

## CHARACTERISTICS OF MATERNAL PREGNANCY AND CHILDBIRTH IN PAYANGAN SUB-SUB-DISTRICT, BALI

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### **ABSTRACT**

**Background:** Health and nutrition during pregnancy has a close relationship with child development. Poor nutritional status during pregnancy can have an impact on fetal growth restriction (FGR), low birth weight (LBW) and stunting. Efforts to reduce the prevalence of stunting in Indonesia are carried out through the 1000 days of life program. The Faculty of Medicine and Health Sciences (FKIK) of Warmadewa University integrates the first 1000 days program in the field of education through the implementation of community-oriented medical education. **Objective:** This study aims to provide an overview of the characteristics of pregnancy and childbirth obtained by the first 1000 days program in the Payangan Sub-District, Bali Province. **Material and Method:** This research was a descriptive study using secondary data sourced from the survey of the Community Oriented Medical Education 1000 Days Early Life education program conducted by FKIK Warmadewa University. The research subjects were pregnant women who lived in the Payangan sub-Sub-District, Gianyar Regency, Bali in 2019-2020. The total number of subjects in this study were 110 people. The data collected consisted of data on demographic characteristics, pregnancy, childbirth, and diet. **Result:** Of 110 Pregnant women in Payangan Sub-District in 2019-2020, 48% showed an average normal body mass index, most (76%) pregnant women in this region had no history of disease and high and very high-risk pregnancy was found in 61% of the subjects. The diet, environment and family APGAR mostly were considered good, namely in 86%, 72%, and 100% respectively. Most deliveries were by cesarean section, i.e., 59% and most did not have delivery complications (85%). **Conclusion:** There are two things need attention, namely, the high birth rate via cesarean section, and the high-risk pregnancy.

**Keywords:** pregnancy at risk, characteristics of pregnant, the first 1000 days program

### **ABSTRAK**

**Latar Belakang:** Kesehatan dan gizi selama kehamilan memiliki kaitan erat dengan tumbuh kembang anak. Status gizi yang kurang pada masa kehamilan dapat berdampak pada pertumbuhan janin terhambat (PJT), berat badan lahir rendah (BBLR) dan stunting. Upaya percepatan penurunan angka prevalensi stunting di Indonesia dilakukan melalui program 1000 hari pertama. Fakultas Kedokteran dan Ilmu Kesehatan (FKIK) Universitas Warmadewa ikut mengintegrasikan program 1000 HAK dalam bidang Pendidikan melalui pelaksanaan pendidikan kedokteran yang berorientasi komunitas (community oriented medical education). **Objektif:** Penelitian ini bertujuan untuk memberikan gambaran karakteristik kehamilan dan

persalinan Ibu sasaran program COME 1000 HAK di wilayah Kecamatan Payangan, Provinsi Bali. **Material dan Metode:** Penelitian ini merupakan studi deskriptif menggunakan data sekunder yang bersumber dari hasil survey program pendidikan *Community Oriented Medical Education* 1000 Hari Awal Kehidupan yang dilakukan oleh FKIK Universitas Warmadewa. Subyek penelitian adalah ibu hamil yang bertempat tinggal di wilayah kecamatan Payangan Kabupaten Gianyar, Bali pada tahun 2019-2020. **Hasil:** Total jumlah subyek penelitian ini sebanyak 110 orang. Data yang dikumpulkan terdiri atas data karakteristik demografi, kehamilan, persalinan dan pola makan. Ibu hamil di Kecamatan Payangan tahun 2019-2020 menunjukkan rata – rata indeks massa tubuh normal sebesar 48%, sebagian besar (76%) ibu hamil di wilayah ini tidak memiliki riwayat penyakit serta ibu hamil memiliki risiko tinggi dan sangat tinggi sebesar 61%. Gambaran pola makan, lingkungan dan APGAR keluarga sebagian besar menunjukkan kondisi yang baik, yakni berturut-turut sebesar 86%, 72%, dan 100%. Sebagian besar persalinan dengan *sectio caesarea*, yakni sebanyak 59% serta sebagian besar tidak memiliki komplikasi persalinan (85%). **Kesimpulan:** Hal-hal yang harus menjadi perhatian adalah rasio kelahiran melalui seksio sesarea dan kehamilan resiko tinggi.

