ANTENATAL MIDWIFERY CARE FOR MRS. "I" WITH CHRONIC ENERGY DEFICIENCY AT WAJO HEALTH CENTER

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A B S T R A C T

Background: According to the World Health Organization (WHO) in 2020, the number of maternal mortality rates (MMR) worldwide reached 287,000. Countries in Sub-Saharan Africa have the highest proportion with 70%, or 202,000 maternal deaths, while South Asia accounts for 14% with 47,000 maternal deaths. The high maternal mortality rate in some regions of the world reflects unequal access to quality health services and highlights the disparities between rich and poor groups. Objectives: This study aims to provide antenatal midwifery care to Mrs. "I" who experienced chronic energy deficiency (SEZ) at Puskesmas Wajo Baubau City using the Varney 7-step method and SOAP. Methods: This research uses descriptive method with case study approach, applying midwifery care management through 7 steps of Varney and SOAP. Results: Based on a case study with the application of 7 Varney steps and SOAP, it can be concluded that the process of solving obstetric problems in Mrs. "I" with chronic energy deficiency at Puskesmas Wajo went well. Conclusion: This study has carried out care in accordance with Varney's 7-step management, including basic data collection, identification of actual diagnoses/problems, identification of potential diagnoses/problems, immediate action/collaboration, action planning, implementation, and evaluation.

INTRODUCTION

Chronic Energy Deficiency (CHD) is a condition in which a person's nutritional status is poor due to a lack of energy intake, including macro and micronutrients that the body needs. SEZ generally occurs in women of childbearing age (15-45 years) and can be measured through upper arm circumference (LILA) and body mass index (BMI). In pregnant women, LILA less than 23.5 cm indicates poor nutritional status (Sukmawati et al., 2023).

Measuring LILA is an effective way to determine the risk of SEZ. The normal LILA is 23.5 cm, and if it is less than that, the interpretation is SEZ (dos Santos Accioly Lins et al., 2021).

Pregnant women with SEVERITY are at risk of serious complications such as prolonged labor, preterm birth, postpartum hemorrhage, and increased risk of sectio caesarea. Infants of SEVERITY mothers are at risk of congenital abnormalities, low birth weight (LBW), anemia, and fetal death in the womb. According to the World Health Organization (WHO), by 2020, the global maternal mortality rate will reach 287,000 cases, with the majority occurring in Sub-Saharan Africa and South Asia, reflecting unequal access to quality health services

Chronic Energy Deficiency (CHD) in pregnant women is still a major health issue in developing countries, including Indonesia. In 2020, there were 11,211 cases of SEZ out of 58,515 pregnant women in Southeast Sulawesi Province. This shows the need for serious treatment. SEZ occurs because the nutritional intake of pregnant women is insufficient to meet the needs of themselves and their fetuses, causing stunted fetal growth.(Hendro Stenly Kadmaerubun et al., 2023)

Pregnancy is a process from fertilization to birth that lasts about 280 days from the first day of the last menstruation. This process causes physical, psychological and social changes in pregnant women due to the influence of hormones, with nausea and vomiting as common symptoms. Nutrition is essential to maintain the health and growth of school-age children who are vulnerable to nutritional disorders (Khairani et al., 2023).

Maternal knowledge about nutrition influences food selection and appropriate dietary habits. SEZ increases the risk of anemia, which leads to preterm delivery, LBW, and maternal and infant mortality. The impact of SEZ on the fetus continues into adulthood, including impaired fetal growth, risk of LBW, congenital abnormalities, stunting, and impaired brain development that affects the child's intelligence (Khairani et al., 2024).

Quality health services, including comprehensive antenatal care, are essential in the management and prevention of SEZ in pregnant women. These services include regular check-ups, nutrition education, and supplementation. Socio-economic factors such as income, education, and access to health services have a major influence on the nutritional status of pregnant women. Pregnant women with low socio-economic status are more prone to experiencing SEZ (Quraisy et al., 2022).

