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Assistance for Pregnant Women with Chronic Energy Deficiency to Improve Nutritional Status

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Abstract. Chronic energy deficiency (CED) in pregnant women is a major risk factor contributingthe poor nutritional status of mothers and their unborn babies. Promotive efforts are needed to improve maternal health status during pregnancy This community service activity was carried out by a team of students from Tanjung Karang Polytechnic along with Pekon Srikaton officials and Adiluwih Health Center, health workers. The purpose is to conduct educational and mentoring programs in an effort to improve nutritional status of pregnant women suffering from chronic energy deficiency (CED). The implementation of community service activities uses observation, counseling, and family empowerment methods. The targets of activity were 2 pregnant women suffering from CED. Assistance is carried out for 20 days for pregnant women starting from data collection, introspective surveys, health checks and education for pregnant women. This activity gave positive results as evidenced by weight gain of pregnant women and behavioral changes in food consumption. In conclusion, intensive and sustainable assistance has a significant positive impact. Pregnant women experienced an increased understanding of the importance of adequate nutrition during pregnancy, changes in a more balanced diet, and an increase in body weight.

Keywords: Assistance, Chronic Energy Deficiency (CED), Education, Pregnant Women

1 Introduction

Pregnancy is the beginning of producing the best quality human resources, but pregnant women are vulnerable to health and nutrition problems. CED is one of the most common nutritional problems in pregnant women. CED in pregnant women is a condition of energy and protein deficiency that lasts a long time and causes problems for the mother and fetus [1] [2]. CED is a nutritional problem, which is influenced by an imbalance in the body's metabolism as a source of energy for humans. This problem is often found in women of childbearing age and mostly in pregnant women [3]. The indicators that can be done to detect the risk of CED are characterized by the results of Upper Arm Circumference (LILA) <23.5 cm and abnormal maternal weight gain [4].

Pregnant women who suffer from CED will experience the risk of childbirth as a result of CED, some of which are difficult labor, preterm labor or labor that is faster than the time it should be, prolonged labor, postpartum hemorrhage, and increased need for surgery to assist labor [5]. In addition to the risks to pregnant women, the condition of CED has an influence on fetal growth, which is at risk of resulting in low birth weight babies. Chronic Energy Deficiency can be caused by several factors, including pregnancy spacing and parity [6], the age of the pregnant mother [7], education and low family income [8], surrounding culture [9], knowledge about nutrition and history of infectious diseases [10]. There is a significant effect (p=0.000) of 20% between diet and nutritional intake on the incidence of CED in pregnant women [11].

Providing dietary information and providing assistance is a start made by health workers who play a role and invite cadres and existing community organizations as a form of effort to improve the nutritional status of pregnant women with chronic energy deficiency. Efforts to provide support, attention, messages, provide insights and solutions, deliver services and assistance, and cooperate are forms of mentoring activities [12]. Research activities conducted in Pare-pare City found that local communicators (cadres / organizations) who were trained to work together in health promotion in delivering information on preventing chronic energy deficiency and overcoming

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it with media provision [13]. Improved nutrition is influenced by changes in behavior which include knowledge, attitudes and actions of mothers in everyday life, with nutritional assistance to pregnant women who experience chronic energy deficiency [14]. This is in accordance with Amalia's research (2018) regarding the effect of providing nutrition education can increase the knowledge of pregnant women, but there is no effect on increasing dental fulfillment behavior. Activities held with the enrichment of cooperation/collaboration programs can improve the health of pregnant women, namely by empowering pregnant women through pregnant women's classes or GeSIH activities (Gerakan Sayang Ibu Hamil), and using program design is to educate in the form of providing booklets/pocket books and providing direct counseling during the implementation of bumil classes. The results of this study showed that there was an increase in the knowledge of pregnant women after participating in this activity by 80% which before the activity was 45.5% with the conclusion that this activity was successful [15].

