

FACTORS OF LOW WEIGHT BABIES INCIDENCE ON TEENAGE PREGNANCY: A SYSTEMATIC LITERATURE REVIEW

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Abstract.

Teenage pregnancy is a global problem in countries with high, medium and low income. In the worldwide, teenage pregnancy is more likely to occur in peripheral communities. It is due to poverty, lack of knowledge and education, and no job opportunities. Marriage at a young age often results in young childbirth. Childbirth in adolescence (before the age of 20 years) is associated with a number of complications, infant mortality, and low birth weight. This situation is due to immaturity of the reproductive organs of adolescents for pregnancy so that it can adversely affect maternal health and fetal development and growth.. The aim of this study was to find out the factors associated with the incidence of low birth weight babies in teenage pregnancies.

1. INTRODUCTION

Teenage pregnancy become a global problem that high-income country, medium, or low. Each year, approximately 21 million adolescents aged 15 to 19 years and 2 million adolescents under 15 years old to get pregnant. About 16 million adolescents aged 15 to 19 years and 2.5 million adolescents under 16 years of giving birth. Although the number of births to teens has decreased from 65 births per 1,000 women in 1990 to 47 births per 1,000 women in 2015, considering the adolescent population globally increasing estimated pregnancy rate among adolescents will continue to increase in 2030 (World Health Organization (WHO), 2017).

Teen pregnancy to be one contributor to maternal mortality rate (MMR) and infant mortality rate (IMR). Adolescents younger than 20 years in a state of pregnancy until delivery is more at risk of complications than women over the age of 20 years. Giving birth at an early age will have a negative impact on the condition of babies born, one of the risks in the newborn is Infant Low Birth Weight (LBW). This situation is due to the immaturity of adolescents to reproductive organs that can harm pregnant mother's health as well as the development and growth of the fetus. According to WHO (2017), the global infant mortality rate (IMR) is 19 per 1,000 live births, one of the contributors AKB was lbw. Long-term impact on LBW that the baby will have developmental disabilities such as sensory impairment (deaf blind), cerebral dysfunction (inability to speak, learning, hyperactivity, behavioral disorders), eye damage, chronic lung disease and less growth. In addition to young maternal age, there are other factors that lead to low birth weight in teenage pregnancy, such as lack of knowledge, nutrition during pregnancy, environmental and social support for pregnant teenagers obtained can affect the growth of the fetus. Marriage at a young age often leads to delivery a young age.

Giving birth during adolescence (before age 20) is associated with a number of complications and infant mortality and low birth weight. The basis is like maternal age, body mass index, nulliparity and smoking habits. The influence of the family are also important, in addition to the support material also emotional support (Harville, 2014). WHO defines low birth weight as a birth

weight less than 2500 grams and is a determinant of morbidity and mortality of fetal, neonatal, cognitive impairment and increased risk of chronic non-communicable diseases adult future (Belfort, et al 2018).

Results of research conducted by Minjares, et al (2016), suggests that the incidence of low birth weight as a result of teenage pregnancies associated with maternal nutritional status as before pregnancy and during pregnancy progresses, as well as the mother's weight gain during pregnancy. On the condition of pregnancy, the nutritional needs of adolescents increased for fetal growth and development, adolescent weight status before pregnancy tend to have an impact on birth weight babies than weight status of adults in general. the characteristics of the neighborhood affect teen pregnancy. Pregnant teens who live in low- income neighborhood would be more at risk of having a baby with low birth weight.

Another study conducted by Karabulut, et al (2013), that an adequate prenatal care in pregnant teen is not associated with increased adverse outcomes, except for low birth weight. In addition to increasing the risk of having a child with low birth weight, teenage pregnancy also lead to preterm birth, even severe neonatal conditions and increase the risk of neonatal death (Ganchimeg et al, 2014).

