

Original Research

The Effect of the Implementation of the Supplementary Feeding Consumption Compliance Card on the Compliance Level Among Pregnant Women at the North Ponorogo Health Center

Azkie Izzatun Nadifah^{1,*}, Heru Santoso Wahito Nugroho², Astin Nur Hanifah² and Nurlailis Saadah²

¹Sarjana Terapan Kebidanan, Kebidanan Sutomo, Poltekkes Kemenkes Surabaya, Surabaya, Indonesia

²Poltekkes Kemenkes Surabaya, Surabaya, Indonesia

Article history

Received: 06 June 2024

Revised: 29 June 2024

Accepted: 29 June 2024

Published Online: 30 June 2024

***Correspondence:**

Azkie Izzatun Nadifah

Address: Sarjana Terapan Kebidanan, Kebidanan Sutomo, Poltekkes Kemenkes Surabaya, Surabaya, Indonesia.

Email: azkianadifah12@gmail.com

How to cite this article: Nadifah AI, Nugroho HSW, Hanifah AN, Saadah N. The Effect of the Implementation of the Supplementary Feeding Consumption Compliance Card on the Compliance Level Among Pregnant Women at the North Ponorogo Health Center. *Health Dynamics*, 2024, 1(6), 216-222. <https://doi.org/10.33846/hd10606>



Copyrights: © 2024 by the authors. This is an open access article under the terms and conditions of the Creative Commons Attribution – NoDerivatives 4.0 International (CC BY-ND 4.0) license (<https://creativecommons.org/licenses/by-nd/4.0/>).

ABSTRACT

Background: Chronic Energy Deficiency (CED) is the cause of non-obstetric medical complications in pregnancy that occurs over a long period of time. The Providing Additional Food (PAF) program for vulnerable pregnant women is a supplementation strategy in overcoming nutritional problems, but the program has not been able to run well, based on observations made and also interviews with officers, it is known that some pregnant women have not been regular in consuming PAF biscuits. Researchers want to know the effect of implementing the PAF consumption compliance card on the level of compliance of CED pregnant women at the North Ponorogo Community Health Center. **Methods:** This study uses an experimental research method. The research design with a pre-experimental approach is in the form of a one-group pretest-posttest design. The sample was taken using the total population sampling technique. The independent variable in this study was the implementation of the PAF consumption compliance card while the dependent variable was the level of compliance of CED pregnant women consuming PAF. Data collection uses interviews and obedient cards as instruments. Data analysis was carried out by normality test and the result of a p value of > 0.05 could be carried out, then the Paired Sample t-Test could be carried out to find out if there was a difference. **Results:** The results of the Paired samples t-test showed that there was a difference in the compliance of CED pregnant women before and after being given an obedience card, which can be seen at the value of $p = 0.0001473$. **Conclusions:** It can be concluded that compliance cards have proven effective in increasing the compliance of CED pregnant women in consuming PAF. Therefore, it is recommended to implement compliance cards as a reminder and monitor for pregnant women regarding PAF consumption.

Keywords: Compliant card; pregnant woman; supplementary feeding

1. INTRODUCTION

Long-term nutritional deficiencies in pregnant women can lead to conditions such as chronic energy deficiency (CED). CED is one of the causes of non-obstetric pregnancy complications that occur over a long period of time. The diagnosis of CED can be established by examining the upper arm circumference of the pregnant woman less than 23.5 cm.⁽¹⁾ Pregnant women who experience nutritional and health problems have a negative impact on the health and safety

of mothers and babies, as well as the quality of babies born.⁽²⁾

The gestation period is a period that greatly determines the quality of human beings in the future. Maternal and infant CEDs cause at least 3.5 million deaths each year in Asia and account for 11% of the world's total global diseases. Based on data from the 2021 Ministry of Health Performance Report in Indonesia, it shows that the percentage of pregnant women in the East Java CED (9,2%).⁽¹⁾

For the Ponorogo Regency area, the incidence of CEDs in pregnant women from data from the Ponorogo Regency Health Office in 2022 found that there were 946 out of 10,878 pregnant women with a percentage of 8.69% of pregnant women with CEDs. For the Ponorogo sub-district area in 2022, especially at the North Ponorogo health center, the incidence of CED in pregnant women from the data listed was 22 out of 528 with a percentage of 4.16%.^(9,10)