According to the nutritional theory of pregnant women, the need for calories, protein, and vitamins and minerals increases by 15%, 25%, and 20-100% respectively compared to non-pregnant women, to support fetal growth and maternal health (Sukmawati et al., 2023). This study focuses on identifying and addressing the problem of Chronic Energy Deficiency (CHD) in pregnant women at Puskesmas Wajo, Baubau City.

According to the Indonesian Health Profile, the highest proportion of women of childbearing age at risk of SEZ is 15-19 years old, with 38.5% who are pregnant and 46.6% who are not pregnant. At 20-24 years of age, there were 30.1% who were pregnant and 30.6% who were not pregnant. At 25-29 years of age, there were 20.9% who were pregnant and 19.3% who were not pregnant, and at 30-34 years of age, there were 21.4% who were pregnant and 13.6% who were not pregnant (Sukmawati et al., 2023).

According to the Indonesian Demographic Health Data Survey (IDHS), the maternal mortality rate in Indonesia is 305 per 100,000 live births. Maternal and child health is targeted in the Sustainable Development Goals (SDGs), particularly in the goals of reducing child mortality and improving maternal health, prevalence of malnutrition, and nutrition science is used to assess nutritional status. Frequently used measures are weight and height. Other body measurements include upper arm circumference, fat layer under the skin, knee height, abdominal circumference, hip circumference and prevalence of stunting. The percentage of pregnant women with SEVERITY is characterized by a LILA measurement of less than 23.5 cm. SEZ occurs due to lack of food intake over a long period of time (Alam & ., 2023)

Data from the Southeast Sulawesi Provincial Health Office shows that the prevalence of pregnant women with SEZ decreased from 19.5% in 2017 (12,568 out of 64,368 pregnant women) to 11.8% in 2019 (10,101 out of 85,515 pregnant women), but increased to 23.2% in 2021 (13,226 out of 56,909 pregnant women) (Damayanti et al., 2023). Data from January to March 2024 at Puskesmas Wajo in Baubau City recorded 39 pregnant women, including 5 cases of pregnancy loss. Of the 2 pregnant women with SEVERITY found, namely Mrs. "I" (LILA 19 cm) and Mrs. "D" (LILA 22 cm), only Mrs. "I" was willing to be a research subject and had signed an informed consent.

Preliminary studies conducted on Mrs. "I" G3P2A0 with a gestational age of 38 weeks in the working area of Puskesmas Wajo Baubau City, showed that the mother's arm circumference was 19 cm, which is an indicator of SEZ. Based on this description, the authors are interested in conducting a Case Study "Antenatal Midwifery Care for Mrs. "I" G3P2A0 with Chronic Energy Deficiency at Puskesmas Wajo Baubau City Year 2024.

This study aims to identify factors that cause SEZ, provide effective treatment solutions, and increase awareness and knowledge of pregnant women about the importance of nutritional fulfillment during pregnancy. Poverty, maternal knowledge and behavior towards the nutritional status of the family is also one of the causes of the emergence of undernutrition and malnutrition problems related to family food availability and consumption.(Alam & ., 2023)

METHODOLOGY

This research method uses a case study approach that produces descriptive data. A case study is an in-depth investigation of a particular event. This study followed Helen Varney's midwifery care management, including subjective and objective assessment, identification of actual and potential diagnoses, identification of immediate needs, planning (intervention), implementation, and evaluation. This approach allows for a comprehensive understanding of the condition, provision of appropriate interventions, and evaluation of the effectiveness of the interventions.

RESULTS & DISCUSSION

Subjective Data

Mrs. "I" is 30 years old, while Mr. "A" is 32 years old, and the couple has been married for 10 years. "A" is 32 years old, and the couple has been married for 10 years. They are from the Buton tribe and are of the Isla religion. Mrs. "I" has a high school education and works as a housewife, while Mr. "A" is self-employed. "A" is self-employed. Both live in Lamangga.

Biological data showed that Mrs. "I" was pregnant with her third child with a gestational age of more than 9 months. She reported strong fetal movement on the left side of the abdomen and no severe abdominal pain during this pregnancy. There was no history of food or drug allergies, and Mrs. "I" was not taking any non-prescribed medications. Tetanus immunization had been received in the current and previous pregnancies.

