

**The Effectiveness of Educational Booklets for Pregnant Women with Hyperemesis  
Grafidarum on Blood Sugar Levels While in the working area of the Belimbang  
Padang Health Center**

**Metri Lidya, Wiwi Sartika**

Health Polytechnic Padang Ministry of Health, Department of Nursing Pondok Kopi intersection, Siteba, Padang

**ABSTRACT**

Pregnancy is a reproductive process that needs special care in order to achieve safe and good delivery, giving birth to a healthy baby in hopes of lowering baby and mother mortality. Gravidarum hyperemesis is excessive nausea and vomiting that leads to fluid and electrolyte deficiencies, weight loss, aceonuria, and nutritional deficiencies. This feeling of nausea is caused by increased levels of the hormones estrogen and Chorionic Gonadotropin Hormone (HCG) in serum reduced gastric changes (Ministry of Health, 2013). One of the predisposing factors associated with the increased risk of morning sickness and physiological hyperemesis is not yet clear, and the central nervous system or emptying of gravidarum is gestational diabetes mellitus at knowing the effectiveness of booklet-based education in mothers with hyperemesis Grafidarum to temporary blood sugar levels in kuranji village in the working area of Public health center Belimbang Padang.

The type of research is a Pre – Experimental Design with the One - Group Pretest and Posttest Design. Analyzing the Application of Booklet-Based Education Model in Pregnant Women with Grafidarum Hyperemesis on temporary Blood Sugar Levels in Kuranji Village Padang.

Data is processed by editing, coding, entry, cleaning and analyzed by univariate and bivariate . More than half (55%) of pregnant women experienced moderate levels of hyperemesis, and 65% of blood sugar levels of pregnant women with hyperemesis were in abnormal conditions before given the booklet education. Most (70%) of pregnant women's blood sugar levels are within normal limits after given the educational booklets. Bivariate analysis showed that educational booklet about hyperemesis has an influence on the blood sugar levels of pregnant women in the working area of The Belimbang public Health Center.

**Keywords:** Pregnancy, Hyperemesis Gravidarum, temporary Blood sugar levels

**INTRODUCTION**

Achieving safe and good delivery in giving birth to a healthy baby is the hope of every pregnant woman. Pregnancy starts from ovulation to parturition about 280 days (40 weeks). (Fitrina, 2014). Occurs due to levels of the hormone estrogen, Progesterone and Human Chorionic Gonadotropin (HCG) which increases in the blood causes smooth muscles in the gastrointestinal system to relax so that motility decreased gastric emptying and slowed gastric emptying. esophageal reflux, and decreased Hydrochloric acid secretion also contributes to nausea and vomiting. Mild nausea and vomiting are common and a very common condition normal in early pregnancy. if it occurs in excess, it will have an impact on the pathology.

Hyperemesis Gravidarum is excessive nausea and vomiting that causes fluid and electrolyte deficiencies, weight loss, acetonuria, and nutritional deficiencies and it affects 50%

to 80% of pregnant women, occurs only in an average of 1% to 2% pregnancy (Reeder, Martin & Koniak-Griffin, 2015), worldwide with incidence from 1-3% , in Indonesia, 0.3% Prevalence is 0.5-2% , the general incidence ratio is 4:1000 pregnancies. Complaints of nausea and vomiting occur in 60-80% of primigravida and 40-80% of primigravida. 60% multigravida.

One of the predisposing factors associated with an increased risk of morning Sickness and physiological hyperemesis of this hormone increase is Gestational Diabetes Mellitus is a normal pregnancy accompanied by an increase in insulin resistance (pregnant women fail to maintain euglycemia). In this group, the condition of diabetes is experienced temporarily for gestation period. This means that the condition of glucose intolerance was first found during the period of pregnancy. The complication is hypoglycemia, which is one of the most common conditions aggravate the first trimester pregnant women, especially during hyperemesis gravidarum (Manuaba, 2013) , glucose levels will fall between 55-65% and this is a response to transport of glucose from mother to fetus. (Manuaba, 2013), causes a decrease in appetite eating, lack of nutritional intake for pregnant women because of everything they eat and drink all vomited so that blood pressure drops and blood sugar levels when decreased and can cause anemia and hypoglycemia can cause bleeding then shock and worse is the death of the mother.

This is because the mother's knowledge is still minimal about hyperemesis gravidarum, especially in terms of initial management, so the mother is at risk of experiencing this complaint (Fitrina, 2014). Booklets are one way to increase knowledge containing hyperemesis gravidarum materials as a very useful guide for pregnant women with this condition.and also used for daily guidance (Contento, 2010).

