

THE DEVELOPMENT OF A PLANT-BASED DIET AS MIDWIFERY CARE MANAGEMENT FOR FIRST-TRIMESTER PREGNANT WOMEN WITH HYPEREMESIS GRAVIDARUM

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ABSTRAK PENGEMBANGAN PLAN BASED DIET SEBAGAI MANAJEMEN ASUHAN KEBIDANAN PADA IBU HAMIL TRIMESTER I DENGAN HIPEREMESIS GRAVIDARUM

Latar Belakang: Kehamilan merupakan suatu perubahan yang dialami oleh ibu selama kehamilannya. Oleh karena itu, asuhan yang diberikan kepada ibu hamil harus asuhan yang bisa meminimalkan intervensi. Bidan harus bisa memfasilitasi asuhan kepada ibu hamil yang bisa memberikan kenyamanan terhadap ibu hamil. Dimana peristiwa yang terjadi pada seorang wanita, dimulai dari proses fertilisasi (konsepsi) sampai bayi lahir. Proses ini menyebabkan perubahan fisik, mental, dan sosial yang memberikan efek maupun dampak yang berbeda pada setiap wanita hamil. Hiperemesis gravidarum merupakan suatu keadaan terjadinya mual muntah yang berlebihan, berlangsung kurang lebih 10 kali dalam 24 jam sehingga pekerjaan sehari-hari terganggu dan keadaan umum menjadi buruk. Hiperemesis gravidarum yang merupakan komplikasi ibu hamil muda bila terjadi terus menerus dapat mengakibatkan dehidrasi, ketidakseimbangan elektrolit, serta dapat mengakibatkan cadangan, karbohidrat dan lemak habis terpakai untuk keperluan energi. Sehingga untuk memenuhi kebutuhan energi maka ibu hamil memerlukan Plan Based Diet, dimana diet ini harus memenuhi nutrisi yang dibutuhkan oleh tubuh seperti : Asam folat, Kalsium, Zat besi, Protein, kacang – kacangan, menghindari makanan yang mengandung tinggi merkuri, dan harus mengetahui makanan apa yang harus dihindari / tidak boleh dikonsumsi Ibu hamil

Tujuan : Penelitian ini bertujuan untuk menganalisis Pengembangan Plan Based Diet sebagai Manajemen Asuhan Kebidanan pada ibu hamil trimester satu dengan Hiperemesis di Wilayah Kerja Puskesmas Paspan Kabupaten Banyuwangi.

Metode: Jenis penelitian yang digunakan dalam penelitian ini adalah quasi experimental dengan pendekatan post test only non equivalent control group dimana kelompok intervensi dan kelompok kontrol tidak dipilih secara random dan pengukuran dilakukan pada pre dan post intervensi dengan Jumlah sampel 60 responden ibu hamil di Wilayah Kerja Puskesmas Paspan. Metode Penelitian yang digunakan dalam penelitian ini adalah quasi experimental dengan pendekatan post test only non equivalent control group dimana kelompok intervensi dan kelompok kontrol tidak dipilih secara random dan pengukuran dilakukan pada pre dan post intervensi. Analisis yang digunakan univariate dan bivariate, dengan uji statistik menggunakan Uji Paired Sampel T Test /Uji Wilcoxon dengan SPSS versi 25.

Hasil: Hasil analisis dari Post Test Control didapatkan skor Hiperemesis Ringan 70%, Sedang 20% dan Berat 10% sedangkan hasil dari Post Test Intervensi didapatkan skor Hiperemesis Ringan 33%, Sedang 30% dan Berat 11%. Dengan nilai analisis dari Post Control nilai $Z = 3,162$ dengan tingkat signifikan 0,002 dan Post Intervensi nilai $Z = 4.443$ dengan tingkat signifikan 0,000. Sehingga dari data yang sudah diperoleh maka terdapat pengaruh Pengembangan Plan Based Diet sebagai Manajemen Asuhan Kebidanan pada ibu hamil trimester I dengan Hiperemesis.