Previous pregnancy history shows that Mrs. "I" gave birth to the first child in 2017 and the second child in 2020 with spontaneous labor assisted by midwives. The first child was born alive weighing 3500 grams and the second child was born alive weighing 2700 grams. Mrs. "I"'s medical history showed that she did not suffer from chronic diseases such as diabetes mellitus, heart disease, hypertension, or infectious diseases. Mrs. "I" had also never been hospitalized or experienced bleeding.

In reproductive history, Mrs. "I" experienced manarche at the age of 14 with a regular menstrual cycle of 28-30 days, and without menstrual complaints. There were no reproductive system disorders, STDs, or infertility, and Mrs. "I" had used 3-month injectable birth control since 2015.

Psychosocial, economic, and spiritual aspects showed that this pregnancy was well planned. The relationship between Mrs. "I", her husband, and family was generally good, with the main decision-making in the family resting with the husband. Mrs. "I" and her family always prayed for the health of the mother and fetus.

Mrs. "I"'s basic needs included nutrition, elimination, personal hygiene, and rest. Before pregnancy, Mrs. "I" ate healthy foods such as rice, fish, vegetables, and fruit with a frequency of eating 2-3 times a day and drinking 6-7 glasses a day. During pregnancy, the frequency of meals decreased to 2 times a day, but fluid intake increased to 8-9 glasses a day. The elimination pattern showed a decrease in the frequency of defecation from 2-3 times a day to 1 time a day and an increase in the frequency of urination from 3-4 times a day to 4-5 times a day. Mrs. "I"'s personal hygiene before pregnancy included bathing twice a day, shampooing three times a week, and brushing teeth three times a day, while during pregnancy the frequency of bathing was reduced to 1-2 times a day. In terms of rest, Mrs. "I" napped 1-2 hours a day before pregnancy and 2-3 hours a day during pregnancy, with a night sleep of about 8-9 hours before pregnancy and 7-8 hours during pregnancy.

In the aspect of reproductive history, Mrs. "I" showed a normal and regular menstrual cycle with manarche at the age of 14 years. Gynecological history did not show any reproductive system disorders, STDs, or infertility. Mrs. "I"'s successful use of 3-month injectable contraception since 2015 supports the finding that effective contraceptive methods play a role in good family planning.

In terms of medical history, Mrs. "I" had no history of significant systemic or infectious diseases, and had never been hospitalized, indicating good health status before and during pregnancy. Mrs. "I"'s diet showed good adaptation during pregnancy, with an increase in the frequency of water consumption from 6-7 glasses a day to 8-9 glasses a day, as well as consistency in the consumption of nutritious foods such as rice, fish, vegetables, and fruit. This data is in line with nutritional recommendations for pregnant women that emphasize the importance of adequate hydration and balanced nutritional intake to support maternal health and fetal development.

Mrs. "I"'s personal hygiene habits showed adjustments in accordance with pregnancy conditions, with the frequency of bathing slightly reduced from 2 times a day to 1-2 times a day and the frequency of shampooing also reduced. This may reflect the mother's physical and energetic adjustment during pregnancy. Consistent personal hygiene care shows attention to health and personal hygiene which is important during pregnancy.

From the data obtained, it was seen that Mrs. "I" was experiencing her third pregnancy with a pregnancy duration of more than 9 months and had no previous miscarriages. The movement of the fetus that was felt strongly on the left side of the mother's abdomen indicated that the fetus was in a good position and developing normally. The absence of severe abdominal pain during pregnancy indicates that the mother did not experience complications such as premature contractions or other disorders that could affect the health of the mother and fetus.

A history of tetanus toxoid (TT) immunization since the first pregnancy indicates compliance with the immunization program, which is important to prevent tetanus neonatorum. This data is in line with health guidelines that recommend continued immunization at every pregnancy to protect mother and baby from tetanus infection.