In general, this community service activity is a student social service activity in IPC-based Field Work Practice activities. This activity is a form of implementing community service for students as the academic community of the Poltekkes Kemenkes Tanjungkarang in collaboration with the Adiluwih Health Center. This activity aims to provide assistance for the diet of pregnant women with CED through home visits in the Pekon Srikaton area, Adiluwih District, Pringsewu Regency, while specifically the objectives of the activity are to provide additional knowledge, shape the attitudes and behavior of the diet of pregnant women with CED through nutritional counseling activities, and bring their antenatal care.

2 Methods

The activity was carried out in five stages with a total target of 2 pregnant women in Pekon Srikaton. The purpose of this activity is to conduct educational and mentoring programs in an effort to improve the nutritional status of pregnant women suffering from chronic energy deficiency (CED). The flow of activities can be seen in the flow chart below.

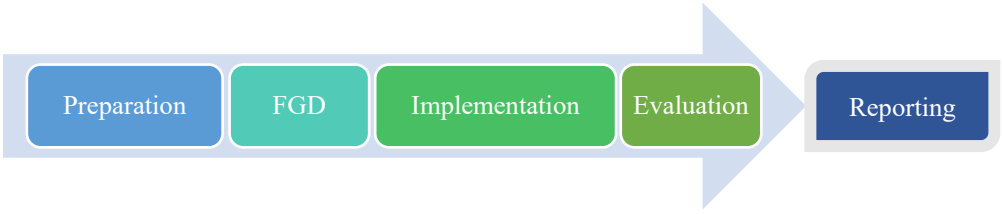

Figure 1. Flowchart of Community Service Activities

The implementation of this assistance activity consists of a group of student service teams from the Tanjung Karang Polytechnic, Pekon Srikaton officials consisting of pamong and cadres, and Puskesmas officers who are responsible for the health of pregnant women. The following are details of the activities of each stage of the activity implementation:

A. Preparation Stage

This stage began with data collection and an introspective survey of families with pregnant women. Initial data related to the number of families with pregnant women was obtained from the records of visits by pregnant women at the Posyandu in Pekon Srikaton. As a result of this activity, it was found that there were 21 pregnant women, and 2 of them experienced CED based on the results of the Antenatal Care.

B. Forum Group Disccusion Stage

This stage is the core stage, where the team conducts discussions to plan time for follow-up activities, advocacy, coordination, and steps to socialize the implementation of activities to the community. The aim was to get to know each other, licensing, program introduction, and increase commitment/support from stakeholders and the local community. The result of this activity was an agreement on mentoring activities for pregnant women, which began with socialization to 2 pregnant women. This activity was held on March 7, 2024 and was attended by the village midwife and representatives of the family empowerment and welfare mobilization team.

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Figure 2. Photo with FGD Participants in Preparation of Pregnant Women Assistance Pekon Srikaton Pasawaran

C. Implementation

Mentoring pregnant women is the core of the activities at this stage. The mentoring was carried out for 20 days starting March 8, 2024. Mentoring activities are carried out through home visits to the homes of 2 target pregnant women. The mentoring method carried out through:

1. Conduct comprehensive antenatal care checks to assess the initial condition of each pregnant woman.
2. Education through nutrition counseling to increase pregnant women's knowledge about the impact of CED and efforts to overcome it, stimulate the attitudes of pregnant women in a positive direction to overcome CED, and stimulate changes in the behavior of pregnant women.
3. Preparation of pregnant women's menus. In this activity, the team and pregnant women together developed a special menu for pregnant women with CED.
4. Provision of supplementary food packages for pregnant women who experience CED.

D. Evaluation

At this stage, a comprehensive pregnancy examination is conducted as a form of evaluation to obtain the final results.

E. Reporting

The final results obtained from the evaluation stage are presented to the pekon officials and the health team of Puskesmas Adiluwih and determine the follow-up plan for the incidence of CED in pregnant women.

