

# DETERMINANTS THAT CONTRIBUTES TO STUNTING PREVENTION BEHAVIOR IN PREGNANT WOMAN IN INDONESIA

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## ABSTRACT

Stunting is a condition of growth and development failure that occurs in children due to chronic malnutrition from the first thousand days of life (1,000 HPK). Stunting Practical efforts in overcoming stunting can be made during pregnancy. The behavior of pregnant women will have an impact on the incidence of stunting in children. The objective of the study is to review determinants that contribute to the behavior of pregnant women in stunting prevention efforts in Indonesia. The design of this study used a literature review. The article studied in this study was published in the last five years and discusses the determinants that contribute to the behavior of pregnant women in efforts to prevent stunting. Article search using an electronic database, namely through Google Scholar, Garuda, and ScienceDirect. Several articles reviewed show that various determinants can contribute to stunting prevention behavior in pregnant women. In addition to maternal factors, physical and social-environmental factors also contribute to the conduct of pregnant women. These determinants can eventually become a challenge for the government to reduce stunting rates in Indonesia.

**Keywords:** *pregnant woman, social-environment, preventive behavior, stunting*

## INTRODUCTION

Stunting is a chronic nutritional problem caused by multi-factorial, intergenerational nature, and is a public health problem that must be treated seriously. Stunting is a condition of growth and development failure that occurs in children due to chronic malnutrition from the first thousand days of life (1,000 HPK) (WHO 2013). That is, the condition of a stunted child is a manifestation of the child's womb.

According to the Global Nutrition Report in 2014, globally, as many as three children are malnourished each year, and the impact of such malnutrition can reach billions of dollars (International Food Policy Research Institute 2014). Global data from UNICEF, WHO, and the World Bank shows that the trend of stunting prevalence globally from 2000 to 2020 has decreased by 33.1% in 2000 and 22.0% in 2020 (UNICEF, 2021) (World Bank, 2022)(World Bank 2022). However, the data in 2020 is data taken from previous years due to the physical distancing policy that does not allow for surveys (UNICEF, 2021). Although the global stunting trend has

decreased, in 2020 there are still many countries on the African and Asian continents whose stunting prevalence is still high, including Indonesia (WHO, 2021)

Stunting prevention is an effort made in order to eliminate all forms of malnutrition. This effort is part of one of the Sustainable Development Goals (SDGs) targets (Kementerian Koordinator Bidang Pembangunan Manusia dan Kebudayaan 2018) One effective way to prevent stunting is during the First 1,000 Days of Life, including from the beginning of the mother's pregnancy(Nurfatihah et al. 2021). Not a few efforts have been made, but the facts show that the incidence of stunting in toddlers is still high.

In Indonesia, stunting (short) toddlers are still a major nutritional problem. Short toddlers have the highest prevalence compared to other nutritional problems such as malnutrition, thinness, and obesity. The prevalence of stunting in Indonesia has increased from 27.5% in 2016 to 29.6% in 2017 (Kementerian Kesehatan Republik Indonesia 2017). The decline in stunting prevalence at the national level was 6.4% over the past five years,

from 37.2% in 2013 to 30.8% in 2018. Although the stunting trend shows a decline, the problem of stunting is still an important public health problem and needs to be addressed comprehensively.

Stunting in children is a key indicator in assessing the quality of human capital in the future (UNSCN 2010) Growth disorders suffered by children early in life can increase the risk of poor health as they mature. However, society still often considers that a person who grows short as a hereditary factor. This wrong perception makes stunting not easy to reduce and requires great efforts from the local government and various related sectors to overcome it (Aryastami and Tarigan 2017).

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Some of the stunting prevention efforts that can be done during maternal pregnancy include conducting pregnancy check-ups at health care facilities (*Ante Natal Care*) and taking blood-added tablets (Fe) (Kementerian Koordinator Bidang Pembangunan Manusia dan Kebudayaan 2018). The results showed that the number of pregnancy check-up visits (*Ante Natal Care*) was related to the incidence of stunting in children (Hutasoit et al., 2020) (Hutasoit, Utami, and Afriyiliani 2020) (Fentiana, Tambunan, and Ginting 2022). Other studies have shown that there is a relationship between the behavior of consuming blood-added tablets during pregnancy with the incidence of stunting in children (Fentiana et al. 2022).

Thus, it is assumed that health behaviors carried out by the mother during pregnancy can have an effect on the health status of the child. This behavior is of course also influenced by various determinants. Therefore, it is necessary to conduct studies on the determinants that contribute to stunting prevention behavior in pregnant women in Indonesia. These factors can be a risk factor for stunting in children. The purpose of this literature review is to provide an overview of the

determinants that contribute to stunting prevention behaviors carried out by pregnant women.