Kesimpulan : Terdapat hubungan yang signifikan antara Pengembangan Plan Based Diet sebagai Manajemen Asuhan Kebidanan pada ibu hamil trimester I dengan Hiperemesis Sehingga diharapkan ibu hamil dengan hiperemesis dapat memahami kebutuhan nutrisinya dan untuk memenuhi kebutuhan nutrisi maka ibu hamil memerlukan Plan Based Diet, dimana diet ini harus memenuhi nutrisi yang dibutuhkan oleh tubuh seperti : Asam folat, Kalsium, Zat besi, Protein, kacang – kacangan, menghindari makanan yang mengandung tinggi merkuri, dan harus mengetahui makanan apa yang harus dihindari / tidak boleh dikonsumsi Ibu hamil.

Saran : Melakukan Kerjasama dengan Puskesmas – Puskesmas dalam melakukan Sosialisasi tentang Plan Based Diet guna untuk memenuhi kebutuhan nutrisi ibu hamil yang mengalami Hiperemesis, sehingga ibu hamil dapat menjalani kehamilannya dengan sehat tanpa adanya keluhan mual dan muntah.

Kata Kunci : *Trimester I, Hiperemesis, Diet*

ABSTRACT

Background: Pregnancy is a change experienced by the mother during her pregnancy. Therefore, care given to pregnant women must be taken to minimize intervention. Midwives must be able to facilitate care for pregnant women who can provide comfort to pregnant women. Where events occur in a woman, starting from fertilization (conception) until the baby is born. This process causes physical, mental and social changes that affect and impact every pregnant woman. Hyperemesis gravidarum is a condition where excessive nausea and vomiting occur approximately 10 times in 24 hours so that daily work is disrupted and the general condition worsens. Hyperemesis gravidarum, a complication for young pregnant women, if it occurs continuously, can result in dehydration, electrolyte imbalance, and carbohydrate and fat reserves being used up for energy needs. So to meet energy needs, pregnant women need a Plan Based Diet, where this diet must meet the nutrients needed by the body such as Folic acid, calcium, iron, protein, and nuts, avoid foods that contain high levels of mercury and know what foods to eat, what should be avoided / should not be consumed by pregnant women.

Objective: This study aimed to analyze the development of a Plan Based Diet as Management of Midwifery Care for first-trimester pregnant women with Hyperemesis in the Paspan Community Health Center Working Area, Banyuwangi Regency.

Methods: The type of research used in this study was quasi-experimental with a post-test-only non-equivalent control group approach where the intervention group and control group were not randomly selected, and measurements were carried out at pre and post-intervention with a total sample of 60 pregnant women respondents in the Working Area of Paspan Community Health Center. The research method used in this study was quasi-experimental with a post-test-only non-equivalent control group approach where the intervention group and control group were not randomly selected, and measurements were made pre and post-intervention. The analysis was univariate and bivariate, with statistical tests using the Paired Samples T Test / Wilcoxon Test with SPSS version 25.

Results: The results of the analysis from the Post Test Control obtained a Mild Hyperemesis score of 70%, Moderate 20% and Severe 10%, while the results of the Post Test Intervention obtained a Mild Hyperemesis score of 33%, Moderate 30% and Severe 11%. The analysis value of Post Control Z value = 3.162 with a significant level of 0.002 and Post Intervention Z value = 4.443 with a significant level of 0.000. So, from the data obtained, there is an influence on the Development of a Plan Based Diet as Midwifery Care Management for pregnant women in the first trimester with hyperemesis.

Conclusion: There is a significant correlation between developing a Plan Based Diet as Midwifery Care Management for pregnant women in the first trimester and hyperemesis. So it is hoped that pregnant women with hyperemesis can understand their nutritional needs and to meet nutritional needs, pregnant women need a Plan Based Diet, where this diet must meet nutrients needed by the body such as Folic acid, calcium, iron, protein, nuts, avoiding foods that contain high levels of mercury, and you must know what foods pregnant women should avoid/not consume.

Suggestion: Collaborate with Community Health Centers in outreach about Plan Based Diet to meet the nutritional needs of pregnant women who experience hyperemesis so they can carry out their pregnancies healthily without complaints of nausea and vomiting.