**Kata Kunci:** kehamilan berisiko, karakteristik ibu hamil, program 1000 HAK

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## INTRODUCTION

Maternal health during pregnancy and childbirth is one of the focuses for reducing maternal mortality. The maternal mortality rate is an indicator of women's health stated in the sustainable development goals and in the quality-of-life index. Although the maternal mortality rate is generally experiencing a downward trend, this figure has not reached the MDGs target of 102 per 100,000 live births in 2015. The results of the 2015 inter-census population survey (SUPAS) showed that the maternal

mortality rate was three times higher than the MDGs target. According to the Ministry of Health of the Republic of Indonesia<sup>1)</sup>, the number of maternal deaths in Indonesia in 2020 was 4,627 deaths, an increase compared to 2019 (4,221 deaths). Most of the maternal deaths in 2020 were caused by bleeding, hypertension in pregnancy, and circulatory system disorders.

The government has made efforts to improve maternal health by increasing access to health services, providing services of antenatal care, postpartum and newborn.

In addition, clean water facilities, sanitation, settlement, and food consumption also proven to affect the health of pregnant women.<sup>2</sup>

The health conditions of pregnant women and postpartum mothers need special attention. Health conditions are not only associated with the safety of the mother and baby during the pregnancy but also after birth. Many diseases and disorders that can be life-threatening during pregnancy include cardiac and respiratory arrest, shock, seizures, fainting and shortness of breath. This is classified as an emergency during pregnancy. Meanwhile, emergencies during labor include hypertensive disorders, bleeding, other obstetric and non-obstetric complications, infections, etc.<sup>2</sup>

The condition of the mother during pregnancy is also associated with short-term and long-term consequences for the baby being born. One of the main risk factors for stunting is nutritional status during pregnancy. Poor nutritional status during pregnancy can have an impact on fetal growth restriction (FGR), low birth weight (LBW), small, short, thin, low immune system and the risk of death.<sup>3</sup>

Riskesdas data of 2007, 2013 and 2018 showed that the stunting rate for toddlers was above 30%, meaning that 3 out of 10

toddlers born were stunted. Stunting is a major threat to the quality of life as it can lead to suboptimal development of physic and cognitive. This affects the productivity and creativity of the future generation.<sup>4</sup> Efforts to accelerate the reduction of stunting prevalence in Indonesia are carried out through the first 1000 days of life as outlined in the National Strategy for the Acceleration of Stunting Prevention.<sup>5</sup> This encourages collaboration between institutions to ensure the implementation of programs related to stunting prevention

Faculty of Medicine and Health Sciences of Warmadewa University participated in integrating the 1000 days of life program in the field of education through the implementation of community-oriented medical education. In this program, each medical student provides assistance to a woman from pregnancy to birth and until the baby reach 2 years old. This program focuses on assisting pregnant women in terms of their health history, family, environment, as well as the planning for childbirth. This article aims to provide an overview of the characteristics of pregnancy and childbirth of the mothers participated in COME program in the Payangan Sub-District, Bali Province. Through the identification of these characteristics, it can provide a reference for planning the first

100- days of life program in this Sub-District.

## METHODS

This is a descriptive research study using secondary data obtained from the survey of COME program conducted by the Faculty of Medicine and Health Sciences, Warmadewa University. The research subjects were pregnant women who resided in the Payangan Sub-District, Gianyar Regency, Bali in 2019-2020. The total number of participants in this study were 110 women. The data included in this study were demography, pregnancy, childbirth, and nutrition. Screening for High-Risk Pregnancy was carried out using the Poedji Rochjati Score Card (KSPR) and the satisfaction of participants with the family's functional status was measured using the family APGAR questionnaire, while nutritional status was measured according to a 4 healthy 5 perfect food. All data in this study are presented as a table of frequencies and percentages.

