Health Screening for Premarital Women in Lamongan Regency, Indonesia: Study in 2020-2023

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Abstract: Indonesia has established a premarital health screening policy that couples who are getting married must follow to detect possible diseases that could affect the couple's quality of life. However, not all couples participate in screening. The aim of the research is to identify the results of screening examination for premarital woman carried out by community health centers in Lamongan Regency, Indonesia from 2020 to 2023. The research design was descriptive with a population of all premarital woman who carried out health screening at the Community Health Center in Lamongan Regency. Data collection by document study. Data were analyzed descriptively using percentages. The research results showed that 81.96% of couples carried out premarital health screening, 7.41% experienced anemia, 3,73% experienced malnutrition based on BMI, and 12,83% experienced malnutrition based on upper arm circumference. The participation of premarital woman is good, this is due to the existence of a policy that requires every premarital woman to undergo premarital health screening. However, based on the screening results, it was found that there were still poor health conditions, namely that there premarital woman who were anemic and malnourished as identified by BMI and upper arm circumference. This situation can affect the quality of life of the next couple, especially the offspring produced. Efforts are needed to improve the health of premarital woman in preventing anemia and malnutrition by involving various parties, especially the family as the group closest to the premarital woman.

Keywords: Screening, Premarital, Woman

INTRODUCTION

Premarital screening is a service provided before marriage to direct, educate and prepare the premarital woman in forming a healthy family. Health screening of premarital woman is very important as a preventive measure in preventing the risk of transmitting infectious diseases to their partners or their unborn children. Screening is the first step in forming a healthy family. Premarital health checks are important to determine the risks to each partner and the risks to future generations. Risks that can be anticipated include the risk of disease transmission, the risk of infertility, maternal and infant deaths, and the birth of babies with disabilities. Marriage readiness consists of emotional readiness, social readiness, role readiness, age readiness and financial readiness. The premarital health check consists of a hemoglobin check, a Body Mass Index (BMI) check, and an upper arm circumference check.

Hemoglobin examination to determine whether the premarital woman is anemic or not. Globally, according to WHO, the prevalence of anemia in women aged 15 years and over is 28%. Southeast Asia is the region with the highest prevalence of anemia, namely 42%. Adolescent girls are the group most affected by anemia (Rai et al., 2023). The overall prevalence of iron deficiency anemia was 5.8% and iron deficiency was the cause of anemia in 44.4% of anemic subjects (Andriastuti et al., 2020). In 2016, 33% of women of childbearing age suffered from anemia, with the highest prevalence in Asia and Africa (Deivita et al., 2021). The prevalence of iron deficiency is higher in adolescent girls (Kulkarni et al., 2021). Based on basic health research from the Ministry of Health of the Republic of Indonesia in 2018, the prevalence of anemia in Indonesia reached 32% at the age of 15-24 years, this shows that 3 out of 10 teenagers suffer from anemia. Compared with 2013, the prevalence of anemia was 18.4% with the highest increase in prevalence occurring in the 15–24 years age group and compared to men, anemia was more common in women. Based on data from the East Java Provincial Health Service in 2020, around 42% of young women in East Java suffer from anemia (Iftitah & Hanum, 2022). Body Mass Index (BMI) examination and upper arm circumference examination to determine nutritional status which is at risk of Chronic Energy Deficiency or malnutrition in premarital woman. Upper arm circumference measurement is a good predictor of malnutrition (under nutrition and over nutrition) (Shinsugi et al., 2020). Premarital woman who are too thin are at risk of not being able to meet the needs of the fetus in the future.

METHOD

The research design used is descriptive. The population is all premarital woman in Lamongan Regency from 2020 to 2023. The sample is premarital woman who underwent health screening at the Health Center in Lamongan Regency. Data collection based on data from the Lamongan District Health Service collected from 33 Community Health Centers. Data analysis was carried out descriptively using percentages.

RESULTS

Based on table 1, it is known that the number of premarital woman registered at the Lamongan Regency Religious Affairs Office from 2020-2023 was 30,710 people and 81.96% of those who underwent health screening.

