



Preconception care in adolescents[☆]



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KEYWORDS

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Abstract Preconception Care is an intervention starting from adolescence until near conception. Preconception Care refers to biomedical interventions and social preventive behaviors which can improve healthy babies and healthy mothers. Interventions carried out during adolescence are more effective in reducing the occurrence of pregnancies untimely, unplanned pregnancies. Preconception Care program has not run optimally so far. The purpose of this literature study is to present the research findings on how Preconception Care interventions in adolescents. The method used is the study of the research findings on Preconception Care published in the last ten years (2009–2019) in national and international reputable literature sources indexed by Scopus, Elsevier, Proquest, Plos One, and Google Scholar database. The keywords of Preconception Care, Adolescent, AKI, and AKB are used to facilitate the search for literature. The results of the study show that Preconception Care has a powerful impact on women's health and is part of Continuum Care, including Preconception Care, Antenatal Care, Intranatal, and Post Natal. Preconception Care in adolescents has a good impact on the preconception period and can reduce maternal mortality (AKI) and infant mortality (AKB), thus, it is necessary to optimize Preconception Care on adolescents.

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Introduction

Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) are the main indicators of the degree of public health in an area. MMR and IMR in Indonesia are relatively high. Efforts that have been undertaken by the government in reducing MMR are one part of the continuing health efforts (Continuum of Care) starting from upstream to downstream, namely since the period of preconception care, antenatal care and postnatal care. Preconception care can identify things related to health problems, social, poor lifestyle habits can be done immediately before the occurrence of pregnancy up to a maximum of 2 years and in adolescence or a relatively long time before the occurrence of pregnancy. Preconception treatment that begins in adolescence and before pregnancy has the potential to have an impact on 136 million women giving birth each year receive a healthy start.

Teenagers are a period of growth and development both physically, psychologically, socially, and intellectually.¹ Adolescents need to live a healthy reproductive life and be responsible for themselves include physical, psychological and social preparation to get married and become parents at a mature age. Indonesian demographic and health survey data in 2012 showed that around 33.3% of adolescent girls aged 15–19 years and even before 15 years were dating. At that age, it is very worried that adolescents do not yet have adequate life skills (life skills), so that they risk of unhealthy behavior like pre-marital sex. These behaviors are related to pregnancy and sexually transmitted diseases. An unplanned pregnancy can lead to an abortion or an early-age marriage, and these impact on the future and the fetus [Fig. 1](#).

The impact of risky behavior by adolescents can contribute to the relatively high MMR and IMR in Indonesia and ASEAN. One of the ways to reduce MMR and IMR is health care before conception occurs. Adolescents living in poor social and environmental cumulative situations have limited opportunities to pursue the path of education and work, so

they consider pregnancy as a positive alternative to achieving adult status in the family and community.² Adolescent problems are influenced by three aspects namely cognitive, affective and conative aspects. Cognitive aspect reflects the lack of knowledge or understanding of adolescents about healthy living skill, resulting in teenage pregnancy and transmission of sexually transmitted diseases. An unplanned pregnancy for an adolescent can lead to abortion and adolescent marriage, so that it impacts the future and the fetus.

Methods

This paper was a critical analysis based on various evidences obtained through literature study on various online databases providing free journal articles in PDF format, including Google Scholar, Pubmed, Mendeley, plos one, the lancet, Proquest, other sources such as textbooks from libraries and health report. The keywords included in the search for journal articles were Preconception Care, Reproductive Health, Adolescent. Literature reviews taken were the last 10 years (2009–2019) those were still the relevant materials. The search results used keywords found in 259 articles, then they were sorted into 10 articles meeting the criteria for review need.

Results

The results of the literature review through google Scholar, Pubmed, Mendeley, plos one, the lancet, Proquest using the keywords of *Preconception Care*, *Reproductive Health*, *Adolescent*, *AKI* and *AKB*. Resulted in a number of research articles published in various scientific journals. Most types of research utilized a systematic review of the last 10 years. *Preconception care* is one of the behavioral health interventions for women and couples before marriage or conception occurs (WHO. 2013).³ Preconception care is divided into 2 periods including the proximal period, an intervention given