The working area of the Belimbang Padang Health Center, there are as many as 240 patients Hyperemesis Gravidarum who was referred to a hospital in the city of Padang. every year experienced an increase, namely as many as 248 patients who were referred to hospitals in Indonesia city of Padang Data from the registration of the last 3 months of Belimbang Padang Health Center is recorded A total of 61 Hyperemesis Gravidarum patients were referred to hospitals in the city field. Patients with Hyperemesis Gravidarum who were treated were mostly grade II (moderate) and level III (Weight).

Based on the above background, we conducted research on the Effectiveness Educational Booklet for Pregnant Women with Hyperemesis Grafidaram on Blood Sugar Levels While . The aim is to determine the effectiveness of the Education Booklet for Pregnant Women by Hyperemesis Grafidaram on Blood Sugar Levels While in Kuranji Village in the Region The work of the Belimbang Padang Health Center in 2018. The benefits of this research are: Increase knowledge about hyperemesis gravidarum on blood sugar levels time so that it can improve the degree of better health, Giving booklet to be read by patients pregnant women in the first trimester, for directions for patients who visit Public health center, institution or place of

research on the relationship between blood sugar levels while at pregnant women with hyperemesis gravidarum in the village of Kuranji Belimbing Padang so that easier to carry out the program of institutional activities.

## **RESEARCH METHODS**

The type of research used is Pre - Experimental Design. Design One -Group Pretest - Posttest Design analyzes the Effectiveness of Educational Booklets for Pregnant Women with Hyperemesis Grafidaram on Blood Sugar Levels While in the working area of the puskesmas belimbing Padang

The population of this study were all patients of pregnant women in the 1st trimester and the sample The patient is a pregnant woman in the 1st trimester who was diagnosed with hyperemesis gravidarum which totaling 20 people. The sampling technique was carried out by purposive sampling.

Methods of data collection for the number of pregnant women in the first trimester and maternal data with hyperemesis gravidarum obtained through medical data from Kuranji Padang Village. Data on blood sugar levels when obtained through examination of blood sugar levels while at work 1st trimester pregnant women with hyperemesis gravidarum who come for a check-up and grouped based on blood sugar levels at the time to get distribution data which will be presented in tabular form.

Data processing will be carried out in a computerized manner with the stages of Editing,Coding ,Entry , Cleaning , the collected data is processed using a computer analyzed univariately and bivariately using T-Test. The results of the analysis are said meaningful if the value of  $p < \alpha$  and said to be meaningless if  $p > \alpha$  with a value of = 0.05

## **RESEARCH RESULT**

Research has been carried out as many as 20 samples who have met the criteria listed below has been determined.

### **Univariate Analysis**

Based on the results of the study, the frequency distribution of the classification of pregnant women experiencing hyperemesis gravidarum with a Booklet-Based Educational. Model in the Belimbing Health Center's Working Area Padang 2018 can be seen in the table below:

1. Classification of pregnant women

Table 1

Frequency distribution of classification of pregnant women with hyperemesis gravidarum.

pregnant women	Frequency	%
Light	7	35
Currently	12	55
Heavy	2	10
Total	20	100,0

Based on the table above, it can be seen that most (55%) pregnant women moderate hyperemesis

## 2. Knowledge of pregnant women before education

Table 2

Frequency distribution of knowledge level of pregnant women with hyperemesis gravidarum

Mother's level of knowledge	Frequency	%
Low	11	55.0
Currently	3	15.0
high	6	30,0
Total	20	100,0

Based on the table above, it can be seen that more than half (55.0%) the level of knowledge of pregnant women who experience hyperemesis gravidarum is low

## 3. Attitude of pregnant women before education

Table 3

Frequency distribution of attitudes of pregnant women who experienced hyperemesis gravidarum before booklet education in the work area of the Belimbing Padang Health Center in 2018

Attitude of pregnant women	frequency	%
Negative	13	65,0
Positive	7	35.0
Total	20	100.0

Based on the table above, it can be seen that more than half (65.0%) of attitudes the respondent is negative

## 4. Knowledge of pregnant women after education

Table 4.

Frequency distribution of knowledge level of pregnant women with hyperemesis gravidarum after education

Mother's level of knowledge	Frequency	%
Low	5	25.0
Currently	2	15.0
High	13	65.0
Total	20	100.0

Based on the table above, it can be seen that more than half (65.0%) of the knowledge of pregnant women who experience high Hyperemesis gravidarum

##### 5. Attitude of pregnant women after education

Table 5.