Table 1. Frequency and Percentage of Target Premarital Woman in 2020-2023

No.	Variable	Year				Total	Avg
		2020	2021	2022	2023		
1.	Premarital Woman are registered with the religious office	5005	8.486	9.118	8.101	30710	7678
2.	Premarital Woman are given health screening	4179 (83,49%)	6237 (73,49%)	7545 (82,74%)	7209 (88,98%)	25170 (81,96)	6293 (82,17%)

Based on table 2, it is known that the average of premarital woman who suffer from anemia is 7.41%, the average of premarital woman who are malnourished with a lower BMI is 3,73%, and the average of premarital woman who are malnourished with upper arm circumference less than 23.5 cm as much as 12,83%.

Table 2 Health Screening Results for Premarital Woman in 2020-2023

No.	Variable	2020		2021		2022		2023		Avg	
		f	%	f	%	f	%	f	%	f	%
1.	**Anemia**										
	Yes	488	11,68	464	7,44	465	6,16	448	6,21	466	7,41
	No	3691	88,32	5773	92,56	7080	93,84	6761	93,79	5826	92,59
2.	**Malnutrition based on BMI**										
	Yes	272	6,51	291	4,67	171	2,27	207	2,87	235	3,73
	No	3907	93,49	5946	95,33	7374	97,73	7002	97,13	6057	96,27
3	**Malnutrition based on UAC**										
	Yes	650	15,55	802	12,86	952	12,62	825	11,44	807	12,83
	No	3529	84,45	5435	87,14	6593	87,38	6384	88,56	5485	87,17

DISCUSSION

Based on table 1, it is known that the average number of premarital woman who underwent premarital examination/ screening in 2020 to 2023 was 82.17%, which means that almost all of premarital woman in Lamongan Regency have undergone health screening. This is possible because they know about the importance of examinations before the wedding. The existence of government policy through the Regulation of the Minister of Health of the Republic of Indonesia Number 97 of 2014 instructing premarital woman to carry out health checks before getting married has had the impact of increasing the enthusiasm of premarital woman to undergo screening. Apart from that, knowledge about the benefits of premarital examinations also causes high enthusiasm for screening. Research in Riyadh Saudi Arabia shows that 99.4% of respondents know about premarital examinations and 95.1% know the importance of screening as something that is required by the government (AlOtaiby et al., 2023). However, this is different from research conducted on a premarital screening program in Qatar which shows the low level of knowledge of participants. Requiring a mandatory premarital screening program is not enough but it is necessary to increase awareness of the importance of premarital screening (Al-Shafai et al., 2022).

Based on table 2, it is known that the anemia screening results show that the average rate of premarital woman experiencing anemia is 7.86%. The hemoglobin level of the premarital woman is an important indicator in determining the degree of anemia. Anemia is a health problem that affects 25-50% of the world's population and around 50% of pregnant women, which not only endangers the partner but also the fetus. Anemia that occurs in the first and third trimesters is associated with an increased risk of low birth weight (Ahankari & Bee, 2015). Anemia that occurs in premarital woman can be caused by many factors, including menstrual patterns, diet, worm infections, sleep duration, economics, nutritional status, and behavior in preventing anemia (Elisa et al., 2023). Adolescents who do not meet the recommended total daily iron intake are at risk of developing anemia (Krishnan et al., 2021). Poor food quality, high rates of infection and worm infestation, mainly caused by poor lifestyle conditions and less than optimal health services, have a negative impact on hemoglobin concentration among all teenagers. Early marriage among girls and teenage pregnancy can also cause anemia (Andriastuti et al., 2020). In another study, it was stated that 65.6% of teenagers had insufficient knowledge about anemia and 59% had unsupportive behavior in preventing anemia (Mularsih, 2017). Research conducted by (Arini et al., 2020) also states that more than half of women who are anemic (52.7%) have moderate knowledge about anemia. Anemia causes devastating outcomes among adolescents, including irreversible cognitive and developmental delays (such as lack of intelligence and poor academic performance), reduced physical capacity and loss of productivity, impaired immune function, increased risk of infection, and poor reproductive health outcomes. teenagers in teenage girls (Andriastuti et al., 2020). Adolescents who have anemia will have the opportunity to suffer from anemia during pregnancy (after marriage). This condition will get worse because during pregnancy you need more nutrition. A further impact of anemia can occur if a pregnant woman experiences anemia and experiences problems with pregnancy, childbirth and postpartum, especially if the child born is likely to experience stunting. A study shows that mothers with anemia are 15.0 times more likely to experience miscarriage than pregnant women without anemia (Ningtyas et al., 2021). Another study shows that the weight of underweight babies born to mothers with anemia is 2.364 times that of mothers without anemia (Audrey & Candra, 2016). Therefore, preventing anemia is important. The prevalence of anemia among teenagers contributes greatly to maternal mortality rates, premature babies and babies with low birth weight, while teenagers are prospective mothers and will one day give birth to the nation's next generation (Iftitah & Hanum, 2022). Anemia is an important health problem to prevent, especially for premarital woman. Efforts are needed to