Lack of energy intake from macronutrients (carbohydrates, proteins, and fats) and micronutrients especially vitamin A, vitamin D, folic acid, iron, zinc, calcium, and iodine, as well as other micronutrients in women of childbearing age that lasts continuously (from adolescence to pregnancy), can lead to the occurrence of chronic energy deficiency (CED) during pregnancy.^(3,11,12)

The most important step in overcoming chronic energy deficiency (CED) is to improve the nutrition of pregnant women through the provision of additional nutrients (PAF).⁽¹³⁾ Nutritional supplementation, especially for vulnerable groups, is an important strategy in addressing nutritional problems. PAF can be carried out simultaneously with various activities of the Healthy Living Community Movement (GERMAS) to provide healthy food and encourage nutritional improvement.⁽⁴⁾ Efforts of the North Ponorogo Health Center in handling CED in pregnant women, namely with PAF to pregnant women who are detected in CED for a period of 3 months.

Based on observations conducted by researchers and also interviews with officers, it is known that there are some pregnant women who do not regularly consume PAF biscuits. It was found that the reason why some mothers do not regularly consume PAF biscuits is because they forget to do too much work, or are not used to the taste of PAF biscuits given, and some do not know about the importance of consuming PAF biscuits for pregnant women with CED. The compliance of CED

pregnant women in consuming PAF biscuits has not been carried out optimally, as evidenced by the remaining biscuits that have not been distributed to CED pregnant women. This research also plays an important role in increasing the level of compliance of CED pregnant women in consuming PAF.

2. METHODS

2.1 Study Design

This type of research uses an experimental research method. The design of this study uses a pre-experimental approach in the form of a one-group pretest-posttest design. This research was conducted at the North Ponorogo Health Center from February to April 2024.

2.2 Population

This population includes all groups studied, namely all CED pregnant women who received PAF at the North Ponorogo Health Center with a population size of 12 people taken from February to April 2024. In this study, a sample of all CED pregnant women who received PAF at the North Ponorogo Health Center was taken. Sampling in this study was carried out by the total population sampling method.⁽²¹⁾ This means that the entire population of pregnant women in the area studied is the research sample. In this study, there are two variables, namely the independent variable of the implementation of the PAF consumption compliance card and the dependent variable of the level of compliance of pregnant women with the consumption of the Supplementary Food Program (PAF).

2.3 Data Collection

Data collection was carried out directly through interviews about the number of PAF biscuits consumed for one month. The instruments in this study are using PAF biscuit consumption compliance cards and PAF biscuit consumption interview guidelines. After the data is collected, the next step is data processing through 4 stages, namely: the first editing is the process of reviewing the records or data collected to determine whether the data has met the desired quality standards or whether there are shortcomings or errors that need to be corrected. The second step is coding to provide codes on the data in question to translate the data so that it is easy to analyze. The third step of tabulating is the process of organizing data by creating tables according

to the desired analysis needs. The final step of data cleaning, which is the process of re-checking the data to find and correct errors, especially coding suitability, is an important part of the editing stage in the research).

2.4 Data analysis

The analysis method used is a descriptive method. Descriptive analysis is carried out by measuring numerical and categorical data. Numeric data is in the form of mean, standard deviation, minimum value and maximum value, while category data is in the form of frequency and percentage. To test, it is necessary to use the Paired samples t-test to see the effect of the implementation of the CED pregnant women's compliance card on the level of compliance of CED pregnant women consuming PAF with the help of a computer program, a significance level of 0.05 is used, then it is concluded that the data is normally distributed. If the data is not distributed normally, the Wilcoxon Signed Rank Test is carried out.⁽²⁰⁾ The H0 research hypothesis is rejected if p (probability) ≤ 0.05 , meaning that there is a difference in PAF consumption compliance between before and after the implementation of the compliance card. If there is a difference, then the use of compliance cards has an effect on increasing the compliance of PAF consumption among pregnant women.