Keywords: *first-trimester, hyperemesis, diet*

INTRODUCTION

Pregnancy is an event that occurs in a woman, starting from the process of fertilization (conception) until the baby is born. This process causes physical, mental, and social changes that affect each pregnant woman differently. Discomfort often experienced by pregnant women, especially in the first trimester of pregnancy, ranges from nausea and vomiting (Emesis Gravidarum) to excessive nausea and vomiting (Hyperemesis Gravidarum). Hyperemesis gravidarum is a condition where excessive nausea and vomiting occur more than 10

times in 24 hours, disrupting daily activities and deteriorating general health (Runiari, 2010). Hyperemesis gravidarum, a complication in early pregnancy, if it continues, can lead to dehydration, electrolyte imbalance, and the depletion of carbohydrate and fat reserves for energy needs. Therefore, to meet energy needs, pregnant women require a Plant-Based Diet. This diet must meet the body's nutrients, such as Folic acid, Calcium, Iron, Protein, and Legumes. It should also avoid foods that contain high levels of mercury and know what foods should be avoided / not consumed (Almatsier, 2011).

A characteristic of the hyperemesis diet is an emphasis on providing complex carbohydrates, especially in the morning and avoiding fatty foods and fried foods to suppress nausea and vomiting. It is best to space out meals and drinks (Almatsier, 2011). The diet in hyperemesis gravidarum aims to replace the body's glycogen stores and gradually provide energy-rich food and adequate nutrients. The hyperemesis gravidarum diet has levels corresponding to the severity of the hyperemesis (Almatsier, 2011). A study shows that only 2% of pregnant women feel nauseous in the morning, while 80% have continuous complaints throughout the day. 8.6 million pregnant women lose work hours due to excessive nausea and vomiting. In 2011, the incidence of hyperemesis gravidarum in East Java Province reached 10-15% of the total number of pregnant women, as many as 182,8154 people. Data from WHO (World Health Organization) estimates that there are 210 million pregnancies worldwide each year. In 2020, the number of pregnant women in Indonesia increased to about 271,066,000 people. Data from Banyuwangi Regency in 2020 shows that K1 service coverage was as many as 22,799 (93.8%) out of a target of about 4,3111 (DinKes, 2020). A study was also conducted at NU Mangir Hospital with 44 pregnant women who experienced hyperemesis gravidarum. It was found that more than half of the sample, 23 people (52.3%), had fluid balance disorders, 14 people (31.8%) had nutritional disorders, and 7 people (15.9%) had hyperthermia (Raharjo & Hakim, 2021). Hyperemesis gravidarum can endanger health, causing weight loss of more than 5%, metabolic disorders, and other complications such as dehydration, weakness, and malnutrition. Nausea results from increased estrogen levels; the rise in estrogen hormones causes the smooth muscles in the digestive tract to decrease their activity, reducing gastric motility and slowing gastric emptying. Oesophageal reflexes, decreased gastric motility and high hydrochloric acid secretion also contribute to nausea and vomiting (Latifah, Setiawati, & Hapsari, 2017). Hyperemesis gravidarum is caused by the bacterium *Helicobacter pylori*, so a test for the presence of *Helicobacter pylori* should be conducted. If the result is positive, treatment can be given with an H2 blocker (cimetidine) or an inhibitor (omeprazole) (Fauziah, 2012). Pregnant women who experience nausea and vomiting can be given education about nutrition and diet planning, such as regulating food and drink intake in small but frequent portions (throughout the day). The food should be high in carbohydrates and low in fat and acid (Proverawati & Asfuah, 2009). It is recommended to frequently eat snacks, nuts, and