Objective Data

On February 20, 2023, a physical examination was conducted on Mrs. "I" at the Wajo Health Center. The mother's general condition was good, with composmentis consciousness. The mother's weight before pregnancy was 40 kg, and at the time of examination it was 46 kg, with a height of 143 cm and upper arm circumference (LILA) 19 cm. Her vital signs were within normal limits: blood pressure 120/80 mmHg, body temperature 36.5°C, pulse 80 beats per minute, and respiration 20 beats per minute. Body Mass Index (BMI) was calculated as 21.58, indicating the mother's good nutritional status.

Physical examination was performed by inspection, palpation, auscultation and percussion. On examination of the head, the scalp was found to be clean and hair was not falling out without any lumps or tenderness. The face showed no cloasma gravidarum or edema. The eyes had pink conjunctiva and white sclera without jaundice, and the nose had no polyps or secretions and no tenderness. The mouth and teeth are in good condition, with moist lips without caries or missing teeth. The ears show no cerumen and hearing is good with left and right symmetry. The neck shows no enlargement of the jugular veins, lymph nodes or thyroid gland.

On abdominal examination, no surgical scar was found, but there was linea nigra and striae albicans. Leopold examination showed a fundus uteri (TFU) height of 27 cm with an abdominal circumference of 95 cm and an estimated fetal weight (TBJ) of 2,565 grams. A hard board-like area was palpated on the left side of the mother's abdomen, the lowest part was round and bouncy indicating the fetal head, but had not yet entered the upper pelvic door (PAP). The fetal heart rate (DJJ) was clear, strong, and regular with a frequency of 140 beats per minute on the right side of the mother's abdomen. On the lower extremities, edema was found (+) but no varicose veins with positive (+) left and right patellar reflexes.

The ultrasound and blood tests showed that the fetus was in good condition with a normal DJJ. Other blood tests, such as a hemoglobin test for anemia, and tests for HIV, HBsAg, and syphilis, were performed as part of routine antenatal procedures. Based on the results of the physical examination and vital signs, both mother and fetus are in a healthy condition

Analysis

Mrs. "I" 30 years old G3P2A0, 38 weeks gravid, single fetus, intrauterine life, left back, head presentation, divergent, good fetal condition and maternal condition with chronic energy deficiency.

Management

On February 20, 2024 at 11:15 WITA, a series of health service activities were carried out for a pregnant woman. First, the mother was given information on the results of the examination which showed a condition of chronic energy deficiency with a good fetal condition. The mother understood and accepted this explanation.

Health education was also conducted, including nutrition for pregnant women, personal hygiene, and the importance of adequate rest. The mother understood and was willing to follow the advice. A discussion on the ten danger signs of pregnancy was conducted, and the mother showed a good understanding of the importance of recognizing these signs.

The mother was encouraged to perform knee chest movements to help the fetal position, and received collaborative ultrasound examination and administration of Folamil Genio 1x1 and kalk 1x1 vitamins. The mother understands the benefits of this action and is willing to carry it out.

Counseling on postpartum family planning and exclusive breastfeeding was provided, which the mother understood and agreed to follow. In addition, a follow-up visit was scheduled four weeks later, which was also understood and agreed to by the mother.

An explanation of the impact of chronic energy deficiency was given, followed by advice to improve diet by consuming nutritious foods that include carbohydrates, protein, and vitamins and minerals. The mother understood and was willing to improve her diet. The advice to get enough rest, i.e. 1-2 hours of daytime sleep and 6-8 hours of nighttime sleep, was also given and well received by the mother.

Mother was advised to regularly consume additional food (PMT biscuits) to meet calorie and nutritional needs. Mother agreed and understood the importance of this recommendation. Monitoring of the mother's Upper Arm Circumference (LILA) and Body Weight (BW) was conducted, with the LILA reaching 21 cm. The mother was also reminded about pregnancy danger signs and the

importance of taking Fe Tablets and Vitamin B complex, which was understood and followed by the mother.

Finally, the mother is advised to have regular antenatal check-ups to monitor the health progress of the pregnancy. The mother understands the importance of these regular check-ups and is willing to carry them out.