2. MATERIALS AND METHODS

Identification of problems

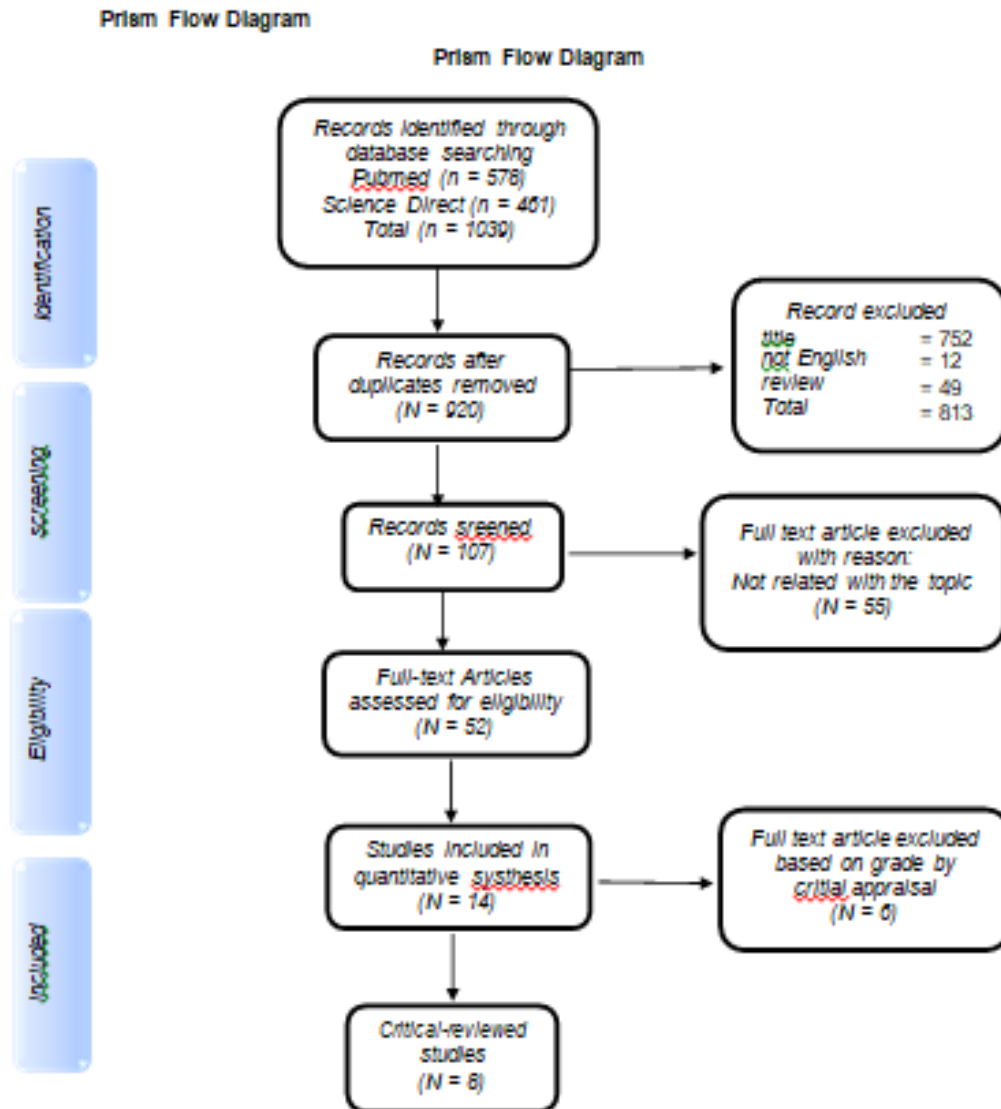
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Research Questions Based on Priority Issues

Any factors that cause low birth weight infants incident on teenage pregnancy?

Identification of Relevant Studies

On Systematic Literature This review has been to identify literature with the development of the framework as a basis to determine the inclusion and exclusion criteria so that the data sought is not widened and focused on the context of the search. Then arrange Keyword designed and focused on the framework by using the link "AND" and "OR". The keywords used are ("Adolescent pregnancy" OR "Teen Pregnancy" OR "Teen mother" OR "Teenage parents" OR "Adolescent mothers" OR "Young mothers") AND ("Low birthweight" OR "Birth low" OR "Birth weight "OR" Very low birthweight "). Incorporating these keywords into a search engine on the database PubMed and Science Direct. On the database PubMed and Science Direct also organize screening in these pages as filtering Full Text, Publish Data in 10 years ago, Human, and English. Listing a number of articles and findings discussed in the screening process Prism Flow Diagram.