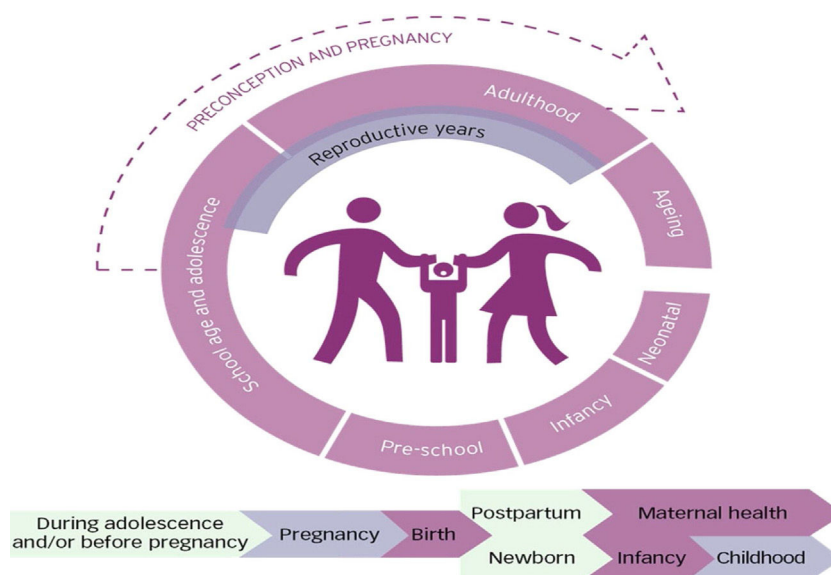


Figure 1 Preconception intervention cycle.

Table 1 Important preconception care in adolescents.

Researcher (Year)	Purpose	Sample and Setting	Method	Result
Gayatri G Krishnan, Joana Joseph, Maheswari B (2016) ⁹	The influence of structured teaching program on knowledge and behavior on preconception care in adolescent girls circle	30 adolescent girls	Experimental one group approach, pre test-post test design	- There was not any relationship between knowledge and behavior of adolescent girls. - There was a significant relationship between knowledge and family income
Broderick Crawford (2018) ⁶	Health Perception of preconception and prenatal care on young adults and men with unwanted pregnancy risk	Samples consist of 2 categories, 9 women and 9 man with unwanted pregnancy	Phenomenology study with the approach of 3 theories/methodologies, those were: 1. Case Methodologies 2. Reasonable Theory 3. Narrative Investigation	There was a significant relationship faced by adult woman and man with unwanted pregnancy risk. This finding said that knowledge on being parents for most young adults came from their own experiences as parents or by taking notice of their parents on demonstrating the parenting, or by noticing family members and their friends.
Elizabeth Heavey, PhD, RN, CNM (2010) ⁷	To test the probability of preconception care on adolescents whom want to be pregnant	108 pregnant mothers with the age of 14–19 years old	Retrospective - Utilized logistic regression developed for determining whether or not wanted pregnancy related to the lack of clinic visit before the conception	- 33% of adolescents wanted to be pregnant - 18.5% of adolescents visited to clinic without previous care - 81.5% of them visited clinic once - Majority of adolescents did not desire to be pregnant (57.4%) - It can be concluded that adolescents visiting clinic and desiring to be pregnant had risk factor which could be treated by preconception counseling
Boukje van der Zee. Inez D de Beaufort. Eric A P Steegers. Semiha Denktas. (2012) ⁵	Perception of preconception counseling on mothers whom planned the pregnancy. Qualitative Study	16 planned pregnant mothers	Empirical approach used to ask the doubt in preconception counseling by half-structured deep interview	Women's feedback on preconception care showed positive result. However, there were some in doubt to do the treatment due to their consideration that they were not the group object for the preconception
Yunita Wulandari. Wahyu Dwi Agus safutri (2017) ¹⁰	Preconception care as a strategy to decrease MMR in Indonesia	Systematic review	Studied research results on preconception care yang published during 2010–2015	Good preconception period affects on pregnancy and menstruation period
Frances Peterson-Burch. Hiba Abujaradeh. Nicole Charache. Andrea Fischl. Denise Charron-Prochownik. (2018) ⁸	Preconception Counseling for adolescents and young adults with diabetes in which their pregnancy was not planned	Adolescents and Young Adults with the age of 12–34 years old	Literature review of 28 publication consisting of 11 research, 12 clinical guidelines and 5 reviews	Positive result was found in the study, which said that preconception intervention given to adolescents and young adults under parents' guidance

or carried out before pregnancy occurs or 2 years before conception occurs. The distal period is an intervention carried out during adolescence or a long period of time before pregnancy occurs (Dean et al., 2014).