biscuits. In addition, electrolyte replacement drinks and nutritional supplements are advised to maintain electrolyte balance and adequate calorie intake (Damayanti, 2021). Nausea and vomiting are common disturbances in the first trimester of pregnancy. There are several ways to reduce nausea and vomiting, such as consuming sugarcane water (Wardani, 2020). If the smell of freshly cooked (hot) food can trigger vomiting, it is advisable to always have cold food available. Education about lifestyle can also help prevent stress, and rest can reduce vomiting. Emotional support is also important to prevent hyperemesis gravidarum from worsening, and the mother should follow a hyperemesis gravidarum diet to fulfil her nutritional status (Sharoon & Reeder, 2011). It is also supported by (Evayanti, 2015), who stated that the knowledge of pregnant women will also affect Antenatal Care (ANC) visits, so if the mother's knowledge is lacking, information related to the complaints felt about nutrition in pregnant women and the current nutritional status of the mother will also be limited. One way to determine the nutritional status of pregnant women is by measuring Body Mass Index (BMI), which provides an understanding of a person's nutritional status obtained from comparing weight and height. (Sharoon & Reeder, 2011). Diet planning for pregnant women experiencing hyperemesis is expected to mitigate the impact of this condition, namely the decrease in Body Mass Index (BMI) in pregnant women (Sharoon & Reeder, 2011).

RESEARCH METHODS

The type of research used in this study is quasi-experimental with a pre-post test only non-equivalent control group approach, where the intervention and control groups are not chosen randomly. Measurements are taken pre and post-intervention (Wood & Haber, 2010). The target population in this study was all 62 pregnant women in the first trimester in the Paspas Community Health Center working area. The sample in this study was 60 pregnant women in the first trimester who experienced hyperemesis gravidarum, where the sample would be divided into 2 groups, namely 30 people in the control group and 30 people in the intervention group. In this research, non-probability sampling techniques were used with purposive sampling (Nursalam, 2013). This research instrument uses [1] the PUQE (Pregnancy-Unique Quantification of emesis and nausea) observation sheet to measure the level of nausea and vomiting of pregnant women which consists of 6 questions and a reliability validity test has been carried out with results $r > 0.4$ on all question items which means all

valid question, [2] plan based diet development module. This instrument was used during data collection on July 14-24 in the control group and intervention group. After data collection, the questionnaire was analyzed as initial data for data grouping. After that, the researcher intervened in the intervention group and the final step in this questionnaire was to collect post-intervention data in the intervention group and control group on August 14. Data analysis in this study used the Wilcoxon statistical test, because the results of the data normality test were 0.000, so it was concluded that the data was not normally distributed.

RESULTS AND DISCUSSION

Univariate Analysis

Table 1 mentions that most respondents are in their mid-adulthood (20-35 years old), which is 62% or 37 respondents. Regarding parity, most occur in the second pregnancy, which is 46% or 28 respondents. As for occupation, it was found that most respondents work as private employees, 50% or 30 respondents. Regarding education, most of the respondents have a high school education, accounting for 33% or about 20 people.

Table 1
Respondent Characteristics Data (N=60)

Characteristic	Total	Percentage (%)
Respondent's Age		
<20 Years	17	28
20 - 35 Years	37	62
≥ 35 Years	6	10
Parity		
The First Pregnancy	25	42
The Second Pregnancy	28	46
≥ 3 Third Pregnancy	7	12
Occupation		
Housewives	18	30
Civil Servants	3	5
Private Employees	30	50
Merchants	9	15
Farmers	0	0
Education		
Not completed in primary school	3	5
Elementary School	16	27
Junior High School	12	20
Senior High School	20	33
University	9	15

Source: primary data 2023

Bivariate Analysis

Table 2
Respondent data before and after intervention in the control group and intervention group

Indicator	Intervention Group	
	Pre	Post
Mild	3	21
Moderate	9	6
Severe	18	3

Source: primary data 2023

Table 2 mentions that the majority of the intervention group, before treatment, experienced

severe hyperemesis with a total of 18 people, and after treatment, this number decreased to 3 people. Meanwhile, in the control group before treatment, most respondents experienced severe hyperemesis with 17 people. The condition after analysis was not much different, with 11 people.