Frequency distribution of attitudes of pregnant women who experience hyperemesis gravidarum after booklet education

Attitude of pregnant women	frequency	%
Negative	8	40,0
Positive	12	60.0
Total	20	100.0

Based on the table above, it can be seen that more than half (65.0%) of attitudes the respondent is negative

##### 6. Blood sugar levels of pregnant women before education

Table 6. Frequency Distribution before giving a Booklet-Based Educational Model about hyperemesis gravidarum

No	Sugar level blood	Total (n)	Percentage (%)
1.	Normal	7	35
2.	Not normal	13	65
Amount		20	100

In Table 6 before education, it was found that most or as many as 13 people (65%) blood sugar levels of pregnant women with hyperemesis are in abnormal conditions Blood

sugar levels of pregnant women after booklet education

Table 7.

Frequency distribution of blood sugar levels of pregnant women with hyperemesis grafidarum  
After implementation of booklet education

No	Sugar level blood	Total (n)	Percentage (%)
1.	Normal	14	70
2.	Abnormal	6	30
	Amount	20	100

In table 7, most of them are 14 people (70%) maternal blood sugar levels pregnant within normal limits after giving the education booklet

### Bivariate Analysis

Table 8

Distribution of Average Blood sugar levels of pregnant women with hyperemesis grafidarum

Variable	Mean	SD	SE	P Value	N
Blood sugar level	0.004		20		
Measurement I	121.75	16,108	3,602		
Measurement II	114.45	11,399	2,549		

In table 8 it is found that the average blood sugar level in the first measurement is 121.75 mg/dl with a standard deviation of 16.108 mg/dl. In the second measurement, the average sugar content was obtained blood was 114.45 mg/dl with a standard deviation of 11,399 mg/dl. Seen the mean difference between the first and second measurements was 7.3 mg/dl with a standard deviation of 10.01 mg/dl.

The results of statistical tests obtained p value of 0.004 then there is a significant difference between blood sugar levels in the first and second measurements. It can be concluded that there is an influence on blood sugar levels of pregnant women who suffer from hyperemesis grafidarum in the working area of the puskesmas belimbang field.

## DISCUSSION

Univariate .

The results of the study showed that most pregnant women in early pregnancy experienced moderate hyperemesis, knowledge of pregnant women can be seen that (55.0%) is low , the attitude of pregnant women is negative (65.0%) . Blood sugar level before giving Educational Model Based on the booklet, mostly 13 people (65%) have abnormal conditions, knowledge of pregnant women after education that (65.0%) is high, the attitude of pregnant women is positive (60.0%).

After the implementation of the booklet education, the majority or as many as 14 people ( 70 % ) blood sugar levels of pregnant women within normal limits.

Knowledge is the result of knowing, and this happens after people have sensed to a certain object. Sensing occurs through the senses of sight, hearing, smell, taste and touch. Cognitive knowledge is a very important dominant in shaping action (Notoatmodjo, 2014: 139).

Knowledge possessed by a person will affect the way that person thinks, where someone who has a high level of knowledge about hyperemesis grafidaram, they want to check blood sugar levels and are active in listen to education either from the Puskesmas or other health workers, while mothers those with low knowledge do not want to take education and check blood sugar levels.

Attitude is a reaction or response of someone who is still closed to something The stimulus or object and attitude cannot be directly seen, but can only be interpreted ahead of closed behavior. In everyday life attitude is a reaction which is emotional to social stimulation (Notoatmodjo, 200114:130).

Behavior is the second largest factor after environmental factors that influence individual, group or community health. Green in Notoatmodjo (2005: 130) states that the factors that influence behavior are predisposing factors (predisposing facto ) is a basic factor of motivation to act including: attitude, beliefs, perceptions, knowledge and others, enabling factors is a factor that allows an executor's motivation which includes the availability of human resource facilities and health services and the reinforcing factor is a factor that reinforce a person's behavior change include family support, economics, personal health workers, superiors and others.

## Bivariate Analysis

The average blood sugar level in the first measurement was 121.75 mg/dl with standard deviation 16.108 mg/dl. In the second measurement, the average blood sugar level was 114.45 mg/dl with a standard deviation of 11,399 mg/dl. It can be seen that the mean value of the difference between the first and second measurements were 7.3 mg/dl with a standard deviation of 10.01 mg/dl.

The results of statistical tests obtained p value of 0.004 then there is a significant difference between blood sugar levels in the first and second measurements. It can be

concluded that there is an influence on blood sugar levels of pregnant women who suffer from hyperemesis gravidarum in the working area of the puskesmas belimbing padang in 2018.

Before the booklet education was conducted, it was found that most of the 13 people (65%) blood sugar levels of pregnant women with hyperemesis are in abnormal conditions while 7 people (35%) were in normal condition. After giving the booklet education, most of 14 people (70%) blood sugar levels of pregnant women were within normal limits, while 6 people (30%) under abnormal conditions.

This proves that there is a difference in the value between the blood sugar levels of pregnant women and the condition of pregnant women hyperemesis before and after giving the booklet education and in accordance with the theory states that this feeling of nausea is caused by increased levels of Estrogen hormone and Chorionic Gonadotropin Hormone (HCG) in serum changes reduced stomach (Depkes RI, 2013).

Conventional counseling at Posyandu only provides material through lectures. Even though all of that is not enough, so it is necessary to add other efforts such as giving a educational media such as booklets. Education is expected to be more effective if it is added with educational media. The given booklet contains materials for hyperemesis gravidarum from various library sources as a guide during the extension and are also used for daily guidance (Contento, 2010) hyperemesis before and after giving the booklet education and in accordance with the theory states that this feeling of nausea is caused by increased levels of Estrogen hormone and Chorionic Gonadotropin Hormone (HCG) in serum changes reduced stomach (Depkes RI, 2013).

Conventional counseling at Posyandu only provides material through lectures. Even though all of that is not enough, so it is necessary to add other efforts such as giving a educational media such as booklets. Education is expected to be more effective if it is added with educational media. The given booklet contains materials for hyperemesis gravidarum from various library sources as a guide during the extension and are also used for daily guidance (Contento, 2010)

## CONCLUSIONS AND RECOMMENDATIONS

Statistical test results obtained p value of 0.004 then there is a significant difference between blood sugar levels in the first and second measurements so that there is an influence on blood sugar levels of pregnant women who suffer from hyperemesis gravidarum before and after an education booklet is carried out, hopefully it can be used as a guide to reduce sugar levels pregnant women's blood.

## BIBLIOGRAPHY

Aspiani, Reny Yuli. 2017. Textbook of Maternity Nursing Care Applications NANDA, NIC, and NOC. Jakarta : Trans Info Media.

- Ayu, Niwang. 2016. Obstetric pathology and pathophysiology. Yogyakarta : Nuha Medika.
- Bullechek, Gloria M. et al. 2016. Nursing Interventions Classification (NIC) sixth Edition. USA : Elsevier.
- Fitrina, Yossi. 2014. The Relationship of Anxiety Levels of First Trimester Pregnant Women with Incidence of Hyperemesis Gravidarum in the Work Area of the Palembayan Health Center, Jorong Koto Tinggi 2014. Retrieved 22 August 2017.
- Johnson. 2014. Maternity Nursing. Yogyakarta : Rapha Publishing.
- Moorhead, Marion, et al. 2016. Nursing Utcomes Classificatin (NOC) five Edition. USA : Elsevier.
- Nurarif, Amin Huda & Hardhi Kusuma. 2016. Practical Nursing Care Based on
- Nursalam. 2015. Research Methodology in Nursing: Practical Approach Ed. 3. Jakarta : Salemba Medika.
- Reeder, Martin & Koniak-Griffin. 2015. Maternity Nursing. Jakarta : EGC.
- RS. Dr. Reksodiwiryo Padang. 2017. Report on Hyperemesis Gravidarum Medical Record. Padang: Medical Records Section.
- Rukiyah, et al. 2014. Midwifery Care 1 Pregnancy. Yogyakarta : Trans Info Media. Runiari, Nengah. 2010. Nursing care for clients with hyperemesis gravidarum: Application of Nursing Concepts and Theories. Jakarta: Salemba Medika.
- Saryono and Mekar Dwi Anggraeni. 2013. Qualitative and Quantitative Research Methodology In the Health Sector. Yogyakarta : Nuha Medika.
- Sastri, Ms. 2013. Description of the Characteristics of Pregnant Women With Hyperemesis Gravidarum Di Siti Khadijah Islamic Hospital Palembang in 2013 . Retrieved 22 August 2017.
- Sugiyono. 2014. Quantitative, Qualitative, and R&D Research Methods. Bandung : Alphabeta.