3 Results and Disscussion

Assistance to pregnant women begins with conducting antenatal care checks carried out on March 8, 2024 at the home of each pregnant woman. The examination was carried out by taking anthropometric measurements. Measurements consist of height, weight, upper arm circumference (MUAC) and body mass index (BMI). The results of the examination to assess the initial condition of pregnant women are as follows:

Table 1. Pre-assistance Anthropometric Examination Results

No.	Item	Pregnant Mother I		Pregnant Mother II	
		Results	Normal Value	Results	Normal Value
1.	Pregnancy Age	12 Weeks	-	10 Weeks	-
2.	Height	156 cm	-	153 cm	-
3.	Body Weight	44 kg	50 kg-70 kg	43 kg	45 kg-65 kg
4.	Body Mass Index (BMI)	18,1	18,5 - 25,0	18,4	18,5 - 25.0
5	LILA (Upper Arm Circumference)	23 cm	>23,5 cm	22 cm	>23,5 cm
Status		**CED**		**CED**	

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Table 1 shows that the results of antenatal care examinations of the two pregnant women were found, in addition to MUAC values that were less than normal values, for BMI and west body values of both pregnant women were still below normal values (experiencing CED).

Body weight is a factor that determines the amount of food substances recommended for pregnant women so that their pregnancy runs smoothly. Weight gain during pregnancy gives a sign that there is a response of the mother's body to fetal growth [16]**.** MUAC is one of the indicators used to assess nutritional status by measuring upper arm circumference. MUAC is a practical way of determining nutritional status by measuring the circumference of the upper arm in the center between the tip of the shoulder and the tip of the elbow. The measuring instrument used is the MUAC tape with an accuracy of 0.1 cm [17]. BMI can be a factor affecting pregnancy, childbirth, and pregnancy outcomes [18]. BMI is a measure used to determine whether a person has a healthy weight for their height. A BMI that is too low or too high can affect the health of the mother and baby during pregnancy and labor [19][20].

Figure 3. LILA Measurement as Part of Antenatal Care Screening to Access One of the Indicators of CED

Furthermore, the team conducted education and discussion on the impact of CED on pregnant women and how to overcome CED cases in pregnant women. This activity was held on March 9, 2024 at the pregnant women's homes. Cases of CED in pregnant women are not solely caused by a lack of nutritional intake, but many other factors influence it. Education, knowledge, level of compliance, the content of nutrients consumed including how to manage them, food availability, and excessive workload are factors that support the occurrence of CED [16]. Therefore, the main theme in the form of education provides information on proper food processing, food ingredients that have high nutrition can improve the nutritional status of mothers as seen from the increase in MUAC and maternal weight so that maternal health becomes better [14].

Figure 4. Educational Activity on the Impact of CED and Prevention on Pregnant Women

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Educational media to convey the importance of diet and CED can use various kinds, for example, the use of Powerpoint and leaflets can increase the knowledge of groups of pregnant women about the problems and how to prevent anemia and increase the knowledge of pregnant women about the problem of chronic energy deficiency [21]

Figure 5. Educational Media in PowerPoints and Leaflets

The activity continued by assisting the two pregnant women in preparing the menu. The team and mothers discussed and produced a menu according to the needs of pregnant women for CED prevention. The menu was prepared based on the potential of natural resources in Pekon Srikaton by prioritizing local wisdom. The main menu is by utilizing moringa plants that are commonly found in the yard. In addition, this plant is easy to process into food with high nutritional value. According to DKBM Indonesia, at least 100 grams of moringa leaves contain 82 calories, 6.7 grams of protein, 1.7 grams of fat, 14.3 grams of carbohydrates and other minerals that are very beneficial for pregnant women such as calcium. Phosphorus, iron, vitamins A, B and C [22].

To initiate the fulfillment of nutritional needs and stimulate mothers to be able to provide nutritional needs correctly, the team provides examples through supplementary feeding activities and the provision of blood supplement tablets. It is hoped that by increasing knowledge through education and PMT, there will be a positive change in the mother's behavior in meeting her daily nutritional needs. The information provided and the mother's skills in managing food ingredients during assistance are one of the effective and efficient efforts [23].

