

# THE IMPACT OF ANEMIA PREVENTION HEALTH COUNSELING ON KNOWLEDGE OF PREGNANT WOMEN IN PUSKESMAS

Ellen Pesak<sup>1</sup>, Jusuf Kristianto<sup>2</sup>, Bongakaraeng<sup>3</sup>, Johana Tuegeh<sup>4</sup>,  
Jane Annita Kolompoy<sup>5</sup>, Putri Nurul Firdaus<sup>6</sup>

Health Polytechnic Ministry of Health Jakarta 1, Jakarta, Indonesia<sup>2</sup>

Health Polytechnic Ministry of Health Manado, Sulawesi Utara, Indonesia<sup>1,3,4,5,6</sup>

Email: indira.bonga@gmail.com, jusufkristianto@gmail.com,  
bongakaraeng68@gmail.com, ninituegeh@gmail.com,  
janiko.mvr@gmail.com, putrifirdaus15@gmail.com

---

**Keywords:**

Anemia; Pregnant  
Women; Knowledge.

**ABSTRACT**

*The World Health Organization (WHO) estimates that 35-70% of pregnant women in developing countries are anemic. Indonesia is one of the developing countries with the highest incidence of anemia, which is around 70% in pregnant women. One of the causes of anemia during pregnancy is that many pregnant women do not know the prevention of anemia during pregnancy. The purpose of this study was to determine the effect of health counseling on the prevention of anemia on the knowledge of pregnant women. The research design used was pre-experimental with a one-group pretest-posttest method where the characteristics of this design were no comparison group (control). The study population was all pregnant women at the Minanga Health Center which amounted to 46 people. The sample technique used was simple random sampling, which was as many as 35 people. Analysis with Wilcoxon signed rank test. The test results have a significant influence of health counseling on anemia prevention on the knowledge of pregnant women ( $\alpha \leq 0.05$ , namely  $p\text{-value} = 0.000$ ). The conclusion is that health counseling on the prevention of anemia increases the knowledge of pregnant women. Suggestions are expected by the puskesmas to increase counseling or education about anemia during pregnancy so that pregnant women's knowledge about anemia increases.*

---

Info Artikel

Artikel masuk 23-04-23, Direvisi 10-05-23, Diterima 12-05-23

---

## INTRODUCTION

The World Health Organization (WHO) estimates that 35-75% of pregnant women in developing countries are anemic. According to (AKRIM, 2022) anemia in pregnant women is a health problem that can affect the mother and fetus and can even cause death among many pregnant women who have suffered from anemia with an estimated prevalence of 43% of women become pregnant in developing countries.

**How to cite:**

Ellen Pesak, Jusuf Kristianto, Bongakaraeng, Johana Tuegeh, Jane Annita Kolompoy, Putri Nurul Firdaus (2023) The Impact of Anemia Prevention Health Counseling on Knowledge of Pregnant Women in Puskesmas, *Journal Health Sains*, 4(5).

<https://doi.org/>

**E-ISSN:**

[2722-5356](https://doi.org/2722-5356)

**Published by:**

Ridwan Institute

## The Impact of Anemia Prevention Health Counseling on Knowledge of Pregnant Women in Puskesmas

ASEAN in 2007 the incidence of anemia varies, from the highest in our own country Indonesia around 70% and the lowest rate is in Singapore which is 7%. According to Research Amirudin, said maternal death can occur due to several causes including anemia (Wahyuni & Azwar, 2022). In Indonesia Even though the Maternal Mortality Rate (MMR) was recorded at 228/100,000 live births, even though the government targets that in 2015 MMR will decrease to 102/100,000 live births (KH). MMR is an indicator of health success in a country. The Maternal Mortality Rate (MMR) in North Sulawesi Province in 2015 was 73 people, while in Manado City itself it became the highest among other Regencies/Cities in North Sulawesi at 11 cases of maternal deaths, in the Book Health Profile of North Sulawesi Province in 2015, while at the Minanga Health Center when researchers conducted an initial survey, data on pregnant women in the last 6 months were obtained as many as 153 pregnant women.

Anemia in pregnant women also results in placental disorders such as hypertrophy, classification and infarction, resulting in impaired function. Thing this can result in impaired fetal growth (Roza et al., 2018). Term pregnant women tend to suffer from Iron Deficiency Anemia (ADB) because at that time the fetus hoards iron reserves for itself in order to stock up immediately after birth (Xue et al., 2018).