Indicator	Control Group	
	Pre	Post
Mild	6	10
Moderate	7	9
Severe	17	11

Source: primary data 2023

Table 3

Results of Statistical Analysis on the Development of Plan-Based Diet as Midwifery Care Management for first-trimester pregnant women with hyperemesis in the Working Area of Paspan Banyuwangi Community Health Center

	Post Test Control – Pre Test Control	Post Test Intervensi – Pre Test Intervensi
Z	-3.162 ^a	-4.443 ^a
Asymp. Sig. (2-tailed)	.002	.000

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

From the research results, the post-test results in the control group showed that 70% of respondents experienced mild hyperemesis, 20% moderate, and 10% severe. Meanwhile, the post-test results in the intervention group showed that 33% of respondents experienced mild hyperemesis, 30% moderate, and 11% severe. The data analysis results using the Wilcoxon test found significant values of 0.002 in the control group and 0.000 in the intervention group. The interpretation of these research results shows a significant effect of developing a plan-based diet as Midwifery Care Management for first-trimester pregnant women with Hyperemesis Gravidarum.

DISCUSSION

Plan-Based Diet as Management of Midwifery Care for First Trimester Pregnant Women with Hyperemesis in the Control Group.

The results of this study show that in the pre-test condition of the control group, 10% of respondents had mild hyperemesis, 30% moderate, and 60% severe hyperemesis. Meanwhile, in the post-test condition of the control group, 70% of respondents had mild hyperemesis, 20% moderate and 10% severe hyperemesis.

Hyperemesis gravidarum is a condition where there is excessive nausea and vomiting, occurring more than 10 times in a 24-hour period so that daily activities are disrupted and general conditions become poor. Discomfort often occurs in pregnant women, especially in the first trimester of pregnancy, ranging from nausea and vomiting (Emesis Gravidarum) to excessive nausea and vomiting (Hyperemesis gravidarum).

Based on the research by (Hasibuan, et al., 2021) stated that hyperemesis gravidarum requires immediate action, which includes: providing health education about a diet consuming high-protein, low-fat foods, and eating food in small portions but often increasing the consumption of mineral water, advising mothers to get enough rest, and consuming

vitamin B6 to prevent nausea and vomiting. According to (Umaroh, Kumalasari, & Wigati, 2023) nausea and vomiting can be addressed by using the ginger oil therapy method, where this ginger oil can also reduce the consistency and frequency of nausea and vomiting experienced by pregnant women.

Plan-Based Diet as Management of Midwifery Care for First Trimester Pregnant Women with Hyperemesis in the Intervention Group.

The results of this study show that in the pre-test condition of the intervention group, 20% of respondents experienced mild hyperemesis, 23% moderate, and 57% severe hyperemesis. Meanwhile, in the post-test condition of the intervention group, 33% of respondents experienced mild hyperemesis, 30% moderate and 11% severe hyperemesis.

Hyperemesis gravidarum is a complication in early pregnant women that can lead to dehydration and electrolyte imbalance if it continues. It can also result in reserves of carbohydrates and fats being used up for energy. Therefore, to meet energy needs, pregnant women require a Plan Based Diet. This diet must meet the nutrients the body needs, such as Folic acid, Calcium, Iron, Protein, and Legumes - avoiding foods high in mercury - and knowing what foods should be avoided / not consumed.

Research by (Susanti, Firdayanti, & Haruna, 2019) showed that mothers who experience hyperemesis gravidarum will experience vomiting approximately 10 times a day, so the mother's activities and general condition will be disturbed, the mother will be in a state of nausea and vomiting if given food then the mother will vomit all the food that has been eaten so that the mother will feel lazy, weak and also feel heartburn. According to (Safitri & Triana, 2021), a subjective examination is required, and objective data is also required so that after the data is collected, you can determine a diagnosis according to the patient's condition. Patients who

have received the examination will be able to understand their condition and will accept and implement the recommendations and information given. According to (Rahma & Safura, 2016), hyperemesis gravidarum is a pregnancy complication requiring direct handling, both systematically and based on evidence. Midwifery care carried out through the Varney management approach can be considered systematic care. Patients will be able to feel if the care performed every day is a necessity, not just a routine. (Terengganu, Azrida M, & Thamrin, 2021) Stated that nausea and vomiting can be overcome by providing appropriate treatment, one of which is by giving light medication to treat nausea and vomiting, carrying out regular ANC checks, and recommending a diet. (Sebastiani, et al., 2019) Diet is one of the factors related to lifestyle that is most significant in determining a person's condition and can also influence offspring to develop disease. Meanwhile, pregnancy is a very important window in the diet process, which will benefit the fetus's health later. During pregnancy, pregnant women choose to follow a vegetarian diet due to certain reasons. During the preconception period, nutrition in pregnant women must be adjusted properly because this is very important for creating a healthy pregnancy. (Attini, et al., 2017) A plant-based diet limited to protein and supplemented with supplements will prevent pregnant women from experiencing complications, such as proteinuria. (Zulyniak, et al., 2017) Pregnant women who eat a plant-based diet during pregnancy are also related to the baby's birth weight.