Figure 6. Example of PMT based on ISI PIRING-KU

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On the last day of mentoring, an evaluation of both pregnant women was conducted through antenatal care checks. The evaluation was carried out by weighing the mother's weight. The results of the examination are as follows:

Table 2. Post-assistance Anthropometric Examination Results

No.	Item	Pregnant Mother I		Pregnant Mother II	
		Results	Normal Value	Results	Normal Value
1.	Pregnancy Age	15 weeks	-	13 weeks	-
2.	Height	156 cm	-	153 cm	-
3.	Body Weight	49 kg	50 kg-70 kg	46 kg	45 kg-65 kg
4.	Body Mass Index (BMI)	18,1	18,5 - 25,0	18,4	18,5 - 25.0
5	LILA (Upper Arm Circumference)	23 cm	>23,5 cm	22 cm	>23,5 cm

Table 2, shows an increase in body weight in both pregnant women, namely 5 kg in pregnant woman I (previously 44 kg) and 2 kg in pregnant woman II (previously 43 kg). These results show that mothers have been able to eliminate 1 indicator of CED. This is evidenced by the weight of the two pregnant women after the assistance is in the normal value range.

This weight gain indicates a positive response from the mother's metabolism including the development of the fetus in the womb. The ideal weight gain for each pregnant woman is different, this depends on the BMI value. Pregnant women who have a BMI value in the underweight category (<18.5 kg/m2) need at least 13 - 18 kg of weight gain during their pregnancy. Normally in the first trimester of pregnancy the weekly weight gain is 0.5 kg [24].

Dietary assistance activities have a positive effectiveness on pregnant women and affect changes in nutritional knowledge which are expected to be applied in everyday life [25]. The provision of services and support for pregnant women is intended as a form of effort to deal with and overcome nutritional problems which are the main objectives of providing nutrition / diet assistance. Services are carried out by measuring LILA, and assistance is carried out by providing additional food and counseling on diet /nutrition [26].

The results of this activity are then reported to the Adiluwih Health Center and Pekon Srikaton officials, to continue to support and monitor as a form of follow-up to this activity. The assistance provided by the community service team to pregnant women with SEVERE in Pekon Srikaton by providing dietary and nutritional counseling, providing additional food and providing food descriptive according to the PIRING-KU has an impact on increasing the knowledge, attitudes and behavior of pregnant women in eating patterns as a form of effort to fulfill nutrition. This can be seen from the activity of pregnant women and families and cooperative during the activity and always ask questions during counseling activities. The success of this assistance is also evidenced by changes in attitude, as well as increased insight into the needs of the target. In addition, the success of this activity can be proven by the significant weight gain of pregnant women. This dietary assistance program can be used as an activity by health workers in tackling and preventing the occurrence of chronic energy deficiency which is carried out in a sustainable manner starting from pre-marriage as a preventive effort, so that during the pregnancy planning stage the woman is in a state that is ready to become a healthy pregnant woman and does not experience nutritional problems.

4 Conclusion

Intensive and sustainable assistance has a significant positive impact. Pregnant women experienced an improved understanding of the importance of adequate nutrition during pregnancy, changes to a more balanced diet, and an increase in body weight. For this reason, comprehensive and intensive education and assistance are recommended in an effort to overcome CED in pregnant women.

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References

[1] F. Fibrila, M. Ridwan, and H. Herlina, "Parity and Eating Habits Trigger Chronic Energy Deficiency in Pregnant Women," *Int. J. Curr. Sci. Res. Rev.*, vol. 06, no. 04, pp. 2352–2358, 2023, doi: 10.47191/ijcsrr/v6-i4-15.

[2] E. Wati, R. Murwani, M. Kartasurya, and Sulistiyani, "Determinants of chronic energy deficiency (CED) incidence in pregnant women: A cross- sectional study in Banyumas, Indonesia Erna," vol. 4, no. 1, pp. 1–8, 2024.

[3] R. Pastuty, R. KM, and T. Herawati, "Efektifitas Program Pemberian Makanan Tambahan-Pemulihan Pada Ibu Hamil Kurang Energi Kronik Di Kota Palembang," *J. Ilmu Kesehat. Masy.*, vol. 9, no. 3, pp. 179–188, 2018, doi: 10.26553/jikm.v9i3.310.