## METHOD

This research is a literature review. Database search through Google Scholar, Garuda, and ScienceDirect, provided that articles are published for the last 5 years. The keywords used for the search include “stunting prevention behavior in pregnant women in Indonesia”, “ANC visit factor in pregnant women in Indonesia”, and “blood-added tablet consumption factor in pregnant women in Indonesia”. The inclusion criteria set include articles that are original research, research conducted in Indonesia, and published by reputable journals. The exclusion criteria in this study include systematic review articles, literature reviews, meta-analysis, and using secondary data. There were as many as 60 articles found. Then reviewed and obtained as many as 9 articles that are in accordance with the topic to be discussed, namely about determinants that contribute to stunting prevention behavior in pregnant women in Indonesia.

## RESULT AND DISCUSSION

The gestation period is an important part of the first 1000 days of a child's life. This period is a crucial period in the development of the child. Nutrition and maternal health during pregnancy are the main factors that can affect the growth and development of children physically and cognitively (Djauhari 2017) Therefore, the mother must carry out adequate healthy behaviors during pregnancy. The behavior of pregnant women in the right stunting prevention can have a positive impact and can minimize the occurrence of stunting in their future babies. However, improper behavior of pregnant women will have a negative impact and can worsen their health status and that of their future babies.

The results showed that the knowledge and attitudes possessed by pregnant women contribute to maternal behavior in stunting prevention (Kristiyanti, Khuzaiyah, and Susiatmi 2021) Family and environmental support factors also play a role in stunting prevention behavior in pregnant women (Salamung, Haryanto, and Sustini 2019)

**Table 1.** Summary of Articles Finding

No.	Research Title	Purpose	Method	Findings
1.	Stunting Prevention Behavior in Pregnant Women  (Nurfatimah et al. 2021)	To find out the description of the behavior of pregnant women in preventing stunting in toddlers in the work area of the Mapane Health Center.	Cross-sectional	Good stunting prevention behavior is carried out by pregnant women with the age of >35 years, have a high level of education, and work.
2.	Factors Related to Stunting Prevention Behavior during Pregnant Women in the Bondowoso Regency Puskesmas Work Area  (Salamung et al. 2019)	to identify factors related to the prevention behavior of stunted children during pregnancy.	Cross-sectional	Family and environmental support factors also play a role in stunting prevention behavior in pregnant women
3.	The Role of Midwives, The Role of Cadres, Family Support and Maternal Motivation towards Maternal Behavior in Stunting Prevention  (Wulandari and Kusumastuti 2020)	To find out the direct and indirect influence and magnitude between the role of midwives, the role of cadres, family support and maternal motivation on maternal behavior in stunting prevention in toddlers at the Nanga Mau Health Center, Sintang Regency in 2019.	Cross-sectional	The large role of midwives, the role of cadres, family support, and maternal motivation turned out to have an influence on maternal behavior in stunting prevention
4.	Analysis of Factors Related to K4 Examination in Pregnant Women at the Bakung Health Center in Lampung Province in 2017  (Choirunissa and Syaputri 2018)	to find out the analysis of factors related to the K4 examination in pregnant women at the Bakung Health Center of Lampung Province in 2017.	Cross-sectional	Knowledge of pregnant women & husband / family support related to mother's behavior in visiting K4 Ante Natal Care
5.	Analysis of Factors Related to the Behavior of Pregnant Women in the Utilization of Antenatal Care (K4) Services in the Tarus Health Center Work Area  (Tassi, Sinaga, and Riwu 2021)	to find out the factors related to the behavior of pregnant women in the use of ANC (K4) services in the Tarus Health Center work area.	Cross-sectional	The level of maternal knowledge, mother's attitude, accessibility of health services, and exposure to information media are related to the behavior of utilizing Ante Natal Care (K4) services.
6.	Factors Related to Antenatal Care Visits  (Hipson, Handayani, and Pratiwi 2022)	To find out the factors that have a relationship with antenatal care (ANC) visits	Cross-sectional	The level of education, age, and occupation of pregnant women are related to Ante Natal Care visits
7.	Factors Related to Consumption of Blood-Added Tablets in Pregnant Women at the Andalas Health Center, Padang City in 2019  (Tarigan 2019)	to find out the factors related to the consumption of added blood at the Andalas Health Center, Padang City.	Cross-sectional	The level of knowledge of pregnant women is related to the consumption behavior of iron supplementation tablets

