i>	113.0155	3	0.000

Based on the level of education, the percentage of intimate sexual behavior has more proportion in the college education level. However, in primary school education has a greater presentation compared with the education of Junior High School and Senior High School (SMA). The significance value of these two variables is meaningful, meaning that education has an influence on sexual behavior.

Table 7 Analisis *Chi-square* of Age and Sexual Behavior

Age of <i>menarche</i> (year)	Sexual behavior		Total n (%)
	Not intimate	Intimate	
<10	67 (62.04%)	41 (37.96%)	108
11	243 (66.39%)	123 (33.61%)	366
12	1,006 (67.10%)	568 (36.09%)	1,574
13	1,375 (65.70%)	718 (34.30%)	2,093
14	1,244 (67.28%)	605 (32.72%)	1,849
15	675 (63.32%)	391 (36.68%)	1,066
16	182 (66.18%)	93 (33.82%)	275
+17	61 (53.04%)	54 (46.96%)	115
<i>Chi-square</i>	<i>Value</i>	<i>Df</i>	<i>P-Value</i>
Pearson <i>chi-square</i>	14.8638	7	0.038

The results of the chi-square test showed that respondents with younger age and slower menarche experiences had more percentage to perform an intimate sexual behavior. However, the value of significance (*P-value* = 0.038) shows that age affects sexual behavior.

Discussion

Entering puberty marked by the age of menarche is a critical period for a woman. Menarche age is used as indicators of reproductive health determinants ranging from adolescents to the elderly. Based on the results of research, the average age of menarche by women is 13 years in both urban and rural areas. Not much different from the results of research conducted by Suryansyah (2013) that young women in urban areas have all experienced puberty characterized by menarche at the age of 12-13 years. According to Affandi (1991) cited in Soejoeti (2001), one hundred years ago a woman got her first menstruation at the age of 17 years. At the present time, a teenager will get his first period from 12 years of age or less due to a relatively improved nutritional state and audio-visual stimulation that can accelerate biological maturity (e.g. radio, tv, film, and magazine). When this natural feeling is not controlled properly, it will be a problem faced by teenagers.

The premarital sexual behavior of adolescents and young adults in this study is less than those who do not engage in sexual behavior. One-third of teenagers and young adults engage in sexual behavior that is classified as intimate. Specifically, sexual behaviors such as coitus or intercourse are the fewest percentages performed, compared to other sexual behaviors. This can be attributed to societies that are not culturally appropriate in Indonesia for intercourse before marriage.

Research conducted by Pinandari (2015) proved that premarital sexual behavior is more common in urban than in rural areas, but domicile both urban and rural areas is not significantly different. It is similar to this study where the prevalence of intimate sexual behavior is more prevalent in urban areas and significantly different. The metropolitan status allows people to be exposed to various factors such as media that make them easy to access things like spectacle reading and sex.

Age significantly affects sexual behavior where it is found that the prevalence of sexual behavior is greater in adulthood than in adolescents. Adult age has large distance between the age of puberty and marriage, resulting in increased sexual health risks such as an increase in the proportion of premarital sexual intercourse.

This study found that the relationship between education on sexual behavior of women has a significant effect. This means that education allows a person to engage in sexual behavior. According to Pinandari (2015), adolescents and young adults do not receive formal

reproductive health education or only receive information on contraceptive methods which arise greater chance to have premarital sexual relations from time to time.

Menarche age has a relationship with sexual behavior where too early or late age have a greater proportion of sexual intercourse than the average age or normal. The findings are similar to Glynn et al. where there is a strong relationship between the age of menarche with premarital sexual behavior and teenage dropout rates from school.

According to Irwin and Millstein, adolescent risky behavior is a manifestation of asynchronous pubertal maturation or maturity that is too fast or slow of its peers. This condition allows adolescents to perform risky behaviors such as drinking alcohol, taking drugs and even having premarital sexual intercourse.

Conclusion

This study concluded that the average age of menarche in a woman is 13 years. Intimate sexual behavior has fewer proportions and predominantly are those whose domicile are in urban areas. There is a relationship between age, education, domicile and age of menarche with sexual behavior, where age and higher education have a greater proportion of conducting premarital sexual behavior.

Based on above conclusions, the suggestion that can be given by the writer is the need for comprehensive reproductive health education which is given at every level of education considering the age and the need to reduce the prevalence rate of premarital sexual behavior.

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