[4] G. S. Halimah, R. D. Jayanti, and W. Fatmaningrum, "Hubungan Usia, Paritas, dan Pekerjaan Terhadap Resiko KEK Ibu Hamil Trimester 1 di Puskesmas Cilengkrang Bandung Tahun 2022," *J. Sehat Mandiri*, vol. 17, no. 2, pp. 94–103, 2022, doi: 10.33761/jsm.v17i2.852.

[5] T. Kusumastuti, D. P. Putri, C. P. Eliza, A. N. Hanifah, and F. Nurcandra, "Kek Pada Ibu Hamil : Faktor Risiko Dan Dampak," *J. Kesehat. Tambusai*, vol. 4, no. 3, pp. 2719–2726, 2023.

[6] L. Suryani, M. Riski, R. G. Sari, and H. Listiono, "Faktor-Faktor yang Mempengaruhi Terjadinya Kekurangan Energi Kronik pada Ibu Hamil," *J. Ilm. Univ. Batanghari Jambi*, vol. 21, no. 1, p. 311, 2021, doi: 10.33087/jiubj.v21i1.1117.

[7] Y. D. Novitasari, F. Wahyudi, and A. Nugraheni, "Penyebab KEK pada ibu hamil di Puskesmas Rowosari Semarang," *Diponegoro Med. J. (Jurnal Kedokt. Diponegoro)*, vol. 8, no. 1, pp. 562–571, 2019.

[8] F. R. Andini, "Hubungan Faktor Sosio Ekonomi Dan Usia Kehamilan Dengan Kejadian Kekurangan Energi Kronis Pada Ibu Hamil Di Puskesmas Prambontergayang Kabupaten Tuban," *Amerta Nutr.*, vol. 4, no. 3, p. 218, 2020, doi: 10.20473/amnt.v4i3.2020.218-224.

[9] Martina and C. R. Muharrina, "Hubungan Budaya dengan Kejadian Kekurangan Energi Kronik (KEK) pada Ibu Hamil di Wilayah Kerja Puskesmas Montasik Kabupaten Aceh Besar Tahun 2020," *J. Aceh Med.*, vol. 4, no. 2, pp. 209–215, 2020.

[10] I. Fitrianingtyas, F. D. Pertiwi, and W. Rachmania, "Faktor-Faktor Yang Berhubungan Dengan Kejadian Kurang Energi Kronis (Kek) Pada Ibu Hamil Di Puskesmas Warung Jambu Kota Bogor," *Hearty*, vol. 6, no. 2, 2018, doi: 10.32832/hearty.v6i2.1275.

[11] H. S. Kadmaerubun, R. Azis, and J. Genisa, "Hubungan Pola Makan dan Asupan Gizi Dengan Kekurangan Energi Kronik (KEK) Pada Ibu Hamil," *Inhealth Indones. Heal. J.*, vol. 2, no. 2, pp. 127–138, 2023, doi: 10.56314/inhealth.v2i2.152.

[12] M. Puspitasari, M. Mitra, T. Gustina, N. Rany, and Z. Zulfayeni, "Pemberian Makanan Tambahan pada Ibu Hamil KEK di Puskesmas Karya Wanita Pekanbaru," *J. Kesehat. Manarang*, vol. 7, no. 2, p. 141, 2021, doi: 10.33490/jkm.v7i2.325.

[13] S. Suriah, C. Citrakesumasari, A. Awaluddin, and A. Yani, "Edukasi Bagi Calon Pengantin Tentang Anemia Gizi Dan Kurang Energi Kronik Di Kota Parepare," *MPPKI (Media Publ. Promosi Kesehat. Indones. Indones. J. Heal. Promot.*, vol. 1, no. 1, pp. 25–31, 2018, doi: 10.31934/mppki.v1i1.133.

[14] D. Simbolon, A. Rahmadi, and J. Jumiyati, "Pengaruh Pendampingan Gizi terhadap Perubahan Perilaku Pemenuhan Gizi Ibu Hamil Kurang Energi Kronik (KEK)," *J. Kesehat.*, vol. 10, no. 2, p. 269, 2019, doi: 10.26630/jk.v10i2.1366.