3. RESULTS AND DISCUSSION

Characteristics articles and thematic analysis

The findings obtained by systematic searches of articles published in 2008-2018, the author and the source of the data obtained came from the United States (n = 3), Japan (n = 1), Brazil (n = 3) and Mexico (n = 1). Factors that influence the occurrence of low birth weight in teenage pregnancy Social environment Journal entitled "Determinants of low birth weight in the children of adolescent mothers: a hierarchical analysis". The results showed that the prevalence of low birth weight by 10% with the different indicators in each region of Brazil, a survey carried out among pregnant women younger than 20 years, researchers found that the birth rate of LBW associated with the social environment of mother and unequal access to health services. The lack of hospital resources for medical care, contribute to lower birth weights less developed areas compared to areas further with the quality of prenatal care is better to reduce infant mortality and low birth weight.

Unfavorable social environment influence fetal growth during pregnancy and also the psychology of adolescent mothers. Aspects of the social environment can affect pregnancy in the form of family support, the exposure to pollution, poor education, youth lifestyle (smoking and alcohol consumption) as well as access to health services. this corresponds to an intensive search conducted Harville, et al (2014), that of teenage mothers who get good support from parents will form a positive mindset in young and good health behavior during pregnancy to prevent the birth of babies with low birth weight.

Pregnancy Care

Journal entitled "Risk Neighborhood Does Explain Disparities in Racial Disparities in Low Birth Weight among Infants Born to Adolescent Mothers?" The results of this study indicate that the birth was significantly different between the two groups of African-American race is black with white race ($P < 0.01$). The majority of teenage mothers aged less than 17 years old with a history of pregnancy more than 1 time of the African-American race blacks tend to be at higher risk of having a baby with low birth weight than white teen mothers. In addition to the races, inadequate prenatal care in the black teenager's mother is also a trigger LBW births.

Journal entitled "Maternal and Perinatal Outcomes Among Adolescents and Mature Women: A Hospital-Based Study in the North of Mexico" This study indicates that inadequate prenatal care increases the likelihood of infants born LBW (OR = 2.02, 95% CI 1.22 to 1.35, $P = < 0.01$). LBW frequency as much as 5.6% of teenage mothers aged less than 16 years, 7.3% of teenage mothers aged 16-19 years and 7.8% at age 20-34 years. Based on the results of bivariate and multivariate statistical tests birth weight differences between groups of adolescent mothers aged 16-19 years with mothers aged 20-34 years are not much different and become significant after adjusting for the potential confounders ($P = 0.02$).

Every expectant mother needs care during pregnancy (antenatal care), in addition to monitor fetal growth as well as early detection of complications during pregnancy. When a woman is pregnant does not get adequate prenatal care it will be at higher risk of complications of labor to give birth to babies with low birth weight (Vieira et al 2012). Prenatal care applies to mothers of all ages, not only in adolescents aged less than 20 years. Pregnant women older than 20 years are also at risk of having a baby with low birth weight if it does not receive adequate prenatal care.

Economic status

Journal entitled "Prematurity and Low Birth Weight among Brazilian Adolescents and Young Adults" Research shows that most respondents low socio-economic status and living outskirts of the city. The majority of teenage mothers are not married and did not complete his education. Significantly mostly teenage mothers experiencing unwanted pregnancy, no or late prenatal care prenatal care, as well as more teenagers use tobacco and alcohol during pregnancy than women. Teenage mothers under the age of 16 years (9.7%) are more at risk of having a baby of low birth weight compared to pregnant women aged over 20 years (3.5%) ($P = 0.012$).

Economic conditions that are less in adolescents associated with adequate nutrition during pregnancy. The nutritional requirements and nutritious food during pregnancy to support fetal growth and development. Insufficient nutritional intake on adolescent pregnancy increases the risk of babies born with low birth weight. In addition to the nutritional needs, socio-economic status also influence adolescents to regular prenatal care (Rocha, et al 2010). The results of this study agree with that done by Mambo, et al (2016) that the condition of the poor economy, more experienced by teenage mothers than women over the age of 20 years so hampered in prenatal care. This condition will also increase the risk of adverse pregnancy.

