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Health Problems of Prospective Brides in Rural Area of East Java, Indonesia

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Abstract

Background: Health conditions of prospective brides were very important to identify before marriage because they will be "the main actors" in reproduction process of the next generation.

Objectives: The objectives was to describe the health problems of prospective brides in rural area, East Java, Indonesia.

Materials and Method: The study was an observational study. Samples of this research were all prospective brides and grooms who had been registered in nine Religious Affairs Office and nine Public Health Center in Proboling go through Pre-Marital Integrated Services by using Laduni cards in 2015. Variables under the study were consists of some demographic and health variables. Data processing and analysis were did descriptively based on the results of cross tables.

Results: Anemia tends to be more prevalent on the younger age group as well as the Body Mass Index status <18.5 and Less Energy Calories. Hip Waist Ratio>0.85 had a high enough percentage in all age groups.

Conclusions: There were many prospective brides who did not use contraception but also they did not want to have the children within one year of marriage. Anemia, underweight BMI status and Chronic Energy Malnutrition have more occur on younger age group, while the older age group have more high risk of degenerative diseases.

Keywords: *Health problem, contraceptive use, nutrition status, prospective brides, rural area.*

Introduction

Forming a happy and prosperous family as mandated by Indonesian Law No. 1 of 1974 was not a simple matter. While health conditions of prospective brides were very important to identify before marriage because they will be"the main actors" in reproduction process of the next generation. Women can be analogized as "factory as well as provider of raw materials" for the future generations. When the factory and the raw materials were not well prepared, then the future generation that will be produced will be perfunctory quality, just life but not qualified(1).

A number of medical examination procedures were essential for prospective brides. Blood pressure checks were necessary to anticipate the early presence of abnormal blood pressure (hypertension or hypotension) and to predict of cardiovascular disease as other indices(2)before prospective brides become a mother. Examination of hemoglobin blood was very useful to know whether prospective brides anemia or not(3). If prospective brides was anemic then if she becomes pregnant,it will be more severe because of pregnancy can decrease hemoglobin levels up to 1.5 mg/dl from the initial conditions before pregnancy. Measurement of body weight and height was needed to calculate Body Mass Index (BMI). BMI shown a person's nutritional

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status[4]. Maternal weight before pregnancy was a risk factor for low birth weight[5]. Moreover, the cause of perinatal death was thought to be related to maternal underweight status[6].The use of contraception indicates the level of contraceptive use to delay pregnancy after marriage. The desire to have children indicates potential of average age of women at the first childbirth. While the nutritional status of prospective brides will greatly affect to the quality of pregnancy and the children to be born[7].

Materials and Method

The study was an observational study, while the design of the study was a descriptive research design. The research location was at Probollinggo District, East Java Province, Indonesia.

Population of this research were all prospective brides and grooms who have been registered in nine Religious Affairs Office (RAO) and nine Public Health Center (PHC) in Probolinggo through Pre-Marital Integrated Services by using Laduni cards in 2015. Samples in this study are all of the population that consist of 774 pairs of prospective brides and the grooms that recorded in the nine RAO in Probolinggo. In general, candidates were listed on RAO wedding where prospective brides resides.

Variables that observed in this study were blood pressure, hemoglobin level, pregnancy test, Tetanus Toxoid immunization, contraceptives use, desire to have children within one year of marriage, anthropometry comprising Upper Arm Circumference (MUAC), Body Mass Index (BMI) and Waist Circumference Pelvic Ratio (waist hip ratio) to determine the nutritional status. Data processing and analysis were did descriptively using frequency distributions and cross tables.

The data collection technique used in this study was to use secondary data from the results of the prospective brides registration conducted by nine of the Office of Religious Affairs and the premarital health examination conducted by nine of the Public Health Center in each sub-district in Probolinggo District, East Java Province, Indonesia. While the data analysis was carried out descriptively based on the results of cross table analysis.