2.5 Ethical clearance

This research has passed the ethical test by the Health Research Ethics Commission (KEPK) of the Ministry of Health Surabaya Health Polytechnic No.EA/2310/KEPK-Poltekkes_Sby/V/2024

3. RESULTS

Based on Table 1, it is known that the mean value or average consumption of PAF before the implementation of the compliance card is 73 and after the implementation of the compliance card is 96.8. Meanwhile, the SD value (standard deviation) on the PAF consumption results before the implementation of the compliance card was 8.5 and the SD value after the implementation of the compliance card was 7.1. In the table, there are minimum and maximum values of PAF consumption compliance results before and after the implementation of the compliance card, namely the minimum value before 57.14% and after 76.19%. Meanwhile, the maximum score before the implementation of the compliance card is 90.48% and the maximum value after the implementation of the compliance card is 100%.

Table 1. Compliance level of CED pregnant women in consuming PAF biscuits at the North Ponorogo Health Center in March - April 2024

	Compliance Level of Pregnant Women in PAF Consumption CED		<i>p</i> -value of the normality test	<i>p</i> -value test (Paired sample t test)
	Before applying the Compliance Card	After applying the Compliance Card		
Mean	73%	96.8%	0.3094	0.0001473
Standard Deviation	8.5%	7.1%		
Minimum	57.14%	76.19%		
Maximum	90.48%	100%		
Non-Compliance	8 (66.67%)	0 (0%)		
Obedient	4 (33.33%)	12 (100%)		

In the Table 1, it is stated that the results of compliance of pregnant women in PAF consumption CEDs, the category of non-compliant pregnant women before the implementation of the compliance card there were 8 pregnant women with a percentage of 66.67% and after the implementation of the compliance card there were no more non-compliant pregnant women with a percentage of 0%. Meanwhile, the category of

pregnant women who obeyed PAF consumption before the implementation of the compliance card was only 4 CED pregnant women with a percentage of 33.33%, while the percentage of CED pregnant women after the implementation of the adallah compliance card was 100%.

Based on Figure 1, it can be concluded that there is an increase in the compliance of CED pregnant

women in consuming PAF before and after the intervention at the North Ponorogo Health Center with an average score of 73 to 96.8.

The results of the Normality test show a $p >$ value of 0.05, so it can be concluded that the data is distributed normally, so that the Paired Sample t Test can be carried out to determine the difference in compliance of pregnant women in CEDs before and after being given a compliant card. The results of the Paired samples t-test

showed that there was a difference in the compliance of CED pregnant women before and after being given an obedience card, which can be seen at the value of $p = 0.0001473$. This means that the implementation of compliance cards for CED pregnant women in consuming PAF can increase the level of maternal compliance in consuming PAF as a treatment of CED in improving the nutritional status of pregnant women.

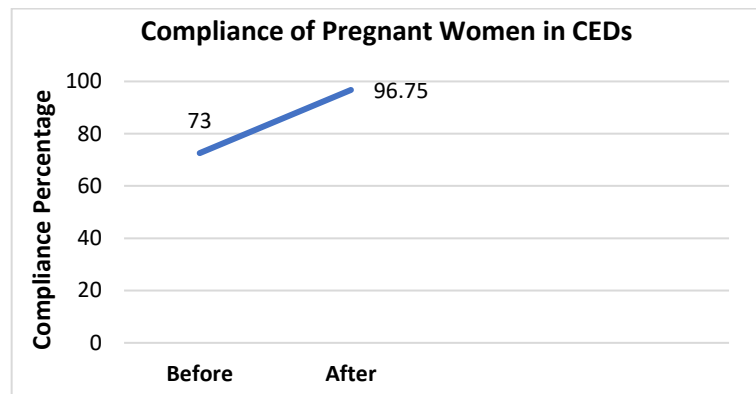


Figure 1. Compliance level of pregnant women in ceds before and after the implementation of the PAF consumption compliance card at the North Ponorogo Health Center in March – April 2024

