

SOCIALIZATION OF AVOCADO USE TO ADDRESS CHRONIC ENERGY DEFICIENCY (CED) AMONG WOMEN OF REPRODUCTIVE AGE IN TELADAN VILLAGE, SUB-DISTRICT SEULAWAH, THE DISTRICT OF ACEH BESAR

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ABSTRACT

Chronic energy deficiency (CED) in pregnant women is a long-standing energy intake deficit. This is characterized by the mother's upper arm circumference (MUAC) ≤ 23.5 cm. Pregnant women with CED are at risk of weakening the muscles that assist in the birthing process, leading to prolonged labor, postpartum bleeding, and even maternal mortality. The prevalence of CED among pregnant women in Indonesia in 2018 was 17.3%, and CED in Aceh was 11.27%. Generally, pregnant women with CED also suffer from Anaemia. The indicator of Anaemia in pregnant women is if haemoglobin < 11 g%. The health condition of pregnant women and their fetus will worsen if the mother suffers from CED and Anaemia. Avocado is one of the local food alternatives to address CED and Anaemia in pregnant women. The purpose of this activity is to increase public awareness of the impact of CED during pregnancy on the health of the mother and fetus, the benefits of avocado for the health of pregnant women, change public attitudes towards the utilization of avocado for the health of pregnant women, and change the behaviour of the public to consume avocado regularly, especially during pregnancy. The methods used were FGD, lectures, demonstrations, and anthropometric and haemoglobin examinations. The activity was conducted on May 29, 2024, from 08:30 to 13:00 WIB. It was attended by village midwives, integrated health post cadres, pregnant women, and women of reproductive age (WUS). The participants were 48. The activity ran smoothly and according to plan.

Keywords: Avocado, Pregnant women, CED, Teladan Village

INTRODUCTION

Globally, in 2017, an estimated 810 women died daily due to complications of pregnancy and childbirth. These deaths are generally medically preventable. Approximately 94% of these deaths occurred in low- and lower-middle-income countries, including Indonesia. The global maternal mortality ratio (MMR) in 2017 was 211 per 100,000 live births.¹, while the MMR in Indonesia in 2015 was much higher at 305 per 100,000 live births.², and the MMR in Aceh in 2017 was 143 per

100,000 live births.³ The six leading causes of maternal death worldwide are hemorrhage, infection, high blood pressure during pregnancy (preeclampsia and eclampsia), complications of childbirth, and unsafe abortion.⁴

These complications are preventable and treatable. Some other complications occur before pregnancy but worsen during pregnancy, especially for women who do not receive health care. Pregnancy complications not only endanger the mother but also her fetus. Some pregnancy

complications include anemia, urinary tract infections, hypertension, diabetes mellitus, obesity, infections, hyperemesis gravidarum, and malnutrition. Malnutrition is characterized by anemia and chronic energy deficiency (CED) in pregnant women.⁵

Chronic energy deficiency (CED) in pregnant women is a chronic, long-standing lack of energy intake. This is characterized by a maternal mid-upper arm circumference (MUAC) of ≤ 23.5 cm. Pregnant women with CED are at risk of reduced CE, the muscle strength that aids the labor process, which can lead to prolonged labor and postpartum hemorrhage, and even maternal death. Risks to the baby include fetal death (miscarriage), prematurity, birth defects, low birth weight (LBW), and impaired growth and development.⁵

The prevalence of CED among pregnant women in Indonesia in 2018 was 17.3%⁶ and the prevalence of CED in Aceh was 11.27%.⁷ Generally, pregnant women with CED also suffer from anemia. An indicator of anemia in pregnant women is a hemoglobin level <11 g%.⁸ The health of the pregnant woman and her fetus will be further worsened if the mother has CED with anemia.

According to the CED management protocol, interventions carried out by health workers (Puskesmas) for pregnant women with CED have included nutritional counseling and supplementary feeding (PMT). Pregnant women with CED are

usually given PMT with an additional 500-800 kcal of energy per day. This PMT usually consists of local, manufactured foods or nutrient-dense drinks.⁹ Meanwhile, to treat anemia during pregnancy, mothers are given 90 mg of iron supplements throughout pregnancy, regardless of the mother's hemoglobin level,¹⁰ and generally no other treatment is provided.