Family support

Journal entitled "Parent-child Relationships, Parental Attitudes towards Sex, and Birth Outcomes among Adolescents" The results of this study showed that women who become pregnant adolescents at an early age and get support from parents is less likely to give birth to low birth weight babies. White teens are more likely to get support from parents, direct relationships between parents and children can control the behavior of smoking during kemamilan in adolescents.

Social support is needed by women during pregnancy in general, including adolescent health and well-being. In addition to the support of parents, the husband was also instrumental in providing support. It is associated with increased stress and depression during pregnancy that led to the birth of a baby with low birth weight. Teens who have the support of the pair will reduce the level of depression during pregnancy and more frequent antenatal regularly compared to teens who do not get support or not having a partner. Most teens who have a partner, feel ready to be a parent at an early age and pregnancy is planned.

Maternal age

Journal titled "Risky Health Behaviors of Teenage Mothers and Infant Outcomes in the Japan Environment and Children's Study: A Nationwide Cohort Study".The results showed that babies born to teenage mothers and women there is no difference, significantly newborns in their teens are not related to low birth (OR = 0.99, 95% confidence interval, 0.73 to 1, 32). However, pregnant women in their teens (9.9%) more likely to behave not as healthy as smoke more frequently during pregnancy than mothers over the age of 20 years (4.6%).

This was confirmed by the results of research conducted Ishitsuka, et al (2018), that the teens were not significantly associated with babies born with low weight. The behavior of smoking and consuming alcohol during pregnancy have more influence on the baby's weight at birth. Teenage pregnancy needs to be balanced with regular prenatal care to reduce the risk of complications and birth of babies with low birth weight.

The impact of teen pregnancy on LBW

Journal entitled "Modifying Effect of Prenatal Care on the Association Between Young Maternal Age and Adverse Birth Outcomes", results show that teenage mothers before the age of 20 years received less prenatal care than women aged 20-24 years. There was a significant improvement between adequate prenatal care to maternal age (P = 0.001). The birth rate of infants with low birth weight (28%), very preterm birth (33%), preterm (25%) and low Apgar scores (33%) were more likely risk to teenage mothers with inadequate prenatal care than mothers aged 20-24 year. Journal under the title "Partner Support and Impact on Birth Outcomes among Teen pregnancies in the United States",The results showed that teenage mothers aged 10-13 years in a state of pregnancy do not get support from their partner (0.73 to 3.9%, P = 0.001), and female adolescents who get support from their partner during pregnancy lower risk of having a baby with low birth weight.

4. CONCLUSION

Teenage pregnancy greatly feared impact on birth outcomes. In addition to the reproductive organs are not yet ready to pregnancy will lead to various complications of mother and fetus, also cause birth and low birth weight. Birth weight as a result of teenage pregnancy is not only caused by maternal age factor is still early. The social environment in the form of support from those

closest influence on psychology and health behaviors during pregnancy. Status low socioeconomic relating to the fulfillment of nutrition and maternal nutrient for the growth and development of the fetus. Adolescents with low economic status also makes them ready to be a parent at an early age. In addition to the social environment and socio-economic status, Another important factor is adequate prenatal care for all ages, especially teenagers. An early age at the time of pregnancy is not the main factor of babies born with low weight. Mothers with more than 20 years of age also have an increased risk of having a baby with low birth weight if you do not get good care during pregnancy. On teenage pregnancy prenatal care even become very important considering that teens more at risk for complications and birth of babies with low birth weight. Mothers with more than 20 years of age also have an increased risk of having a baby with low birth weight if you do not get good care during pregnancy. On teenage pregnancy prenatal care even become very important considering that teens more at risk for complications and birth of babies with low birth weight. Mothers with more than 20 years of age also have an increased risk of having a baby with low birth weight if you do not get good care during pregnancy. On teenage pregnancy prenatal care even become very important considering that teens more at risk for complications and birth of babies with low birth weight.