Table.1 Past History Of Pregnancy, Childbirth and Puerperium

Pregnancy		Labor				
Year	Aterm	Type of labor	Helper	JK	BBL/PBL	Circumstances
2017	Aterm	Spontaneous	midwife	L	3500gr/45 cm	Live
2020	Aterm	Spontaneous	midwife	L	2700gr/46 cm	Live
2023	Pregnancy now					

Source: Primary Data, 2022

DISCUSSION

Subjective Data

These results show that Mrs. "I" underwent pregnancy with good health conditions and without complications regarding the healthy health of pregnant women without a history of serious illness. Strong fetal movements and the absence of abdominal pain indicate normal fetal development.

Mrs. "I"'s pregnancy with a current gestational age of about 8 months showed satisfactory results without any serious complications. Strong fetal movements and absence of significant abdominal pain indicate that the fetus is developing well. The absence of a history of allergies or the use of non-prescribed drugs also supports optimal maternal and fetal health (Suhartini et al., 2023).

Mrs. "I's" clean medical history of chronic and infectious diseases supports the finding that good maternal health contributes to a positive pregnancy outcome.

Mrs. "I"'s medical history, which showed no serious health problems, as well as a good reproductive history with no complications during previous pregnancies, supported a stable and optimal health status in the current pregnancy. Good family support, including decisions made by the husband and prayers from the family, indicates a favorable environment for maternal and fetal well-being (Hutahaean et al., 2020).

Overall, the data showed that Mrs. "I" had a healthy and stable pregnancy, with good attention to basic needs and positive psychosocial support. Regular monitoring and evaluation was still required to ensure that the pregnancy progressed well until delivery. Mrs. "I"'s medical history, which was free from diabetes mellitus (DM), heart disease, hypertension, and kidney disorders, as well as the absence of a history of infectious diseases and hospitalization, indicated that the mother was in a stable health condition (Rizki, 2023). This is important to ensure that the pregnancy goes well without the risk of complications that could affect the mother or fetus.

Mrs. "I"'s reproductive history showed a normal menstrual cycle with menarche at 14 years old and no reproductive disorders. Previous normal pregnancies and spontaneous labor also showed that the mother's reproductive system was functioning properly. The use of 3-month injectable contraceptives since 2015 shows the mother's awareness of family planning and reproductive health (Fikayanti U.S et al., 2024).

Psychosocial, economic and spiritual aspects also play an important role in maternal health during pregnancy. A planned pregnancy, harmonious family relationships, and strong spiritual support from the family can improve the mother's emotional and mental well-being. Decision-making by the husband indicates the distribution of responsibility within the family, which can influence planning and preparedness for childbirth.

Meeting basic needs such as adequate nutrition, adequate hydration, and changes in elimination habits and personal hygiene during pregnancy are important indicators of maternal well-being. Well-met nutritional needs support maternal health and fetal development, while changes in elimination habits can be adapted to physiological changes during pregnancy.

Personal hygiene habits that are adapted to the conditions of pregnancy show maternal concern for personal health. A decrease in the frequency of bathing and shampooing during pregnancy may be influenced by the mother's comfort and energy levels, but should still be monitored so as not to

impact on skin health and personal hygiene (Altahira et al., 2022). Overall, the data showed that Mrs. "I" had a good and stable pregnancy, with attention to basic needs and support from family. Regular evaluation and health monitoring is still required.

Objective Data

Based on the results of the physical examination of Mrs. "I" at Puskesmas Wajo, it was found that the general condition of pregnant women was in good condition. Composmentis consciousness shows that the mother is fully conscious and able to interact well during the examination. The increase in body weight from 40 kg before pregnancy to 46 kg during the examination showed a normal increase in body weight during pregnancy, in accordance with the recommendations for weight gain in pregnancy based on Body Mass Index (BMI) before pregnancy.

The mother's vital signs, such as blood pressure 120/80 mmHg, body temperature 36.5°C, pulse 80 beats per minute, and respiration 20 beats per minute were within normal limits. This indicates that the mother did not have hypertension or hypotension, fever, or abnormalities in the cardiovascular and respiratory systems (Jannah, 2022). Body Mass Index (BMI) of 21.58 indicates good maternal nutritional status, important to support optimal fetal development (Widodo, 2019).