improve knowledge, attitudes and practices for preventing anemia. Educational intervention in the form of nutrition education is an effective method for increasing knowledge, attitudes and practices in preventing anemia (Abu-baker et al., 2021).

Based on table 2, it is known that the average number of premarital woman who have a BMI of less than 4.07% and an upper arm circumference of less than 23 cm is 13.11%. This is in line with research conducted that regarding the nutritional status of premarital woman in the religious affairs office Kaliwates area that 21.3% of premarital woman have a lower BMI (Handayani & Handayani, 2023). The same research was conducted to assess malnutrition among adolescents in Kalyan, India, where the prevalence of malnutrition among adolescents in this region was 36% (Mathad et al., 2023). Research in Sierra Leone Africa, the prevalence of underweight among women of reproductive age (15-49 years) was 6.7% (Ikoona et al., 2023). Body Mass Index and Upper Arm Circumference are good indicators in determining malnutrition status. Research conducted on adolescents in Sudan found that screening for underweight in adolescents can be done by measuring upper arm circumference which has good accuracy (Musa et al., 2023). Research conducted on pregnant women in Sudan also shows that the upper arm circumference cutoff points identified for diagnosing underweight and obesity are sensitive and specific (Salih et al., 2023). Research on women of reproductive age in rural northern Vietnam shows that measuring upper arm circumference can be used to identify underweight in women (Nguyen et al., 2014). For some women, a low Body Mass Index is considered attractive by men because this characteristic indicates superior health and fertility. However, research shows that the death rate is higher in women with a low BMI than in women with an average BMI. Mothers with a lower pre-pregnancy BMI and smaller waist have an increased risk of giving birth to babies who are smaller and weigh less (Lassek & Gaulin, 2018). Low Body Mass Index among women of reproductive age is an important factor that determines adverse outcomes for newborns and children, such as premature birth, low birth weight, under-five mortality, and poor mental and physical development (Reyes Matos et al., 2020).

Malnutrition is a problem that needs to be addressed, especially for teenagers or premarital woman. The occurrence of malnutrition can be caused by several things such as the number of meals per day, heavy intensity activities, poor eating patterns (Tafasa et al., 2022). Premarital woman who are malnourished will be at risk of malnutrition during pregnancy. Research conducted on 550 pregnant women from 6 districts in Southern Ethiopia showed that the prevalence of pregnant women with malnutrition was 38% (Chea et al., 2023). Malnutrition can be associated

with a person's anemia status. A study conducted by the National Institute of Population Research and Training of the Ministry of Health and Family Welfare of Bangladesh shows that underweight women have a higher risk of developing anemia when compared with obese women and women with normal weight (Kamaruzzaman, 2021). Women's education level, wealth index, place of residence, use of contraception, Body Mass Index (BMI), and source of drinking water are significant risk factors for the incidence of anemia in women of reproductive age (Talukder et al., 2022).

CONCLUSION

Premarital health screening in 2020-2023 has been followed by the majority of premarital couples, however, when examining premarital woman, they still found anemia (7.41%), malnutrition based on BMI (3,73%), malnutrition based on arm circumference. above (12,83%). Efforts are needed to prevent anemia and malnutrition of premarital woman by involving the family as the closest group to assist the premarital woman.

CONFLICT OF INTEREST

The authors declare the absence of conflict of interest as regards their present work.

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