## RESULT

The 1000 days of life COME program carried out by the Faculty of Medicine and Health Sciences, Warmadewa University has successfully assisted 110 pregnant women during the 2019-2020 period. The

data collected had response rates of 86 – 100%. The results obtained are presented in the following table:

**Table 1. Characteristics of Pregnant Women in Payangan Sub-District in 2019-2020**

| Characteristics           | Frequency | %     |
|---------------------------|-----------|-------|
| <b>Age (n=107)</b>        |           |       |
| ≤19 Years                 | 3         | 2.80  |
| 20-24 Years               | 16        | 14.95 |
| 25-29 Years               | 38        | 35.51 |
| 30-34 Years               | 31        | 28.97 |
| 35-39 Years               | 12        | 11.21 |
| ≥ 40 Years                | 7         | 6.54  |
| <b>Education (n=101)</b>  |           |       |
| Middle School/Lower       | 26        | 25.74 |
| High School               | 24        | 23.76 |
| Diploma/Bachelor          | 47        | 46.53 |
| Post Graduate             | 4         | 3.96  |
| <b>Occupation (n=107)</b> |           |       |
| Housewife                 | 41        | 38.32 |
| Employee                  | 25        | 23.36 |
| Farmer                    | 17        | 15.89 |
| Entrepreneur              | 12        | 11.21 |
| Others                    | 10        | 9.35  |
| Laborer                   | 1         | 0.93  |
| Civil servant             | 1         | 0.93  |
| <b>Income (n=110)</b>     |           |       |
| None                      | 17        | 15.45 |
| <1 million                | 28        | 25.45 |
| 1-2 million               | 36        | 32.73 |
| 2-3 million               | 21        | 19.09 |
| >3 million                | 8         | 7.27  |
| <b>Residence (n=109)</b>  |           |       |
| Bukian                    | 29        | 26.61 |

|                 |    |       |
|-----------------|----|-------|
| Kerta           | 19 | 17.43 |
| Melinggih Kelod | 18 | 16.51 |
| Puhu            | 14 | 12.84 |
| Melinggih       | 10 | 9.17  |
| Buahan Kaja     | 8  | 7.34  |
| Bresela         | 6  | 5.50  |
| Buahan          | 3  | 2.75  |
| Kelusa          | 2  | 1.83  |

The most dominant characteristics of pregnant women in Payangan Sub-District during this study were aged 25-29 years old (35.5%), had diploma or undergraduate education (46.5%), had role as housewives (38%), had average income of 1-2 million (32%), and resided in Bukian Village (26%).

**Table 2. Characteristics of the Health Conditions of Pregnant Women in Payangan Sub-District in 2019-2020**

| Variable                             | Frequency | %     |
|--------------------------------------|-----------|-------|
| <b>Parity (n=108)</b>                |           |       |
| 0                                    | 3         | 2.78  |
| 1                                    | 69        | 63.89 |
| 2                                    | 27        | 25.00 |
| 3                                    | 8         | 7.41  |
| 4                                    | 1         | 0.93  |
| <b>Previous Birth History (n=95)</b> |           |       |
| Pervaginam                           | 58        | 61.05 |
| Sectio caesarea                      | 32        | 33.68 |

|                                 |   |      |
|---------------------------------|---|------|
| Pervaginam &<br>Sectio caesarea | 5 | 5.26 |
|---------------------------------|---|------|

**Interpregnancy Interval**

|                  |             |  |
|------------------|-------------|--|
| Mean ± SD (year) | 5.93 ± 4.28 |  |
|------------------|-------------|--|

**Upper Arm Circumference (n=108)**

|           |     |       |
|-----------|-----|-------|
| ≤ 23.5 cm | 6   | 5.56  |
| > 23.5 cm | 102 | 94.44 |

Health condition of pregnant women in Payangan Sub-District showed that the parity of primigravida was greater (64%) compared to multigravida parity (36%). The history of childbirth in pregnant women in Payangan Sub-District is mostly via normal delivery (61%) with an average interpregnancy interval of 5 years and an average maternal arm circumference were above 23.5 cm.

**Table 3. BMI, Disease History, and Screening for High-Risk Pregnancy for Pregnant Women in Payangan Sub-District in 2019-2020**

| Variable                       | Frequency | %     |
|--------------------------------|-----------|-------|
| <b>BMI (n=108)</b>             |           |       |
| Underweight                    | 2         | 1.85  |
| Normal                         | 52        | 48.15 |
| Overweight                     | 22        | 20.37 |
| Obese                          | 32        | 29.63 |
| <b>Disease History (n=110)</b> |           |       |
| Dengue                         | 1         | 0.91  |
| Hypertension                   | 5         | 4.55  |
| Others                         | 20        | 18.18 |
| None                           | 84        | 76.36 |

**High Risk Pregnancy (n=110)**

|           |    |       |
|-----------|----|-------|
| Low       | 43 | 39.09 |
| High      | 40 | 36.36 |
| Very High | 27 | 24.55 |

Table 3 shows that 48% participants were having normal body mass index, having no history of disease as much as 76%, and pregnant women having high and very high risk were 36% and 25%, respectively.