Results

Health and Nutritional problems of prospective brides: There were a number of Laduni form not filled completely or empty, so that left nearly all of the observed variables not had the same total number. Most of the prospective brides had normal blood pressure, even though there were few of the prospective brides of the prospective brides had hypotension, hypertension, and pre-hypertension. Based on the results of the pregnancy test it was known that as many as 11.6% of the prospective brides already pregnant. Almost all of prospective brides who got Tetanus Toxoid immunization (TT).Prospective brides who were not immunized TT, it was because they were unwilling or afraid of TT immunization for various reasons.

Prospective brides who already used contraception before fist pregnancy were quite a lot. Prospective brides who had been using contraception were those who have not done the wedding ceremony nor had the wedding ceremony, but had not registered marriage in the RAO. However, many prospective brides who did not use contraception said that they wanted to use contraception after the wedding ceremony. The type of contraception that most preferred by prospective brides were injection contraception and Pill. The injection contraception lot of interest since its use once every 3 months. As for those who choose birth control pills usually because they were easily stopped to used it at any time. Prospective brides that states did not want have a child in one year after the marriage were more than a half. This was contradiction with the fact that the prospective brides who wearing contraception were less than prospective brides who did not want to get pregnant within the first year of their marriage (Table 1).

Table 1: Cross tabulation of age group by contraceptive use before marriage and plan to have children within one year after marriage on prospective brides in Probolinggo district, East Java Province, Indonesia

Contraceptive use before marriage	Plans to have children within one year after marriage				Total	
	Yes		No			
	n	%	n	%	n	%
Yes	25	8.8	259	91.2	284	100.0
No	226	59.3	155	40.7	381	100.0
Total	**251**	**37.7**	**414**	**62.3**	**665**	**100.0**

Source: Laduni cards, 2015

Most of the prospective brides known anemic. The average Hb level of the prospective brides was 11.5 g/dl, with a minimum value of hemoglobin level was 5.9 g/dl and a maximum was 18.5 g/dl. The anemic was highest in the youngest age group (15-19 years) (Table 2).

Table 2: Cross tabulation of age group by hemoglobin level (Hb) on prospective brides in Probolinggo district, East Java Province, Indonesia.

Age Group	Hemoglobin Level (Hb)				Total	
	Normal (>12g/dl)		Anemia (<12 g/dl)			
	n	%	n	%	n	%
15 - 19	154	41.7	215	58.3	369	100.0
20 - 49	142	47.3	158	52.7	300	100.0
Total	**296**	**44.2**	**373**	**55.8**	**669**	**100.0**

Source: Laduni cards, 2015

Prospective brides who had nutritional status based on value of the Body Mass Index (BMI) were quite a lot. The nutritional status of the prospective brides by BMI showed a tendency of the young age of the bride getting underweight. Conversely the adult age group of the prospective brides, tends to increase the BMI (Table 3).

Table 3: Distribution age group with BMI status on prospective brides in Probolinggo, East Java Province, Indonesia.

Age Group	BMI status								Total	
	Underweight (<18.5)		Normal (18.5 to 25)		Excess Weight Loss (25 to 30)		Overweight (> 30)			
	n	%	n	%	n	%	n	%	n	%
15 - 19	137	35.0	224	57.3	26	6.7	4	1.0	391	100.0
20 - 49	87	26.8	203	62.4	26	8.0	9	2.8	325	100.0
Total	**224**	**31.3**	**427**	**59.6**	**52**	**7.3**	**13**	**1.8**	**716**	**100.0**

Source: Laduni cards, 2015

Based on the ratio of waist circumference pelvis known that more than a quarter of prospective brides have a higher risk of degenerative diseases. In every age group was relatively almost no difference in the value of waist hip ratio (Waist Pelvic Ratio) between high risk and not high risk. However there was a slight tendency, increasingly older age group more high risk of degenerative diseases (Table 4).

Table 4: Distribution age group with pelvic waist circumference ratio (waist hip ratio) on the prospective bride in Probolinggo, East Java Province.