4. DISCUSSION

Based on the results of data analysis, there were changes in the level of compliance of CED pregnant women before and after the implementation of the compliance card. The results of the average value of the percentage of compliance level of CED pregnant women before and after the intervention increased. It can be concluded that the number of compliant pregnant women consuming PAF after being given an obedience card has increased. Pregnant women of CED who have been given an obedient card feel more motivated in consuming PAF biscuits to achieve a better nutritional status for the mother and fetus. In addition to feeling helped by the existence of a PAF biscuit consumption compliance card, pregnant women are also beginning to realize how important it is to meet nutritional needs during pregnancy by achieving the appropriate nutritional status target. According to Sugiyono,⁽¹⁶⁾ pregnant women are a group that needs nutritional intervention. In Indonesia, special nutrition interventions are carried out to address special economic zones for pregnant women. A specific nutrition intervention program is PAF during pregnancy. In addition to PAF, pregnant women in CEDs are required to consume iron (Fe) tablets to

prevent anemia which is closely related to the development of CEDs.⁽⁵⁾

Based on the theory written by Rahmah,⁽²³⁾ the provision of additional food for pregnant women can be given directly through home visits by cadres/health workers/partners, or given at Posyandu, Health Facilities, or Pregnant Women's Classes. The provision of PAF for pregnant women is accompanied by education by health workers or cadres, in the form of counseling, cooking demonstrations, and nutritional counseling.^(6,24-26) This research was attended by other health workers from the Ponorogo Health Center such as nutrition officers who act as KIE givers related to the nutrition of CED pregnant women and the importance of providing PAF for CED pregnant women.⁽¹⁸⁾ In addition to nutrition officers, village midwives and cadres were also followed by village midwives and cadres who would explain the purpose of the visit, visits were carried out in Mangkujayan, Bangunsari, Keniten, Nologaten, and Cokromenggalan Villages. Accompanied by other health workers, the researcher will provide an explanation related to the importance of regular PAF consumption by providing an observance card that will help increase the level of compliance of CED pregnant women in consuming PAF.

The level of maternal compliance increased after the implementation of the PAF consumption compliance card, but not all pregnant women are 100% compliant, there are some mothers who do not reach the value of 100% compliance but are already in the compliance category. This can be influenced by several factors such as midwifery supervision, policy, motivation, and the environment.⁽¹⁷⁾ In addition to increasing the level of compliance of mothers, the compliance card also trains and creates independent pregnant women, mothers will consciously consume PAF and fill out the compliance card according to the rations that have been consumed. Mothers with an adherence score of not yet 100% are still said to be obedient but have not reached a perfect score, this may be influenced by mothers who are not yet independent, forget about PAF consumption, do not like the taste of the biscuits too much, and many other factors.

Compliance according to the theory written by Herawati⁽¹⁹⁾ is a behavior that acts based on therapy and health that can start from heeding every aspect of recommendations to fulfilling the plan. This ranges from following every aspect of the advice to adhering to the plan. Compliance can also be described as a situation in which a person's behavior is consistent with the doctor's recommended actions or advice or with information from other sources.^(7,14,15) As the initial goal of researchers, the implementation of this compliance card aims to increase the level of compliance of CED pregnant women in consuming PAF to improve the nutritional status of mothers and fetuses. Starting from researchers who had previously practiced and worked with village midwives found that many pregnant women were irregular in consuming PAF so that PAF expired and could no longer be consumed, from there midwives could not distribute PAF according to schedule because there were still many PAF that had not been spent. Pregnant women who still have leftover PAF stocks have not been given advanced PAF stocks so they have to wait for mothers to use up the first PAF stock. Many PAF stocks accumulate in Polindes or midwives' places because pregnant women still keep biscuit stocks beforehand. Therefore, it is hoped that this obedient card will help mothers to remember in consuming PAF, as well as as an encouragement and motivation for mothers to be more regular in consuming PAF. This obedient card has been designed to help mothers in increasing compliance with PAF consumption, from the habit of complying with PAF

consumption will be embedded obedient behavior in fulfilling maternal nutrition, as well as building good habits that have a far impact in the future for the good of the mother and fetus.

The definition of a card according to Soekidjo⁽²²⁾ is a thick paper that is not very large, rectangular in shape that is used for various purposes. The obedience card is formed from two words, namely card and obey, obey itself has the meaning of obeying the rules or being disciplined, liking to obey orders, or obeying rules and orders. PAF consumption compliance card is a paper leaflet containing a checklist that is used to remind mothers as well as monitor mothers in consuming PAF. This compliance card is deliberately designed by researchers in an attractive way so that pregnant women are more enthusiastic in filling out the compliance card. The attractive and easy-to-see design is also supported by an easy-to-understand way of use for pregnant women, so that mothers can easily fill out the card. PAF consumption compliance cards have characteristics and characteristics designed by researchers. The simple and easy-to-understand display makes pregnant women not have to think long to fill out the compliance card. Pregnant women can fill out the compliance card easily because the card design is easy to use, easy to move so for pregnant women who often travel or have outside activities can still fill out the compliance card without fear of losing the card because the card has been designed with an easy-to-see size and anti-slip.⁽⁸⁾