In pregnant women with anemia there is a disruption in the distribution of oxygen and food substances from the mother to the placenta and fetus, which affects placental function. Decreased placental function can result in fetal growth and development disorders. Anemia in pregnant women can result in fetal growth and development disorders, abortion, old partus, puerperal sepsis, maternal and fetal mortality (Cunningham, 2005); (Roza et al., 2018) increases the risk of low birth weight (Beldon & Crozier, 2005) in (Volkoff & London, 2018), neonatal asphyxia prematurity (Chu et al., 2020). Impaired growth and placental function in pregnant women with anemia are strongly related to fetal survival. Placental birth weight reflects the function and growth and development of the placenta itself and placental growth and development related to birth weight (Uzun et al., 2020).

Efforts have been made to prevent anemia in pregnant women such as improving nutritional intake, iron administration programs and administratio Iron preparations long before planning a pregnancy, but the efforts that have been made have not been very satisfactory (Ayazbekov et al., 2020). This means anemia in pregnant women can threaten the health of pregnant women. One solution carried out by researchers is to provide health counseling about the prevention of anemia in pregnant women at the Minanga Health Center. Based on the data above, researchers are interested in conducting research with the title of the effect of health counseling on prevention (Sholihah & Hanafi, 2017).

Anemia against the knowledge of pregnant women at the polyclinic KIA/KB minanga health center Manado with the aim of knowing the influence of health counseling on the prevention of anemia on the knowledge of pregnant women.

### **METHODS**

The type of research used is by Analytics with research in pre-experimental design using a one-group pre-test design- Post test design is a research design where there is no

comparison group (control), but at least the first observation (pretest) has been made which allows testing changes that occur after the experiment (program).

Population based on the table above, respondents before being given health counseling about anemia prevention were many in the category of less than 21 respondents (60%).

## RESULTS AND DISCUSSION

This research was located at the Minanga Health Center located on Jalan Perum Minanga Indah, Malalayang II Village, Environment IX, Malalayang District Based on the table above, respondents showed that after being given health counseling about the prevention of anemia there were many in the good category, there were 30 respondents (85.7).

### Bivariate analysis results

The difference in the average knowledge before and after being given Health Counseling on Anemia Prevention analyzed by *Wilcoxon Signed Ranks Test*.

**Table 1. the average value of knowledge of pregnant women before being given health education**

Variabel	Median (Minimum- Maximum)	Mean	SD	p- value
Knowledge of pregnant women				
<i>Pretest</i>	1.00 (1 – 2)	1,40	0,497	0,000
<i>Posttest</i>	3.00 (2 – 3)	2,86	0,355	0,000

Table 1. shows that the average value of knowledge of pregnant women before being given health counseling on *anemia* prevention was a *mean* of 1.40 with SD 0.497 and after being given health counseling about *anemia*, the average value of knowledge of pregnant women is *mean* 2.86 with SD 0.355.

Based on the results of statistical tests using the *Wilcoxon Signed Rank Test*, p results were obtained  $\leq \alpha 0.05$ , namely  $p = 0.000$ . This shows that the intervention or treatment given, namely health counseling on the prevention of anemia, gives meaningful results. So that there is an influence of health counseling on anemia prevention on respondents' knowledge.

The results of the study were presented based on the purpose of the study, namely knowing the knowledge of respondents before and after being given health counseling about prevention anemia and analyze the effect of health counseling on anemia prevention on the knowledge of pregnant women at the MCH Polyclinic / KB Minanga Health Center.

### **Knowledge of pregnant women before and after health counseling about the prevention of anemia**

Knowledge is the result of knowing and this happens after someone senses a particular object. Cognitive knowledge is a very important domain for the formation of one's actions. A person is said to understand when he has been able to explain about a known object (Sota & Peltzer, 2017). Knowledge is obtained from information, and when the acceptance of information is less then knowledge will also decrease. Based on research conducted on July 2-5, 2018, knowledge of pregnant women before being given health counseling about anemia prevention from 35 respondents based on table 4.6 was in the less category, namely 60% or 21 respondents. This research is in line with the research of Angrainy Rizka (2017) who said most pregnant women lack knowledge about anemia prevention, said as many as 70.4% of pregnant women have less knowledge about anemia in pregnancy (Dim & Onah, 2007).

The lack of knowledge of pregnant women at the MCH Polyclinic/KB Minanga Health Center is caused by lack of information from health workers and from maternal factors, most of whom are primigravida mothers and are still in the early trimester so there is still a lack of discussion or asking health workers and finally when the mother's knowledge pretest is carried out is still lacking.