Discussion

The results of the literature review with several approaches including the experimental one group approach, phenomenological studies, retrospectives can be seen at the table demonstrating that risky behavior in adolescents raises various problems faced by adolescents, including easy age marriage, unwanted pregnancy, use of alcohol and tobacco, and HIV. Then it was very necessary to understand preconception care. The results showed that knowledge, attitudes and parents' income contributed significantly. Adolescents taking preconception care and wanting to reduce the risks during pregnancy, childbirth and childbirth could contribute to a reduction in maternal mortality and child mortality Table 1.

WHO (2013)³ talking about preconception intervention mentions that 13 things necessary to be prepared, namely nutrition, genetic condition, tobacco use, early marriage/early pregnancy/unwanted pregnancy, environmental health, fertility/infertility, interpersonal violence, STDs, HIV/AIDS, mental health, use of psychoactive substances, vaccinations, female genital mutilation (FGM). Literature found shows that some risk factors begin in adolescences. Adolescent is rapid growth and development period physically, psychologically, intellectually. Overall, adolescent health is related to general health problems.

The goals of preconception care according to the World Health Organization (WHO, 2013)³ include: To improve and recover maternal and child health in the short and long term, to improve health status, and to reduce the behavior of individual and environmental factors contributing on improving maternal and baby health condition. The benefits of preconception care are optimal physical and emotional readiness when entering conception period.

The literatures clearly showed that preconception care interventions in adolescents aimed to improve adolescent health, to prevent teenage pregnancy, easy age marriage, forced sex, distance of pregnancy. The provision of preconception care intervention began in adolescence, so that mother and child risk factors could be overcome. Preconception care is part of a series of optimal health care for healthier women and men before conception or pregnancy. Adolescents should be empowered with independency to decide their own decisions on health and care access.

Preconception care services have not become routine services yet in Indonesia and even the world. In low-income

countries, the implementation of preconception care is hard. It is therefore necessary to recommend preconception care to be implemented in various regions because preconception care is an important intervention to modify biomedical, behavioral and social risks for pregnancy and healthy of child birth through risk assessment, health promotion, disease prevention and provision of care.⁴

Conflict of interests

The authors declare no conflict of interest.

References

1. Widyastuti Y, et al. *Kesehatan Reproduksi*. Jakarta: Fitramaya; 2009.
2. Vexler E. Voices heard: Latino adults and teens speak up about teen pregnancy. Washington, D.C.: The National Campaign to Prevent Teen and Unplanned Pregnancy; 2017. Available from: www.teenpregnancy.org
3. WHO. Preconception care Report of a regional expert group consultation; 2013. Available from: http://www.searo.who.int/entity/child_adolescent/documents/2014/seacah-16.pdf [accessed 26.10.19].
4. Moos M, Curtis KMG. The history of preconception care: evolving guidelines and standards. *Matern Child Health J*. 2006;10:43–52.
5. Zee B, et al. Perceptions of preconception counselling among women planning a pregnancy: a qualitative study [Internet series]; 2012. Available from: https://www.researchgate.net/publication/233770758Perceptions_of_preconception_counsellingamong_women_planning_a_pregnancy_A_qualitative_study [accessed 26.10.19].
6. Crawford B. Perceptions of preconception health and prenatal care by young adult women and men at risk for unintended pregnancies [Internet series]; 2018. Available from: https://pdfs.semanticscholar.org/41db/8e811550a145e0bc2d-c8f1d8e78c53d78c6d.pdf?_ga=2.113854599.1221943155.1572-065392-1130164414.1572065392 [accessed 26.10.19].
7. Elizabeth. Don't Miss Preconception care opportunities for adolescents [Internet series]; 2010. Available from: <https://pdfs.semanticscholar.org/ce33/8a0f046de8cfb18d95-7a80ce87abc6979901.pdf> [accessed 26.10.19].
8. Peterson-Burch F, et al. Preconception counseling for adolescent and young adults with diabetes: literature Review of the past 10 years. *Current diabetes reports* [Internet series]. 2018 March; 2018, <http://dx.doi.org/10.1007/s11892-018-0983-7> [accessed 26.10.19].
9. Krishnan GG, Joseph J, Maheswari B. Effect of structured teaching program on knowledge and attitude regarding preconceptions care among adolescent girls. *Int J Appl Res*. 2016;2:435–9.
10. Wulandari Y, Agusafutri WD. Preconception care sebagaistrategimenerurunkan AKI di Indonesia. *Systematik review. Jurnal Kesehatan Kusuma Husada*. 2017;8.