In addition to the flexible outer design, the card filling format is also designed with an easy-to-digest shape for all pregnant women. In addition to the very innovative shape and design, this card is also easy to produce, there is no need to go to a large printing place, this compliant card can be printed at the street print place and without waiting for a long time, the compliant card can be used directly. Pregnant women can also share with other mothers because of the card design that is easily accessible and disseminated through the communication media that we use every day.

5. CONCLUSION

There is a change in the level of compliance of pregnant women in CEDs before and after the implementation of the compliance card. Compliance cards have proven to be effective in increasing the compliance of CED pregnant women in consuming

PAF. After conducting an effectiveness test on the implementation of the compliance card, it is proven that the compliance card is effective and able to increase the compliance level of CED pregnant women in consuming PAF. These results are evident from the increased level of compliance of CED pregnant women after the implementation of the PAF consumption compliance card.

Acknowledgement

Thanks to the director of Health Polytechnic Surabaya for providing the opportunity to compile this thesis.

Funding Information

No funding was received for this research.

Conflict of Interest

The authors declare no conflict of interest.

REFERENCES

- Utami K, Setyawati I, Ariendha DSR. Kekurangan Energi Kronis Pada Ibu Hamil Trimester I Berdasarkan Usia Dan Graviditas. JKP (Jurnal Kesehatan Prim. 2020;5(1):18–25.
- Anisa FN, Suhartati S, Ulfa IM, Yunita L, Yunita L. Monitoring kader kesehatan di wilayah Puskesmas Sungai Jingah. J Pros Semin Nas Masy Tangguh. 2023;2(1):1–23.
- Devi TER. Karakteristik Ibu Hamil Dengan KEK Di Banyuwangi 2021. Prof Heal J [Internet]. 2021;3(1):9–18. Available from: <https://www.ojsstikesbanyuwangi.com/index.php/PHJ>
- Fazirah K, Syahrudin AN, Irmawati. Fakta Risiko yang Berhubungan dengan Kejadian Kurang Energi Kronik (KEK) pada Ibu Hamil di Wilayah Kerja Puskesmas Sudiang Raya Kota Makassar. J Indones Community Nutr. 2022;11(1):11.
- Oktavita D, Herdiani N. Faktor Risiko Kekurangan Energi Kronis (Kek) Pada Ibu Hamil Di Puskesmas Gunung Anyar Surabaya. Inov Penelit. 4.
- Lutfiah MRM. Gambaran tingkat pengetahuan, pendidikan dan sosio- ekonomi bumil kek di puskesmas talise, puskesmas singgani dan puskesmas kawatuna 2021. 2023;5(April):13–8.
- Danefi T. Literature Review Anemia dan Kurang Energi Kronik (KEK) pada Ibu Hamil Sebagai Faktor Penyebab Stunting. Pros Semin Nas Kesehat "Peran Tenaga Kesehat Dalam Menurunkan Kejadian Stunting". 2020;54–62.
- Yuli Bahriah. Kepatuhan Mengonsumsi Tablet Fe Dan Anemia Terhadap Kekurangan Energi Kronik (Kek) Pada Ibu Hamil Tahun 2020 (Studi Literatur). J Kebidanan J Med Sci Ilmu Kesehat Akad Kebidanan Budi Mulia Palembang. 2021;11(1):79–91.
- Hevriani R, Sartika Y. Intervensi Pendampingan Kurang Energi Kronik (Kek) Pada Ibu Hamil Dengan Pendekatan Continuity Of Midwifery Care (Comc) Sebagai Upaya Pencegahan Stunting. J Ris Kesehat Poltekkes Depkes Bandung. 2021;13(2):310–8.