Physical examination through inspection, palpation, auscultation, and percussion revealed no significant abnormalities in various parts of the mother's body. In the head, face, eyes, nose, mouth, teeth, ears, and neck, no signs of abnormality such as enlarged glands, infection, or swelling were found. (Khairani et al., 2024).

Abdominal examination using the Leopold method confirms the position and weight of the fetus appropriate for gestational age. A clear and regular fetal heart rate (DJJ) with a frequency of 140 times per minute indicates good fetal health.(Wulandari et al., 2021)

The ultrasound results support the physical findings by showing a normal and healthy fetus. Blood tests, including hemoglobin, HIV, HBsAg, and syphilis tests, showed that the mother had no anemia or infections that could jeopardize the pregnancy. Mild edema of the lower extremities is a common finding in late pregnancy, and no significant varicose veins were found.

Overall, the examination results showed that both mother and fetus were in good health. A comprehensive physical examination and monitoring of vital signs are essential in ensuring maternal and fetal health during pregnancy, as supported by obstetric literature that shows the importance of routine and thorough antenatal examinations (Rahayu, 2023).

Analysis

Based on the subjective and objective data collected, the actual diagnosis of Mrs. "I" was the third pregnancy without a history of miscarriage (G3P2A0) with a gestational age of approximately 38 weeks. The mother felt strong fetal movement on the right side of her abdomen, did not experience severe abdominal pain during pregnancy, did not take drugs without a doctor's prescription, and had no history of allergies. She had also received tetanus toxoid immunization since her first pregnancy.

Physical examination showed the mother's general condition was good with compos mentis consciousness, normal vital signs, height 143 cm, weight 46 kg, upper arm circumference 19 cm, and body mass index of 44.43 grams. The results of the Leopold examination showed a fundus uteri height of 30 cm, the fetus with the left back, head presentation, and the lowest part of the fetus had not entered the pelvis. The fetal heartbeat was clear, strong, and regular with a frequency of 140 beats/minute.

This diagnosis indicates a single fetus living intrauterine with good fetal condition, but the mother has chronic energy deficiency (CED). SEZ in pregnant women is a serious condition that can impact maternal health and fetal development. With an upper arm circumference value below the standard (<23.5 cm), which in this case is 19 cm, indicates that the mother is not getting enough nutrients to meet her energy needs during pregnancy.

SEZ can lead to various complications such as the risk of premature birth, low birth weight (LBW), and impaired fetal growth. Fetuses exposed to malnutrition during pregnancy are also at risk of long-term health problems, such as metabolic disorders and cognitive development.

Management

On February 20, 2024, a series of health care activities were carried out for pregnant women with chronic energy deficiency (CED). The provision of information about SEZ and good fetal

condition shows the success of communication, which emphasizes the importance of understanding the health condition by the patient.

Education on nutrition, personal hygiene, and rest is in line with WHO recommendations on comprehensive health education for pregnant women. Discussion of the ten danger signs of pregnancy was appropriate, emphasizing the importance of early detection education. Recommended knee chest position and ultrasound examination as well as Folamil Genio vitamins and calcium.(Khairani et al., 2024)

Counseling on postpartum family planning and exclusive breastfeeding, as well as establishing a visit schedule, reflected the recommendations. Explanation of the impact of SEZ and advice to improve diet, monitoring of upper arm circumference (LILA) and maternal weight showed consistent improvement.

CONCLUSION

Based on the midwifery care that has been provided and the discussion of midwifery care for pregnant women on Mrs. "I" G3P2A0 with Chronic Energy Deficiency (SEZ) at Puskesmas Wajo, Baubau City, which includes seven Varney steps, it can be concluded that the identification of basic data, diagnosis of actual and potential problems, and immediate action have been carried out comprehensively.

The formulated care plan was well implemented, and the midwifery care process demonstrated effective monitoring and evaluation. The evaluation results showed that the approach met the midwifery care needs of patients with SEZ, supported the success of the intervention, and provided a clear picture of the impact of care on the health of pregnant women at the Wajo Health Center.

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