Increased knowledge occurs when they see and hear an activity that is presented through the media in the form of leaflets during counseling. In this study, after being given health counseling on the prevention of anemia, the highest percentage was 85.7% or 30 respondents. This means that respondents' knowledge has increased after being given health counseling about anemia prevention. This research is in line with Kiftiyah's which said there was an increase in knowledge before and after health counseling about anemia on anemia prevention behavior during pregnancy at the Mengaluh Health Center, Jombang Regency (Febry et al., 2020).

According to researchers, this happens because they have been given good knowledge about anemia prevention so as to increase individual knowledge about the right way to prevent anemia during pregnancy and what to do pregnant women during pregnancy to prevent anemia in pregnancy. This is also because the age of most respondents at the age of 21-30 years or in the age of productive women (Smith et al., 2019).

Where at that age respondents have rational and psychomotor maturity, where rational maturity is useful when mothers receive health education about anemia prevention, then they will immediately understand about anemia prevention and encourage them to pay more attention to her pregnancy (Doody & Noonan, 2016). The characteristics of the respondent's education level show that most respondents have education up to high school level. Education level is related to the respondent's ability to understand information received from someone because the better a person's education level, the better his ability to understand health information. The distribution of respondents' education levels shows the highest distribution is high school (Nurhaeda et al., 2022).

This level of education helps respondents understand the information conveyed by researchers during health counseling. After counseling was given, there were still respondents who had sufficient knowledge, respondents' knowledge that was still within the criteria was sufficient according to the researcher was caused by several factors of pregnant women who had just had experience in pregnancy or mothers Pregnant with primigravida DA is still in the early trimester so that the knowledge of pregnant women has not been able to increase rapidly, lack of interaction with health workers and some educational factors are located at the elementary and junior high school education levels as well According to researchers is one of the factors so that some pregnant women have enough knowledge and do not increase significantly (Siregar, 2021).

### **The Effect of Health Counseling on Anemia Prevention on the Knowledge of Pregnant Women at the MCH Polyclinic/KB Minanga Health Center**

Health counseling or education activities about the prevention of anemia in pregnant women have actually been widely publicized, but there are still many people, including pregnant women who do not or have not received information that can be they understand that health counseling activities on anemia prevention at the MCH Polyclinic/KB Minanga Health Center provide pregnant women with new knowledge. In this study it was proven that there was an increase in knowledge as well as the average knowledge that increased significantly, further testing with the Wilcoxon Signed Rank Test proved health counseling about Prevention of anemia is effective in increasing the knowledge of pregnant women at the MCH Polyclinic/KB Minanga Health Center. This research is in line with Kiftiyah (2015) that there is a significant influence of health counseling on pregnant women about anemia (Serudji et al., 2019).

According to researchers, this significant increase in knowledge is influenced by respondents' social factors, such as people around respondents who work in the health sector and always remind. The health of respondents so that when given education, respondents have improved significantly and have known and understood the prevention of anemia. Other factors are also from various media such as mass media, print media and electronic media (TV and Handphone) that can be accessed by everyone so that respondents can find information from these media or when given education respondents who have accessed and seen about anemia and prevention can immediately understand the education provided.

Informal education also affects the increase in knowledge of pregnant women because pregnant women can get knowledge not only from formal education but through informal education for example from posters, banners, and flipcharts available in crowded centers that are easily accessible to pregnant women (Deasy et al., 2016).

So according to researchers, by conducting health counseling about the prevention of anemia correctly, in this case, education is provided using media (leaflets and audiovisuals) and clear explanations from speakers can improve quality Knowledge of pregnant women about anemia prevention, this can also be taken into

consideration for health centers such as puskesmas, clinics, and hospitals in order to consider programs related to the health of pregnant women, especially anemia in pregnancy.

## CONCLUSION

The results of the study on: "The Effect of Health Counseling on Anemia Prevention on the Knowledge of Pregnant Women at the MCH Polyclinic/KB Minanga Health Center" can be concluded that: 1) Knowledge of pregnant women before Health Counseling on Prevention of anemia is still lacking. 2) Knowledge of pregnant women after Health Counseling about anemia prevention is generally in the good category. 3) Health Counseling on Anemia Prevention has a significant effect in increasing the knowledge of pregnant women at the MCH Polyclinic/KB Minanga Health Center.