- Misnaniarti E*, Idris H, Kesehatan F, Sriwijaya U. CITRA DELIMA: Jurnal Ilmiah Institut Citra Internasional Hubungan Program Pemberian Makanan Tambahan dengan Ibu Hamil Kekurangan Energi Kronis (KEK): Literature Review. Ji [Internet]. 2023;7(1):53–63. Available from: <http://jurnalilmiah.ici.ac.id/index.php/>
- Utami R, Gunawan IMA, Aritonang I. Pengaruh Pemberian Makanan Tambahan (PAF) Pemulihan terhadap Status Gizi pada Ibu Hamil di Kabupaten Sleman. J Nutr. 2018;20(1):19–26.
- Pastuty R, Wilma, Asmalinda W. Penyuluhan Pemberian Makanan Tambahan-Pemulihan Pada Ibu Hamil Kurang Energi Kronis di Puskesmas Sako Kota Palembang. Madaniya [Internet]. 2022;3(4):784–90. Available from: <https://madaniya.pustaka.my.id/journals/contents/article/view/281>
- Prihatin A. Pelaksanaan Dan Efektivitas Program Biskuit PAF Ibu Hamil Kek Di Kabupaten Magelang. Pros Forum Ilm Tah IAKMI (Ikatan Ahli Kesehatan Masy Indones [Internet]. 2020;1–10. Available from: <http://jurnal.iakmi.id/index.php/FITIAKMI>
- Isdairi D, Anwar H, Sihaloho NTP. Kepatuhan Masyarakat Dalam Penerapan Social Distancing Di Masa Pandemi COVID-19 [Internet]. Sihaloho NTP, editor. 2021.
- Marzuki DS, Abadi MY, Rahmadani S, Fajrin M Al, Juliarti RE, Pebrianti A, et al. Analisis Kepatuhan Penggunaan Masker Dalam Pencegahan COVID-19 Pada Pedagang Pasar Tradisional Di Provinsi Sulawesi Selatan. Ponorogo: Uwais Inspirasi Indonesia; 2021.
- Sugiyono D. Metode Penelitian Kuantitatif, Kualitatif, dan Tindakan. 2013. 189–190 p.
- Cindy J, Yenni M. Pengaruh kesadaran wajib pajak, kualitas pelayanan fiskus , sanksi perpajakan, lingkungan wajib pajak berada terhadap kepatuhan wajib pajak orang pribadi di Surabaya. Tax Account Rev. 2013;1:51.
- Simbolon D, Jumiyati, Rahmadi A. Pencegahan dan Penanggulangan Kurang Energi Kronik (KEK) dan Anemia pada Ibu Hamil [Internet]. Sleman; 2018. Available from: https://books.google.co.id/books?id=1r6DDwAAQBAJ&printsec=frontcover&hl=id&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false
- Herawati, Sattu M. Pengetahuan Dasar Gizi Ibu Hamil [Internet]. 2023. Available from: <https://buku.sonpedia.com/2023/04/pengetahuan-dasar-gizi-ibu-hamil.html>
- Suharto A, Nugroho HSW, BJ Santosa. Metode Penelitian Dan Statistika Dasar. Bandung: Rintho R Rerung; 2022.
- Nursalam. Populasi, Sampel, Sampling, dan Besar

- Sampel. Metodologi Penelitian Ilmu Keperawatan. 2015. 144 p.
22. Soekidjo N. Metodologi Penelitian Kesehatan. 2012.
23. Rahmah Putri A, dkk. Bangun Generasi Emas Dengan Pedoman Gizi 8000HPK. Banten. PT Sada Kurnia Pustaka; 2024.
24. Rohmah, L. Program pemberian makanan tambahan pada ibu hamil kekurangan energi kronis. HIGEIA (Journal of Public Health Research and Development). 2020;4(S4):812-823. Available at: <https://journal.unnes.ac.id/sju/index.php/higeia/article/view/37052>
25. Azizah A, Adriani M. Tingkat Kecukupan Energi Protein Pada Ibu Hamil Trimester Pertama Dan Kejadian Kekurangan Energi Kronis. Media Gizi Indonesia. 2018;12(1):21. <http://dx.doi.org/10.20473/mgi.v12i1.21-26>
26. Ningrum NP, Hidayatunnikmah N, Rihardini T. Cegah Stunting Sejak Dini dengan Makanan Bergizi untuk Ibu Hamil. E-Dimas: Jurnal Pengabdian kepada Masyarakat. 2020;11(4):550-5. <http://dx.doi.org/10.26877/e-dimas.v11i4.5616>