**Table 4. Diet, Environment and Family APGAR of Pregnant Women in Payangan Sub-District in 2019-2020**

| Variable                      | Frequency | %     |
|-------------------------------|-----------|-------|
| <b>Diet (n=108)</b>           |           |       |
| Good                          | 93        | 86.11 |
| Poor                          | 15        | 13.89 |
| <b>Environment (n=110)</b>    |           |       |
| Good                          | 80        | 72.73 |
| Fair                          | 30        | 27.27 |
| <b>APGAR Keluarga (n=110)</b> |           |       |
| Good                          | 110       | 100   |
| Poor                          | 0         | 0     |

The overview of diet, environment and family APGAR shows that participants had

## DISCUSSION

The 1000 days of life program in Payangan Sub-District, Gianyar Regency, Bali, has provided important information regarding the conditions of pregnancy and

proper diet on average in 86% women, and 72% lived in good environment, whereas family APGAR showed that all pregnant women (100%) were satisfied with their family functions.

**Table 5. Labor and Childbirth Complications in Pregnant Women in Payangan Sub-District in 2019-2020**

| Variable                               | Frequency | %     |
|--|-----------|-------|
| <b>Labor (n=110)</b>                   |           |       |
| Normal                                 | 51        | 46.36 |
| Sectio caesarea                        | 59        | 53.64 |
| <b>Childbirth Complication (n=108)</b> |           |       |
| Yes                                    | 16        | 14.81 |
| No                                     | 92        | 85.19 |

The data above explains the average number of pregnant women giving birth using the sectio caesarea method was around 54% and most of the assisted mothers did not experience childbirth complications (85%).

childbirth in this area. This survey showed that the majority of pregnant women in this region were in the age range of 20-34 years. This indicates that most of pregnant women in this Sub-District were having a healthy reproductive organ. Pregnancy in this age range has a small risk of experiencing

pathological problem as well as maternal emergency.<sup>6</sup> On the other hand, if pregnancy occurs when the age is too young or too old, the risk of complications increases. The literature states that complications such as abortion, preeclampsia, and prolonged labor are more frequently found in young girl. Maternal mortality in pregnant women aged under 20 years is 2-5 times higher than maternal mortality at the age of 20 to 29.<sup>7</sup> Meanwhile, if the pregnancy is too old (mothers who are pregnant for the first time at the age of >35 years), then the risk of disease in the mother is higher because of the ageing of uterus. In addition, the birth canal is also getting stiffer; there is a greater possibility that old women will have children with disabilities, and there is also chance of obstructed labor and bleeding.<sup>8</sup>

The data of this study also showed that there were more primigravida mothers than multigravida mothers. A number of studies have shown that there is a significant relationship between parity and complications of pregnancy and childbirth.<sup>8-10</sup> According to Hipson<sup>11</sup>, the safest number of parity is 2-3 children. Several problems are linked with multigravida includes position abnormalities, transverse delivery, uterine rupture in transverse fetal lie, and prolonged labor.

The average spacing between pregnancies in Payangan Sub-District is 5 years. This shows that the average interval between mothers' pregnancies in this region is ideal. A number of studies have found that there is a relationship between pregnancy spacing and the incidence of preeclampsia<sup>12</sup>, bleeding, prolonged labor, abortion, premature birth, and low birth weight.<sup>12-16</sup> Research on risk factors for the low birth rate by Nur, Arifuddin<sup>13</sup> found that the interpregnancy interval < 2 years has a 3-fold risk of LBW compared to the interpregnancy interval > 2 years. It takes two to three years for a mother to recover after previous childbirth and prepare for the next birth.

Body mass index (BMI) of pregnant women in Payangan Sub-District showed 48% normal, 20% overweight, and 29% obese. A number of studies have found that there is an association between BMI and pre-eclampsia and low birth weight.<sup>17-20</sup> However, another study found that there was no relationship between the BMI of pregnant women as measured in the first trimester and the baby's weight.<sup>21</sup>

Consumption patterns greatly affect the nutritional status of pregnant women. A research showed that there was a relationship between maternal consumption patterns and the nutritional status of

pregnant women at the stunting locus in North Central Timor Regency.<sup>22</sup> The consumption patterns of pregnant women in Payangan Sub-District was adequate, most pregnant women had consumed 4 healthy 5 perfect food and consumed drinking water in sufficient amount. However, 14% of pregnant women in this region showed poor diet, thus, education on healthy diet is still required as well as information on how to provide nutritious food from local sources.