Until now, the PMT distributed to pregnant women with CED by health workers has been sourced from the government, as addressing nutritional issues is a government program. Consequently, the food distributed has almost exclusively been manufactured foods such as bread, sugar, and milk. This is due to practicality and the relatively long consumption period. PMT availability at community health centers is also limited, so sometimes not all pregnant women with CED receive PMT each month.

Meanwhile, local foods have not been prioritized in programs to address maternal anemia and CED in Indonesia, despite their greater availability and higher nutritional value. Local foods are foods consumed by local communities based on their local potential and wisdom.¹¹ Local foods can include vegetables, fish, fruits, and other local fruits. One local fruit with high nutritional value is the avocado.

Avocados contain essential nutrients, including energy, carbohydrates, fats, and various vitamins and minerals. Several previous studies have concluded that

avocados are recommended for daily consumption by pregnant women due to their high nutritional content and the nutrients they contain that are essential for them.¹²

The high incidence of CED in pregnancy also occurs in Aceh Besar Regency, Aceh Province. Aceh Besar Regency is one of 23 regencies/cities within the province. Geographically, Aceh Besar Regency is directly adjacent to the provincial capital, with an area of 2,903 km², divided into 23 sub-districts¹³. The population of Aceh Besar Regency in 2019 was 425,216, with a population growth rate of 2.3%¹⁴.

The results of the 2018 monitoring of the nutritional status of Aceh province indicated that the prevalence of CED in pregnancy in Aceh Besar district was 14.6%¹⁵, and the prevalence of anemia in pregnancy was around 40%.⁷ These figures are higher than those of other districts/cities in Aceh Province. Meanwhile, the number of maternal deaths in Aceh Besar district in 2020 was 12 cases, and the number of neonatal deaths was 39 cases¹⁶. These mortality rates are also higher than those of several other districts/cities in Aceh Province.

The Aceh Besar district government has made various efforts to reduce the number of maternal deaths (MMR) and infant mortality rates (IMR). This reduction in MMR and IMR serves as an indicator of health-sector performance under the Aceh Besar district's 2017-2022

regional medium-term development plan (RPJMD). Therefore, it is necessary to carry out the latest innovations in dealing with CED in pregnancy, the outcome of which is expected to reduce MMR and IMR through the use of local foods, one of which is avocado, which grows abundantly in Lembah Seulawah sub-district, and is the only avocado-producing area in Aceh Besar Regency.

Lembah Seulawah District is one of 23 districts within Aceh Besar Regency and is located at the eastern tip, directly bordering Pidie Regency. Geographically, this district covers a highland area of 319 square kilometers. The distance between the district capital and the regency capital is approximately 40 km, and the distance to the provincial capital is approximately 100 km. Lembah Seulawah District is divided into 12 villages with a population of roughly 12,990 in 2019. The majority of the district's residents are farmers.¹⁷

As an agricultural area, this district is one of the centers of vegetable and fruit production in Aceh Besar Regency, including avocados. According to 2020 data from the Central Statistics Agency (BPS), the district produces approximately 5.5 tons of avocados per month, and this yield has been increasing annually. Avocados produced in Lembah Seulawah District have been distributed to other districts, such as Banda Aceh City, Pidie, and Pidie Jaya.¹⁷

One of the health problems in the sub-district is the high incidence of CED in

pregnant women. According to data from the Aceh Besar District Health Office, the prevalence of CED in pregnant women in Lembah Seulawah District in 2020 was 14.5%, and the prevalence of anemia in pregnant women was 41%.¹⁸

In the CED food program in Aceh Besar Regency, including the Lembah Seulawah sub-district, local food has not been prioritized. To date, nutritional care for pregnant women with CED by health workers has focused on PMT (Food Supplements) distributed by the Ministry of Health in Jakarta, namely, manufactured foods, such as milk and bread. Over the years of this program, the prevalence of CED among pregnant women has not decreased as expected. Therefore, innovations are needed to reduce the incidence of CED among pregnant women through community empowerment and leveraging their potential, namely avocados.