Age Group	Pelvic Waist Circumference Ratio				Total	
	High risk (> 0.85)		Not high risk (<0.85)			
	n	%	n	%	n	%
15 - 19	96	26.2	271	73.8	367	100.0
20 - 49	89	31.4	194	68.6	283	100.0
Total	**185**	**28.5**	**465**	**71.5**	**650**	**100.0**

Source: Laduni cards, 2015

Measurements of Middle Upper Arm Circumference (MUAC) showed that a lotof the prospective brides had chronic energy deficiency. In all age groups were also relatively almost no difference value of MUAC of the prospective brides between chronic energy deficiency and normal. However, there was a tendency of younger age group of the prospective brides had the higher percentage of Less Energy Calories (LEC) (Table 5).

Table 5: Distribution age group with Median Upper Arm Circumference (MUAC) on the prospective bride in Probolinggo, East Java Province.

Age Group	MUAC				Total	
	Chronic energy deficiency (<23.5 cm)		Normal (> 23.5 cm)			
	n	%	n	%	n	%
15 - 19	134	37.6	222	62.4	356	100.0
20 - 49	63	34.8	118	65.2	181	100.0
Total	**225**	**35.1**	**416**	**64.9**	**641**	**100.0**

Source: Laduni cards, 2015

Discussion

The type of contraception that most preferred by prospective brides were injection contraception and Pill. Injections most desirable because it had no effect on weight gain which was not favored by women. While the pill even though it can give the effect of weight gain, but its use can be discontinued at any time[8].

Most of prospective brides that states do not want have a child in one year after the marriage. DHS in 52 countries between 2005 and 2014 reveal the most common reason that married women say they do not want to get pregnant but do not use contraception, was due to fear of side effects and health risks, rarely having sex or not at all; they or others close to them oppose contraception; and they breast-fed and/or did not continue menstruating after birth[9]. According to DHS survey results unmet need was usually higher in rural areas than in urban areas and it declines with educational attainment[10].

Most of the prospective brides were anemic. Studies in India showing one cause of iron-deficiency anemia (IDA) in rural women of childbearing age was younger age at marriage (<19 years)[11]. The other study found the net prevalence of severe/moderate anemia was higher among women whose age at marriage was<18 years than women married inhigher age groups[12].

Prospective brides who had BMI were underweight more than half. A low BMI before pregnancy would increase the risk of preterm birth and Intrauterine Growth Retardation (IUGR) of the fetus in the womb[13]. Women who were overweight before pregnancy generally would be less weight gain during pregnancy than women who were underweight[14]. Mothers with low BMI before pregnancy had greater risk of delivering low birth weight infants and spontaneous preterm birth[15]. Compared to women with a normal pre-pregnancy BMI, women who were underweight had over twice the odds of PTD. While, neither overweight nor obesity was significantly associated with increased odds of PTD[16].

While based on the ratio of waist circumference pelvis of prospective brides known that quite a lot of them had a higher risk of degenerative diseases. Pelvic waist circumference ratio values >0.85 for women would associated with an increased risk of degenerative diseases such as coronary heart disease, stroke, and diabetes mellitus type-2[17].

MUAC measurements were performed on prospective brides showed that a lot of them had chronic energy deficiency. Weight before pregnancy was a good predictor of weight babies born. Researchers from India have found that maternal nutritional status can significantly affect the weight of newborns and poor mother's nutritional status can lead to LBW[18]. Another study also from India also find the same result that widespread maternal under nutrition has led to LBW[19].

Conclusions

Most of prospective brides married at the age between 15-19 years old, only graduated from primary

school or less, nearly half of all prospective brides do not work. There were a lot of prospective brides who did not used contraception states that did not wanted to have the children in the first year of their marriage. There wasa tendency that anemia, underweight BMI status and Chronic Energy Malnutrition (CEM) more occur on the younger age (15-19) of prospective brides. There was a tendency, increasingly older age group of prospective brides, the more high risk of degenerative diseases.

Ethical Clearance: The research has been stated to meet the ethical eligibility by the Ethical Clearance Research Team of Medicine and Health Gajah Mada University, Yogyakarta, Indonesia with number: KE/KF/202/EC

Competing Interest: The authors declare that there are no competing interests **to disclose.**

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