## BIBLIOGRAFI

- Akrim, A. (2022). Student Perception Of Cyberbullying In Social Media. *Aksaqila Jabfung*.
- Ayazbekov, A., Nurkhasimova, R., Kulbayeva, S., Bolat, K., Kurmanova, A. M., Yeskarayeva, A., Sarbassova, M., & Kemelbekov, K. S. (2020). Features Of Pregnancy, Childbirth And Postpartum Period Of Young Mothers. *Electronic Journal Of General Medicine*, 17(6).
- Beldon, A., & Crozier, S. (2005). Health Promotion In Pregnancy: The Role Of The Midwife. *The Journal Of The Royal Society For The Promotion Of Health*, 125(5), 216–220.
- Chu, F.-C., Shao, S. S.-W., Lo, L.-M., & Hung, T.-H. (2020). Association Between Maternal Anemia At Admission For Delivery And Adverse Perinatal Outcomes. *Journal Of The Chinese Medical Association*, 83(4), 402–407.
- Cunningham, F. G. (2005). *Obstetri Williams, Vol. 2*.
- Deasy, C., Coughlan, B., Pironom, J., Jourdan, D., & Mannix-Mcnamara, P. (2016). Predictors Of Health Of Pre-Registration Nursing And Midwifery Students: Findings From A Cross-Sectional Survey. *Nurse Education Today*, 36, 427–433.
- Dim, C. C., & Onah, H. E. (2007). The Prevalence Of Anemia Among Pregnant Women At Booking In Enugu, South Eastern Nigeria. *Medscape General Medicine*, 9(3), 11.
- Doody, O., & Noonan, M. (2016). Nursing Research Ethics, Guidance And Application In Practice. *British Journal Of Nursing*, 25(14), 803–807.
- Febry, F., Etrawati, F., & Arinda, D. F. (2020). The Determinant Of Chronic Energy Deficiency Incidence In Adolescent Girls In Ogan Komering, Ilir Regency. *2nd*

*Sriwijaya International Conference Of Public Health (Sicph 2019)*, 342–352.

- Nurhaeda, N., Kasmiati, K., Aisyah, A., & Fadly, F. (2022). Relationship Knowledge And Attitude Of Pregnant Women About anemia Incidence At The Mamboro Community Health Center. *International Journal Of Medicine And Health*, 1(4), 78–84.
- Roza, M., Hrp, J. R., & Hasan, Z. (2018). Pengaruh Senam Nifas Terhadap Penyembuhan Luka Perineum Derajat Ii Pada Ibu Post Partum Di Bpm Murtinawita Kota Pekanbaru. *Jurnal Forum Kesehatan: Media Publikasi Kesehatan Ilmiah*, 8(2), 83–85.
- Serudji, J., Agus, M., & Aninora, N. R. (2019). Correlation Of Calcium Levels With The Strenght Of Uterus Contraction On The Active Phase Of First Stage Labor. *1st Annual Conference Of Midwifery*, 174.
- Sholihah, Q., & Hanafi, A. S. (2017). The Differences Knowledge, Attitude And Behavior Prior And After Counseling Of Anemia And Balance Menus. *Journal Of Applied Environmental And Biological Sciences*, 7(1), 120–127.
- Siregar, D. N. (2021). Vaksin Hpv Pencegah Kanker Serviks Sedini Mungkin. *Publish Buku Unpri Press Isbn*, 1(1).
- Smith, C., Teng, F., Branch, E., Chu, S., & Joseph, K. S. (2019). Maternal And Perinatal Morbidity And Mortality Associated With Anemia In Pregnancy. *Obstetrics And Gynecology*, 134(6), 1234.
- Sota, C., & Peltzer, K. (2017). The Effectiveness Of Research Based Learning Among Master Degree Student For Health Promotion And Preventable Disease, Faculty Of Public Health, Khon Kaen University, Thailand. *Procedia-Social And Behavioral Sciences*, 237, 1359–1365.
- Uzun, N. D., Tekin, M., Sertel, E., & Tuncar, A. (2020). Psychological And Social Effects Of Covid-19 Pandemic On Obstetrics And Gynecology Employees. *Journal Of Surgery And Medicine*, 4(5), 355–358.
- Volkoff, H., & London, S. (2018). Nutrition And Reproduction In Fish. *Encyclopedia Of Reproduction*, 2, 1–6.
- Wahyuni, I. W., & Azwar, S. (2022). Fostering Tolerance In Early Childhood In Islamic Perspectives And Social Learning Theory. *Jeced: Journal Of Early Childhood Education And Development*, 4(1), 1–24.
- Xue, W. L., Shorey, S., Wang, W., & He, H.-G. (2018). Fathers' Involvement During Pregnancy And Childbirth: An Integrative Literature Review. *Midwifery*, 62, 135–145.

**Copyright holder:**

Ellen Pesak, Jusuf Kristianto, Bongakaraeng, Johana Tuegeh, Jane Annita Kolompoy,  
Putri Nurul Firdaus (2023)

First publication right:

Jurnal Health Sains

This article is licensed under:

