

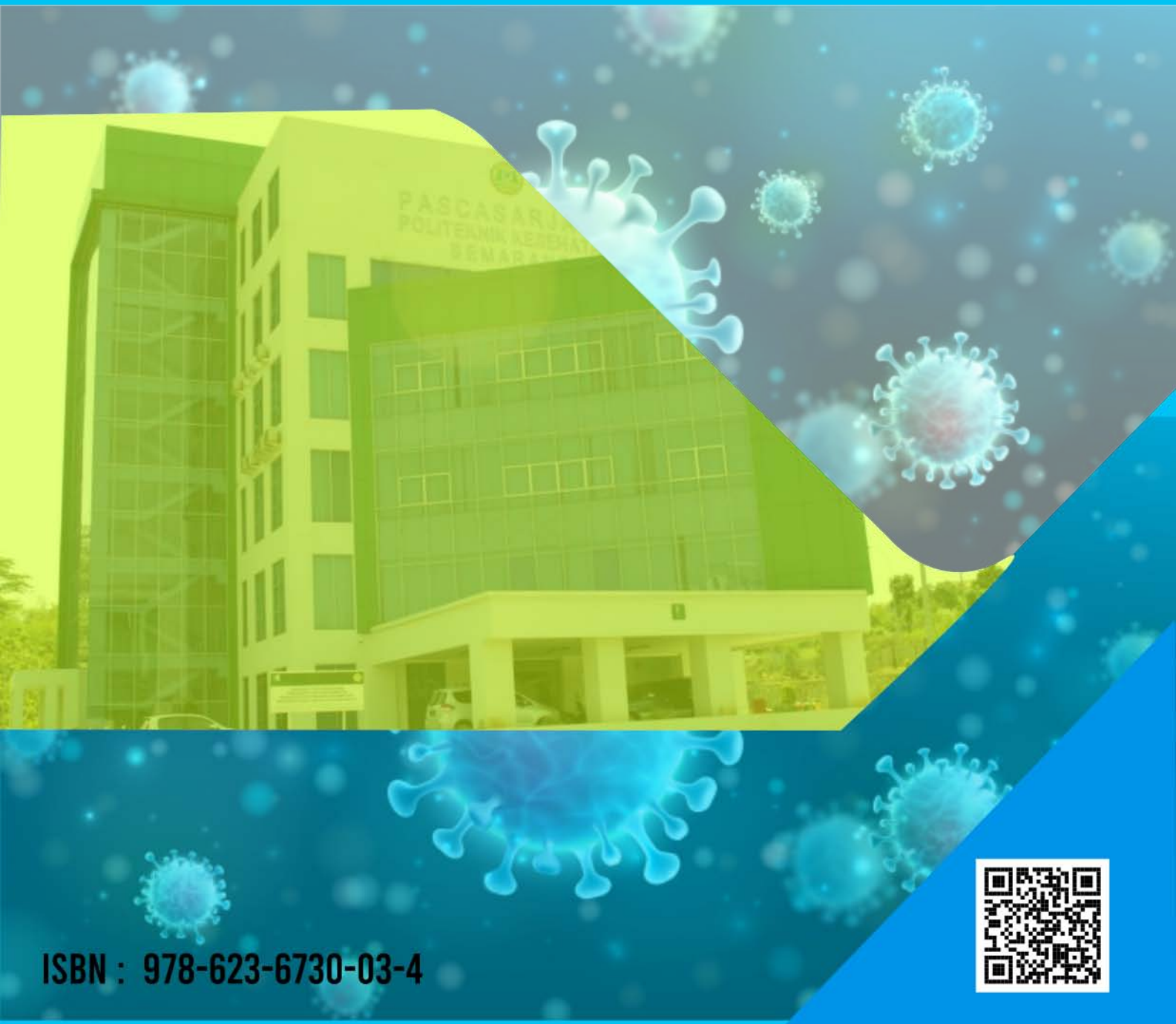


# 2nd INTERNATIONAL CONFERENCE POLTEKKES KEMENKES SEMARANG "ON HANDLING NON COMMUNICABLE DISEASES"

SEMARANG, 2-3 SEPTEMBER 2020



## PROCEEDINGS OF PAPERS



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**PROCEEDINGS**  
**2<sup>nd</sup> International Conference**  
**Poltekkes Kemenkes Semarang**  
**“On Handling Non Communicable Diseases”**  
**Semarang, 2-3 September 2020**

**Pusat Unggulan IPTEKS (PUI-P2PTM)**  
**Poltekkes Kemenkes Semarang**  
**2020**

# PROCEEDINGS

**2<sup>nd</sup> International Conference Poltekkes Kemenkes  
Semarang  
“On Handling Non Communicable Diseases”  
Semarang, 2-3 September 2020**

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## PREFACE

Praise our gratitude for the presence of God Almighty, for His bless and grace, so that the implementation of this International Conference can be held with the theme “On Handling Non-Communicable Disease During Covid 19 Pandemic” which aims to share information about current issues regarding Non-Communicable Disease during the Covid- 19 Pandemic, Facilitating a meeting forum for scientists, researchers, academics and students to exchange experiences and research results on all aspects of handling, and controlling Covid-19 transmission to people at risk and people with non-communicable diseases and facilitating forums to share interventions in dealing with the prevention and control of non-communicable disease during the Covid-19.

The International Conference is expected to be a means in efforts to prevent and control public health problems through research based on science and technology that is built from research and publications activities an the applications of research results in solving health problems in the community, in terms of this is a matter of NCDs prevention an control. The industrial era 4.0 also requires academics, students, and health observers to always update their abilities through research and scientific activities, to contribute to the handling of NCDs, especially in the Covid-19 Pandemic. Our gratitude goes to the Director of Ministry of Health Polytechnic in Semarang, resource persons, paper contributors and all related parties so that the international conference can be held well.

Semarang, September 2020

Committee Chief,

Dr. Rr. Sri Endang Pujiastuti, SKM.,MNS

## SPEAKERS

- KEY NOTE SPEAKER I : Artificial Intelligence Role in Global Health for Covid-19 Pandemic (**Naoyuki Kobuta**)
- KEY NOTE SPEAKER II : Risk factors and Comorbidity Among Non-Communicable Disease Patient during Covid19 Pandemic. (**Prof. Dr. dr. Suharyo Hadisaputro, SpPD, KPTI**)
- KEY NOTE SPEAKER III : Possibility Application of Plasma and Ozone Technology on Handling Non Communicable Disease during Covid-19 Pandemic (**Prof. Dr. Muhammad Nur, DEA**)
- KEY NOTE SPEAKER IV : Nutrition for Prevention and Recovery among Non Communicables Diseases Patient in Covid-19 Pandemic. (**Prof. Pooh Bee Kon and Dr. Kun Aristiati S, SKM, M.Kes**)
- KEY NOTE SPEAKER V : Maternal and Child Health in Covid-19 Pandemic (**Emily Rose Smith, Sc.D and Dr. Runjati, M.Mid**)
- KEY NOTE SPEAKER VI : Promoting Health Status among Non Communicables Diseases Patient in Covid-19 Pandemic (**Prof . Sang Arun, PHD**)
- KEY NOTE SPEAKER VII : Indonesian Public Health Problem in Covid19 Pandemic (**Prof Dr.dr Anies, M.Kes .PKK and Prof . Dr.drg Diyah fatmasari, MD.Sc**)

## SPEECH BY CHIEF ORGANIZING COMMITTEE OF 2<sup>nd</sup> INTERNATIONAL CONFERENCE

Assalamu'alaikum wr wb

Greeting



First of all, I express my deepest gratitude to God almighty for His blessings as the International conference conducted cooperatively by health polytechnic of Semarang can be done successfully. On this very special occasion, I wish particularly to give my best thanks to Mr. Marsum, BE, S.Pd, MHP and her colleagues as representation of POLTEKKES Semarang, for giving me a huge opportunity as a chief committee. I am most grateful for efforts put forth by all of the International conference committee, who diligently worked throughout the process of inviting both participants and speakers so that the event goes on the right track. Finally, I do hope that the event will contribute positively to health professionalism itself as well as to establish a wonderful networking between health organization and significant others. May God bless our good relationship and good will so that He will only bring goodness for all.

Wassalamu'alaikum wr wb

Semarang, September 2020

Chief Committee

Rr. Sri Endang Pujiastuti, SKM, MNS



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## LITERATUR REVIEW: THE EFFECT OF GIVING HONEY ON THE INCREASED HEMOGLOBINE LEVELS IN PREGNANT WOMEN

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### Abstract

**Introduction:** Anemia is a condition in which red blood cells (erythrocytes) have decreased or decreased hemoglobin, so that the oxygen carrying capacity of the organs is reduced. About 75% of internal nutritional anemia is caused by iron deficiency. Honey can be used as an alternative to increase hemoglobin levels. Honey is a thick liquid that is widely known by the community and can act as a medicine for various diseases. The benefits of honey have been widely used in the medical field because of the complete and natural nutrition of honey. **Method:** Literature tracing electronic means with a keyword guide. 5 articles were selected, each of which represented an effect of giving honey on the increase in hemoglobin levels and provided various information. **Results:** There was an effect of offering honey on the increase in hemoglobin levels, because there was a significant difference between offering honey before and after treatment. **Discussion:** Honey is an alternative that can be used to treat anemia problems. Honey contains essential minerals such as calcium, phosphorus, potassium, sodium, iron, magnesium and copper. **Conclusion:** The conclusion based on the analysis that has been done is the use of honey is effective in increasing hemoglobin levels.

**Keywords:** Honey, Anemia, Pregnant

### 1. Introduction

Pregnancy is a unique natural condition because although it is not a disease, it often causes complications due to various anatomical and physiological changes in the mother's body. One of the changes that occur during pregnancy is a change in the cardiovascular system ratau hemodynamics. Natural physiological changes that occur during pregnancy will experience normal blood cell count in pregnancy. The increase in maternal blood volume occurs due to an increase in plasma, not due to an increase in the number of red blood cells. Although there is an increase in the number of red blood cells in circulation, the amount is not balanced with the increase in plasma volume. This imbalance will be seen in the form of decreased hemoglobin levels which can eventually cause anemia in pregnant women. (Prawirohardjo, 2011).

Anemia is a condition where red blood cells (erythrocytes) are reduced in blood circulation or hemoglobin period so that it is not able to fulfill the function as a carrier of oxygen throughout the tissues (Adi, 2012). Anemia that occurs during pregnancy is a nutritional disorder as a result of the wrong diet in pregnant women. Due to poor diet resulting in reduced intake of nutrients which is the biggest cause of nutritional anemia (Adi,2012). Nutritional anemia is one of the many nutritional problems that occur in pregnant women and is the largest and hardest to overcome micronutrients around the world (Fatimah, 2011).

In addition, various studies show that 40% of maternal deaths are caused by bleeding during childbirth and an estimated 20% is caused by low levels of hemoglobin (nutritional anemia) during pregnancy. Nutritional anemia can be caused by deficiency of iron, folic acid, vitamin B12 and

vitamin A (Nopiana, 2013).

The factors that cause anemia include malnutrition, lack of iron in the diet, malabsorpsi, a lot of blood loss (Lamadhah, 2011). Anemia in pregnant women increases the risk of bleeding, premature birth with Low Birth Weight (BBLR) can even lead to maternal and infant death (Ahmed, 2020). Untuk mengatasi permasalahan anemia akibat kekurangan zat gizi besi, secara farmakologis umumnya kaum wanita mengkonsumsi suplemen mineral zat besi dalam bentuk tablet, akan tetapi dapat memberi efek samping yaitu mual-muntah dan feses mengeras dan kehitaman (Ristyaningsih, 2013).

Other alternative treatments to overcome iron nutrient deficiency anemia can provide pharmacological therapy derived from natural ingredients namely honey, where honey contains essential minerals such as calcium, phosphorus, potassium, sodium, iron, magnesium, and copper. Other content is glucose 75%, organic acids by 8%, proteins, enzymes, mineral salts 18%, vitamins, seeds, oil, high iron content that can treat anemia and contain antibiotics (Rista, 2014).

## 2. Method

In this research conducted literature research through electronic media using google scholar. The purpose of this article is to review the problem of anemia. The key word used for literature search is "The effect of honey administration on the increase in hemoglobin levels". The method used in finding articles using Indonesian language is relevant to the topic. Searches performed using google scholar databases. Keywords used is "Honey against the increase in hemoglobin" articles obtained in the review to select articles that fit the criteria and obtained 5 national articles that will be subsequently reviewed.

The research article titled "The Influence of Honey On Hemoglobin Levels of Grade X Young Women Who Have Anemia in SMKN 01 Mempawah Hilir". The method used quasi experimental research with one group pre test-post test design approach, in 22 respondents of young women class X, the sample used was purposive sampling. The analysis test used is a

paired T test. The results of this study obtained a paired T test analysis obtained the result of p value of 0.002 ( $p < 0.05$ ). In conclusion There is an influence of honey on hemoglobin levels of grade X young women who have anemia in SMKN 01 Mempawah Hilir. So that it can be educated honey content as a fulfillment of nutrients to adolescents who experience decreased hemoglobin levels (Islamiyah, 2017).

The second research article was titled "The Effect of The Combination of Giving Pink Guava Juice and Honey To Increase HB Levels In Pregnant Women". The design of this research is an experimental research with One Group Pre Test-Post Test Design approach with a population of 18 pregnant women who have anemia, samples taken using Total Sampling technique. Independent variables in this study were the administration of pink guava juice and honey while variable dependent was a change in HB levels in pregnant women with anemia. Data collection using primary data using observation sheet of HB levels before and after examination. Analysis of the research using t-test. The results of the study obtained mother Hb Levels before consuming a combination of pink guava juice and honey obtained Mean 9.19 gr / dl, Median 9.30 gr / dl and SD 9.87 gr / dl. Mother Hb levels after consuming a combination of pink guava juice and honey obtained Mean 10.4 gr / dl, median 10.3 gr (Saidah, 2017).

The third research article is titled "Application of Honey Feeding Against The Increase of Hemoglobin (Hb) In Young Women who have Anemia" The approach method used is case control study. The population in this study was 71 students while the sample in this study was 18 people using random sampling taking into account inclusion and exclusion criteria. Bivariate analysis used is t test analysis and wilcoxon test. Result : Hb levels of intervention group before given the lowest forest honey is 10.00 gr/dl and the highest Hb level is 11.40 gr/dl. The lowest level of hb after being given forest honey was 12.10 gr/dl and the highest Hb level was 13.40 gr/dl. The lowest control group Hb level is 9.40 gr/dl and the highest Hb level is 10.70 gr/dl. The lowest post-control group Hb level was 9.40 gr/dl and the highest Hb level was 10.90 gr/dl.



In conclusion there are differences in forest honey administration to the increase in Hb levels in the intervention group before and after treatment ( $p = 0.007$ ) there is a difference in hb levels in the control group before and after ( $p = 0.000$ ), there is a difference in forest honey administration to the increase in Hb levels between the intervention group and the control group after treatment ( $p = 0.000$ ) (Cholifah, 2018).

The fourth research article titled "Effectiveness of honey against Hb Increase In White Rats" This research method is experimental using white mice (*Rattus novergicus*) that are given honey for seven days. Honey was given as much as 3 doses of the first dose of 0.25 ml, 0.5 ml and 0.75 ml in each group of white mice. Data processing in this study using ANOVA test where obtained p value 0.568 ( $p > 0.05$ ). The results showed no meaningful relationship between honey feeding and increased Hb in the mice. The results of this study showed that honey was not effective against hb increase in white mice (Rista, 2014).

The fifth research article was titled "Different Increases in Hemoglobin Levels Through Honey Intervention In Young Women". The method used pre design experiment. A sample of 46 respondents who met the inclusion criteria. Sampling technique is purposive sampling. Of the 46 respondents, all were given honey consumption. The data obtained is processed by sofwer SPSS 16. Analysis of data used is wilcoxon sign rank test. The results of the study obtained most of the hemoglobin levels rose by 25 (54.34%) Respondents. While the results of the calculation of research data using the test "Wilcoxon Sign Rank Test" with calculations using SPSS 16 obtained asymp value information. Sig=0.000 because the value <significantaraf ( $\alpha=0.05$ ), thus  $H_0$  is rejected (Supratikno, 2014).

### 3. Result and Discussion

From the results of literature reviews that have been shown a significant influence between the administration of honey to the increase in hemoglobin levels. Honey feeding is an

alternative way to reduce the incidence of anemia due to lack of iron deficiency. All the articles explain the results of research on the effect of honey administration on the increase in hemoglobin levels so that it can be used as the basis for a review of research journals. Of the five journals used to review using different methods, three used pre-experimental, quasy experiments, and case control studies.

The results of the study were average before honey and after being given honey against increased hemoglobin levels against the incidence of anemia. Anemia is a decrease in the quality of red blood cells in circulation, abnormalities of hemoglobin content, red blood cells or both. Anemia due to disorders of red blood cell formation occurs if the amount of iron is inadequate or lacks acidic, vitamin B12 or globulin. Anemia means red blood cell deficiency that can be caused by too much red blood cell loss or too slow formation of red blood cells (Ganong, 2008). It is said not anemia Hb > 11 gr %, mild anemia Hb 9-10 gr %, moderate anemia Hb 7-8 gr % and severe anemia if the level of Hb < 7 gr% 7-8 gr % (Setiawan 2012).

The number of pregnant women who have hemoglobin hb 9-10 gr% levels or have mild anemia lacks nutritional care in the body. Iron is needed for the production of hemoglobin. The source of iron is eaten from animals where the liver is the source that contains the most Fe (between 6.0 mg to 14.0 mg). Other sources also come from plants but small content so that it can be ignored. Iron in hem-shaped foods is bonded to proteins or in nonhem form in the form of complex inorganic iron compounds. Hem iron is more diabsorbsi than nonhem iron. The source of iron hem is liver, kidneys, meat, chicken, fish where in the intestine is absorbed 15.35%. Sources of nohem are commonly found in foods derived from herbs such as vegetables, grains, legumes, fruits, and serelia, slightly in meat, fish, and eggs and honey ( Gibson 2009).

The efficacy of honey has been widely recognized in the medical world. Complete and natural honey nutrition makes it a cure for various diseases, in addition to being used as a substitute for sugar or nutritional supplementation for those who are healthy. Need more attention in choosing honey because of the large number of fake honey on the market.

Ensuring the good quality of honey will determine its effectiveness, either as a drug or supplement (Al Jamili, 2010).

The recommended dose of honey for adults is 100-200 grams a day, taken three times a day, morning as much as 30-60 grams, Noon 40-80 grams, and night 30-60 grams. It is recommended an hour and a half or two hours before meals or three hours after meals. For children, the dose of honey is 30 grams a day (Gomeraj, 2013).

It is in accordance with Rista's research (2014) on the effectiveness of honey against the increase of Hb in White Rats, which states that the alternative that can be given to increase hemoglobin levels is by giving honey, because honey has the body's necessary content of glucose 75%, organic acids by 8%, proteins, enzymes, mineral salts 18%, vitamins, seeds, oil, high iron content that can treat anemia and contain antibiotics.

#### 4. Acknowledgements

In conclusion, based on the analysis that has been done by the author, it is concluded that the administration of honey is effective to increase hemoglobin levels. The advice that can be given for the implementation of the next review literature is that the database should be used more so that it can get a more complete and good article, as well as the limit of the year of search for articles with the specified keywords is the last five years so that the literature is more updated.

Advice for pregnant women who have anemia in order to consume honey as an alternative to increase hemoglobin levels.

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# 2nd INTERNATIONAL CONFERENCE POLTEKKES KEMENKES SEMARANG

## “ON HANDLING NON COMMUNICABLE DISEASES”

### SEMARANG, 2-3 SEPTEMBER 2020

# PROCEEDINGS OF PAPERS

Praise our gratitude for the presence of God Almighty, for His bless and grace, so that the implementation of this International Conference can be held with the theme “On Handling Non-Communicable Disease During Covid 19 Pandemic” which aims to share information about current issues regarding Non-Communicable Disease during the Covid- 19 Pandemic, Facilitating a meeting forum for scientists, researchers, academics and students to exchange experiences and research results on all aspects of handling, and controlling Covid-19 transmission to people at risk and people with non-communicable diseases and facilitating forums to share interventions in dealing with the prevention and control of non-communicable disease during the Covid-19.

The International Conference is expected to be a means in efforts to prevent and control public health problems through research based on science and technology that is built from research and publications activities an the applications of research results in solving health problems in the community, in terms of this is a matter of NCDs prevention an control. The industrial era 4.0 also requires academics, students, and health observers to always update their abilities through research and scientific activities, to contribute to the handling of NCDs, especially in the Covid-19 Pandemic. Our gratitude goes to the Director of Ministry of Health Polytechnic in Semarang, resource persons, paper contributors and all related parties so that the international conference can be held well.



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