**Continued Table 1.** Summary of Articles Finding

No.	Research Title	Purpose	Method	Findings
8.	Factors Affecting Compliance of Pregnant Women Consuming Iron Tablets (Fe) in the Working Area of the Tirtajaya Health Center, Bajuin District in 2018  (Yunita, Supiyati, and Isdiana 2018)	to determine Factors Affecting Compliance of Pregnant Women Consuming Iron Tablet (Fe) in Working Area of Tirtajaya Public Health Sub-District Bajuin Year 2018	Cross-sectional	The level of knowledge, motivation, and family support related to iron supplementation tablets consumption in pregnant women
9.	Adherence to Iron Supplementation amongst Pregnant Mothers in Surabaya, Indonesia: Perceived Benefits, Barriers and Family Support  (Triharini et al. 2018)	to identify the correlations of the perceived benefits and perceived barriers of and family support for iron supplementation with adherence to this practice amongst pregnant woman in Surabaya, Indonesia.	Cross-sectional	Perceived benefits, perceived barriers, and family support were noted to be correlated with adherence to iron supplementation amongst pregnant woman in Surabaya, Indonesia.

The large role of midwives, the role of cadres, family support, and maternal motivation have an influence on maternal behavior in stunting prevention (Wulandari and Kusumastuti 2020)

One of the stunting prevention behaviors that can be done by mothers during pregnancy is to do a pregnancy check-up to the health service (*Ante Natal Care*) at least four times. *Ante Natal Care* is an effort to care for pregnancy in pregnant women (Hasanah and Fitriyah 2018) Pregnancy care is important so that the fetus in the womb can grow and develop optimally (Yadav, Malik, and Bishnoi 2020) Pregnancy care can also help minimize or prevent the occurrence of bad outcomes for both mothers and children born (Yadav et al. 2020) Antenatal Care is a treatment received by mothers from health professionals during pregnancy (HSC Public Health Agency, 2022). Inadequate Integrated *Ante Natal Care* visits (in quantity and quality) are risky behavioral factors that can potentially cause stunting in children. This is supported by many existing studies, that there is a relationship between Antenatal Care visits and stunting events in toddlers (Fitriani et al., 2020) (Hapsari et al., 2022) (Fitriani, Gurnida, and Rachmawati 2020) (Hapsari, Fadhillah, and Wardani 2022) (Heryanto 2021) (Zurhayati and Hidayah 2022) *An adequate Ante Natal Care* can have a

positive impact on the health of the mother and child born (Gajate-Garrido 2013).

Knowledge of pregnant women, poor health service quality, too long distance of health services, and limited transportation are factors that influence pregnant women in visiting health care facilities to do *Ante Natal Care* (Ali et al., 2018). (Ali et al. 2018) In addition, the factor in the support of husbands and families for pregnant women whose impact is that pregnant women do not have the power to choose or determine visiting health care facilities to do *Ante Natal Care* (Sumankuuro et al., 2018). (Sumankuuro, Crockett, and Wang 2018)

Another stunting prevention behavior is taking iron supplement tablets (Fe) during pregnancy of at least 90 tablets (Kementerian Kesehatan Republik Indonesia 2018a). Iron supplement tablets are mineral tablets needed by the body for the formation of red blood cells or hemoglobin (Kementerian Kesehatan Republik Indonesia 2018b). One of the objectives is to prevent iron deficiency anemia in pregnant women (Kementerian Kesehatan Republik Indonesia 2018b). Pregnant woman who have iron deficiency (Fe) will tend to have anemia (Sulaiman et al., 2022). (Sulaiman et al. 2022) There is a relationship between anemia in pregnant women with low birth weight (LBW) in infants



((Novianti and Aisyah 2018) There is a relationship between a history of low birth weight and the incidence of stunting (Fitri 2018) Babies with a history of Low Birth Weight are at 5.87 times higher risk of stunting compared to babies who are not Low Birth Weight (Rahayu et al., 2015).

Factors of low maternal knowledge about iron supplements (Fe), poor counseling provided by health workers, and indigestion (nausea after consumption of iron supplement tablets) contribute to the behavior of pregnant women to take iron supplement tablets (Zafar et al. 2021). The education of mothers and husbands, socioeconomic status, the number of Ante Natal Care visits, and the support of husbands' attendance at the time of *Ante Natal Care* visits are related to the behavior of iron supplement tablet consumption in pregnant women (Kumar et al. 2022)

## CONCLUSION AND RECOMMENDATION

There are various determinants that can contribute to the behavior of pregnant women in stunting prevention efforts. These determinants do not only come from maternal factors but also physical and social-environmental factors. This determinant can ultimately be a challenge for the government in making efforts to reduce stunting rates in Indonesia. Therefore, the recommended suggestions are it is necessary to educate not only pregnant women, but also to husbands and families about stunting prevention by using the right media and health promotion strategies; it is necessary to carry out mobile *Ante Natal Care* services, especially to villages that are far from health care facilities; it is necessary to strengthen commitment and cooperation from various related sectors so that stunting prevention can be realized optimally.

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