REFERENCES

- [1] Belfort, GP, Maria, M., Souza, A. De, Dias, JR, & Heidelmann, SP (nd). Determinants of low birth weight in the children of adolescent mothers: a hierarchical analysis, 2609-2620. <https://doi.org/10.1590/1413-81232018238.13972016>
- [2] Birth, L. Rocha, RCL, Souza, E. De, Soares, EP, & Nogueira, S. (2010). Original Study, 142-145. <https://doi.org/10.1016/j.jpag.2009.08.011>
- [3] Coley, SL, Nichols, TR, Rulison, KL, Aronson, RE, Brown-Jeffy, SL, & Morrison, SD (2016). Does Risk Neighborhood Explain Racial Disparities in Low Birth Weight among Infants Born to Adolescent Mothers? *Journal of Pediatric and Adolescent Gynecology*, 29 (2), 122-129. <https://doi.org/10.1016/j.jpag.2015.08.004>
- [4] Ganchimeg, T., Ota, E., Morisaki, N., Laopaiboon, M., Lumbiganon, P., Zhang, J., ... Mori, R. (2014). Pregnancy and childbirth outcomes among adolescent mothers: a World Health Organization multicountry study. *BJOG: An International Journal of Obstetrics & Gynecology*, 121, 40-48. <https://doi.org/10.1111/1471-0528.12630>
- [5] Harville, EW, Madkour, AS, & Mph, YX (2014). Original Study Parent-child Relationships, Parental Attitudes towards Sex, and Birth Outcomes among Adolescents. *Journal of Pediatric and Adolescent Gynecology*, 27 (5), 287-293. <https://doi.org/10.1016/j.jpag.2013.12.005>
- [6] Ishitsuka, K., Yamamoto-Hanada, K., & Ayabe, T. (2018). Original Study Risky Health Behaviors of Teenage Mothers and Infant Outcomes in the Japan Environment and Children's Study: A Nationwide Cohort Study. *Journal of Pediatric and Adolescent Gynecology*. <https://doi.org/10.1016/j.jpag.2018.10.009>
- [7] Karabulut, A., Ozkan, S., Bozkurt, AI, Karahan, T., & Kayan, S. (2013). Perinatal outcomes and risk factors in adolescent and advanced age pregnancies: comparison with normal reproductive age women. *Journal of Obstetrics and Gynecology: The Journal of the Institute of Obstetrics and Gynecology*, 33 (4), 346-350. <https://doi.org/10.3109/01443615.2013.767786>

- [8] Minjares-granillo, O., Reza-l, SA, Caballero-valdez, S., Levario-carrillo, M., & Ch, DV (2016). Original Study Maternal and Perinatal Outcomes Among Adolescents and Mature Women: A Hospital-Based Study in the North of Mexico. <https://doi.org/10.1016/j.jpap.2015.11.005>
- [9] Mombo-Ngoma, G., Mackanga, JR, González, R., Ouedraogo, S., Kakolwa, MA, Manego, RZ, Ramharter, M. (2016). Young adolescent girls are at high risk for adverse pregnancy outcomes in sub-Saharan Africa: An observational multicountry study. *BMJ Open*, 6 (6). [https://doi.org/10.1016/0032-5910\(81\)87002-7](https://doi.org/10.1016/0032-5910(81)87002-7)
- [11] Mph, MKS, Gee, RE, & Theall, KP (2014). Original Study Partners Support and Impact on Birth Outcomes among Teen pregnancies in the United States. *Journal of Pediatric and Adolescent Gynecology*, 27 (1), 14-19. <https://doi.org/10.1016/j.jpap.2013.08.002>
- [12] Ms, CLV, Coeli, CM, Pinheiro, RS, Brand, ER, Jr., KRC, and Aguiar, FP (2012). Original Study Modifying Effect of Prenatal Care Young on the Association Between Maternal Age and Adverse Birth Outcomes, 12-16. <https://doi.org/10.1016/j.jpap.2011.12.070>
- [13] World Health Organization, 2017. *Monitoring of Health for the Sustainable Development Goals*. Geneva