The Development of Plan Based Diet as Management of Midwifery Care for First Trimester Pregnant Women with Hyperemesis.

The statistical analysis results using the Wilcoxon test showed a significant value of 0.002 in the control group and 0.000 in the intervention group. The interpretation of the results of this research is that there is a significant influence of the development of a plan-based diet as Midwifery Care Management for pregnant women in the first trimester on Hyperemesis Gravidarum.

Pregnant women who experience nausea and vomiting can be given education about nutrition and diet planning, such as regulating food and drink intake in small portions but frequently (throughout the day). Food should be rich in carbohydrates and low in fat and acid (Walyani, 2015). Frequent snacks, nuts and biscuits, electrolyte replacement drinks, and nutritional supplements are recommended to maintain electrolyte balance and adequate calorie intake. If the smell of freshly cooked (hot) food can

trigger vomiting, it is recommended to always provide cold food. Education about lifestyle can also help prevent stress, and rest can reduce vomiting. Emotional support is also important to prevent hyperemesis gravidarum from getting worse, and the mother must undergo a hyperemesis gravidarum diet so that the mother's nutritional status remains met. According to the research result by (Attini, et al., 2022) states that a mother's diet that uses a diet with protein can be used by mothers who experience high-risk pregnancies. According to (Meulenbroeks, et al., 2021), nutritionists counsel pregnant women about a strict plant-based diet so they can have a healthy pregnancy. According to (wang et al., 2021), Pregnant women who eat plant-based foods during pregnancy will be beneficial for the condition of pregnant women, especially if it is done starting in mid-pregnancy. A diet that has been planned will ensure maximum results, and the mother's pregnancy will proceed healthily. (Jayedi, et al., 2023) Pregnant women should adhere more to a plant-based diet during the first trimester because the first trimester is likely to be associated with a lower risk of inadequate GWG. According to (MD, et al., 2023), if pregnant women adhere more to a planned plant-based diet, they will have a lower risk of experiencing hypertensive disorders during pregnancy. Most have a benefit related to improved weight control. And according to (Piccoli, et al.) A healthy diet for pregnant women during their pregnancy has been known for many years as a key to the well-being of both the mother and her fetus. Over time, an ideal dietary pattern is increasingly shifting from a low-risk eating pattern, and nutrient deficiencies will also reduce the risk of diseases associated with overeating. The rediscovery of vegetarian dietary patterns has received attention, especially as this diet can protect against chronic diseases or what can be called "overeating" in developed and developing countries, including cardiovascular disease, diabetes or obesity.

CONCLUSION

This research aimed to analyze the development of a Plan Based Diet as a management strategy for midwifery care in first-trimester pregnant women with hyperemesis in the Paspan Community Health Center, Banyuwangi Regency working area. To determine the influence of developing a Plan Based Diet as a management strategy for midwifery care in first-trimester pregnant women with hyperemesis, it can be concluded that there is a lack of understanding about nutrition consumed by pregnant women, as long as the mother still

experiences hyperemesis and what foods can reduce nausea.

Efforts to overcome this condition include providing care to pregnant women by implementing a Plan Based Diet for 2 weeks, where pregnant women carry out a healthy diet by consuming high plant and animal proteins. In its implementation, there will be assistance from health workers.

SUGGESTION

Cooperating with Community Health Centers to socialize the Plan Based Diet to meet the nutritional needs of pregnant women experiencing hyperemesis so they can undergo their pregnancy healthily without hyperemesis complaints. By undergoing a healthy pregnancy, the delivery process is expected to go smoothly with both mother and baby in good health.

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