[15] A. I. HaryonoI, F. N. Annisa, S. Suhartati, and I. M. Ulfa, "'Gesih' Gerakan Sayang Ibu Hamil in an Effort To Prevent and Overcome Sez At Puskesmas Sungai Jingah Banjarmasin," *Pros. Semin. Nas. Masy. Tangguh*, vol. 2, no. 1, pp. 268–276, 2023.

[16] R. S. Aulia, "SYSTEMATIC LITERATURE REVIEW: PENGARUH PEMBERIAN MAKANAN TAMBAHAN TERHADAP PENAMBAHAN BERAT BADAN IBU HAMIL KEKURANGAN ENERGI KRONIK (KEK)," 2022.

[17] R. M. Fibrila Firda, Herlina, *Paritas dan Kebiasaan Makan Tidak Sehat Memicu Kejadian Kekurangan Energi Kronik Pada Ibu Hamil*. 2023.

[18] T. Barisic, V. Mandic, and I. Barac, "Associations of Body Mass Index and Gestational Weight Gain with Term Pregnancy Outcomes," *Mater. Socio Medica*, vol. 29, no. 1, p. 52, 2017, doi: 10.5455/msm.2017.29.52-57.

[19] S. Bhattacharya, D. M. Campbell, W. A. Liston, and S. Bhattacharya, "Effect of Body Mass Index on pregnancy outcomes in nulliparous women delivering singleton babies," *BMC Public Health*, vol. 7, pp. 1–8, 2007, doi: 10.1186/1471-2458-7-168.

[20] D. A. Jagan, D. K. Pandi, and D. S. Coumary, "Effect of body mass index on maternal and perinatal outcomes in nulliparous women: A prospective comparative study," *Int. J. Clin. Obstet. Gynaecol.*, vol. 4, no. 6, pp. 36–39, 2020, doi: 10.33545/gynae.2020.v4.i6a.731.

[21] L. A. Apriani, R. I. Wiguna, H. Ningsih, and L. M. S. Husen, "Pemanfaatan Powerpoint Dan Leaflet Sebagai Media Promosi Kesehatan Tentang Anemia Dan Kek Pada Ibu Hamil," *JMM (Jurnal Masy. Mandiri)*, vol. 7, no. 5, p. 4535, 2023, doi: 10.31764/jmm.v7i5.17014.

[22] Dokter Sehat, "Kandungan daun kelor segar dan komplit yang komplit dan kaya gizi," *Dokter Sehat*, 2019. https://doktersehat.com/kandungan-daun-kelor/ (accessed Jun. 30, 2024).

[23] Y. I. Hapsari, F. Rozi, M. N. F. Asyifa, S. Putranegara, and S. P. Balqis, "Jurnal Bina Desa Edukasi dan Konseling Gizi Kepada Ibu Hamil KEK," *J. Bina Desa*, vol. 4, no. 2, pp. 195–203, 2022.

[24] Pane Merry Dame Cristy, "Ketahui Pertambahan Berat Badan Ibu Hamil yang Normal di Sini," 2022. https://www.alodokter.com/kenali-pertambahan-berat-badan-ibu-hamil-yang-normal-di-sini (accessed Jun. 30, 2024).

[25] A. F. Siregar, J. Manurung, and W. M. Ginting, "Pendampingan Ibu Hamil Dalam Penanggulangan Kejadian Kek Di Puskesmas Tinggi Raja," *J. Pengmas Kestra*, vol. 1, no. 1, pp. 49–52, 2021, doi: 10.35451/jpk.v1i1.719.

[26] Sutrio, R. Mulyani, and M. Lupiana, "Pelatihan Kader Pendamping Gizi Bagi Ibu Hamil Kek Dan Anemia Dengan Model Paket Pendampingan Gizi," *Al-Mu'awanah J. Pengabdi. Kpd. Masyakarat*, vol. 2, no. 1, pp. 2797–3395, 2021.