The objectives of this community service activity are:

- a. Increasing public knowledge about the impact of CED during pregnancy on maternal and fetal health, as well as the benefits of avocados for pregnant women's health.
- b. Changing public attitudes about the use of avocados for pregnant women's health.
- c. Changing public behavior to consume avocados regularly, especially during pregnancy.

METHODS

The implementation methods for this community service activity include:

- a. Focus group discussion (FGD) on the benefits of avocados. Participants: Posyandu (Integrated Service Post in the village) cadres, pregnant women, and women of childbearing age (WUS). The goal was to determine the extent of the community's avocado utilization.
- b. Anthropometric and hemoglobin measurements for pregnant women and women of childbearing age (WUS).
- c. Counseling on the benefits of avocados for pregnant women, especially those with CED and anemia. Participants: cadres, pregnant women, and women of childbearing age (WUS).
- d. Demonstration of how to properly make avocado juice for pregnant women with CED. Participants: cadres, pregnant women, and WUS.

THE RESULTS OF ACTIVITY AND DISCUSSION

a. The Results of Activity

This avocado utilization socialization activity was held on Wednesday, May 29, 2024, in Lembah Seulawah Village, from 8:30 AM to 1:00 PM WIB (West Indonesia Time).

The activity was attended by village midwives, cadres of the village integrated health post (Posyandu), pregnant women, and women of childbearing age (WUS). The number of participants in Teladan Village

was 48, and in Suka Maju Village, 56. The activity procedures were as follows:

- Opening and prayer by the MC
- Introduction of the community service team and the purpose of the activity
- Focus group discussion (FGD)
- Counseling on the health benefits of avocado consumption
- Demonstration of how to properly make avocado juice and its health benefits based on research findings
- Anthropometric and hemoglobin tests

The FGD results concluded that:

- People rarely drink avocado juice (not necessarily one glass per week), as the avocados they produce are more often sold than consumed at home.
- Avocados are not always available, depending on the season.
- People are unaware of the health benefits of avocados; they usually consume avocado juice because it's filling and tastes good.
- The process of making avocado juice is based on individual preferences, usually with added sugar and creamer.
- Pregnant women are unaware of the health benefits of avocado juice for themselves and their fetuses.
- The community has never received any education or outreach about the health benefits of avocados.

The community service team provided information on the health benefits of avocados. The information included the nutrients in avocados, their health benefits, their benefits for pregnant women, and

how to properly process avocados to maintain their nutritional value.

The activity then continued with a demonstration on how to make avocado juice for its health benefits properly. The method for preparing avocado juice per serving is as follows: 200 grams of avocado (peeled flesh), 50 grams of granulated sugar, and 100-150 ml of boiled/mineral water; blend until smooth. Hemoglobin (Hb) test results for pregnant women and women of childbearing age (WUS):

- Hb test results for pregnant women: There were four pregnant women, and 3 of them had anemia ($Hb < 11 \text{ g\%}$).
- Hb test results for women of childbearing age (28 women): 19 of them (68%) had anemia ($Hb < 12 \text{ g\%}$).

b. Discussion

Based on the results of FGDs and interviews with the community, it can be concluded that the use of avocados for health remains suboptimal due to limited understanding of their health benefits. Avocados are generally consumed primarily to fill you up and because they taste good.



Figure 1: FGD activity, facilitator: Satrinawati, S.Sit, M.Kes, Ph.D



Figure 2: Counseling on the benefits of avocado by Fithriany SST, M.Kes



Figure 5: Photo of the team and participants



Figure 3: Demonstration of the process of making avocado juice, which is beneficial for health



Figure 4: Hemoglobin Examination

CONCLUSIONS

This community service activity was held on May 29, 2024, from 8:30 a.m. to 1:00 p.m. WIB. The activity was attended by village midwives, integrated health post (Posyandu) cadres, pregnant women, and women of childbearing age (WUS). The number of participants in Teladan Village was 48.

After the activity, it was concluded that the community was still unaware of the health benefits of avocados. They consumed avocados to feel full without understanding their benefits. Avocados are also considered a substitute for soft drinks due to their delicious taste. The preparation of avocado juice also depends on individual preferences, typically with the addition of sugar and creamer.

The community expressed that this activity was very beneficial, as they had just learned about the health benefits of avocados, especially for pregnant women with CED. They also hoped for follow-up activities based on this activity.

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