Environmental conditions and family APGAR in Payangan Sub-District showed good results. Environmental and family support greatly affects the psychosocial condition of pregnant women. Husbands play a very important role in reducing anxiety during pregnancy. Research shows that there is a relationship between family support and the level of anxiety of pregnant women in the third trimester before delivery.<sup>23</sup>

The number of sectio caesarea delivery method in pregnant women in Payangan Sub-District was higher than normal delivery. Research shows that there is increasing trend of cesarean section in Indonesia, ranging from 30% to 70%, both in state-owned and private hospitals. Lack of physical activity during pregnancy increases the likelihood of sectio caesarea by 1.63 times compared to doing good

activity during pregnancy.<sup>24</sup> However, there are factors other than of medical indications that could lead to the choice of sectio caesarea.<sup>25</sup> Further research needs to be done in this area to identify the factors causing the high sectio caesarea delivery.

In term of risk in pregnancy, we found that pregnant women in Payangan Sub-District had high risk pregnancies in more than 50% participants. Pregnancy with high-risk status has potential negative impacts on childbirth and postpartum, namely the risk of complications that can lead to maternal death. This indicates that information and education programs related to pregnancy are still required to be disseminated in this area.

## **CONCLUSION**

This study has provided an overview of the characteristics of pregnancy and childbirth for pregnant women in the Payangan Sub-District, Gianyar Regency, Bali Province during 2019-2020. The data has revealed that there are two things need attention, namely the high-risk pregnancy, and the high birth rate via cesarean section. Although the problem of diet and the environment has a percentage of less than 30%, these two factors still need attention to



ensure optimal health for both mothers and babies

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## REFERENCES

1. Perloth J, Choi B, Spellberg B. Nosocomial fungal infections: Epidemiology, diagnosis, and treatment. *Med Mycol.* 2007;45(4):321–46.
2. Alangaden GJ. Nosocomial Fungal Infections: Epidemiology, Infection Control, and Prevention. *Infect Dis Clin North Am* [Internet]. 2011;25(1):201–25. Available from: <http://dx.doi.org/10.1016/j.idc.2010.11.003>
3. Karkowska-Kuleta J, Rapala-Kozik M, Kozik A. Fungi pathogenic to humans: Molecular bases of virulence of *Candida albicans*, *Cryptococcus neoformans* and *Aspergillus fumigatus*. *Acta Biochim Pol.* 2009;56(2):211–24.
4. Rozaliyani A, Jusuf A, ZS P, Burhan E, Handayani D, Widowati H, et al. Infeksi Jamur Paru di Indonesia: Situasi Saat Ini dan Tantangan Di Masa Depan. *J Respirologi Indones.* 2019;39(3):210–4.
5. Jahagirdar VL, Davane MS, Aradhya SC, Nagoba BS. *Candida* species as potential nosocomial pathogens – A review. *Electron J Gen Med.* 2018;15(2):0–4.
6. Kalista KF, Chen LK, Wahyuningsih R, Rumende CM. Karakteristik Klinis dan Prevalensi Pasien Kandidiasis Invasif di Rumah Sakit Cipto Mangunkusumo. *J Penyakit Dalam Indones.* 2017;4(2):56.
7. Mattei AS, Madrid IM, Santin R, Schuch LFD, Meireles MCA. In vitro activity of disinfectants against *aspergillus* spp. *Brazilian J Microbiol.* 2013;44(2):481–4.
8. Adawiyah R, Wahyuningsih R. Kriptokokosis : Epidemiologi , Manifestasi Klinis dan Diagnosis. *Maj Kedokt FK UKI.* 2012;XXVIII(3):133–43.
9. Srikanta D, Santiago-Tirado FH, Doering TL. *Cryptococcus neoformans*: Historical curiosity to modern pathogen. *Yeast.* 2014;31(2):47–60.
10. WHO. WHO Guidelines on Hand Hygiene in Health Care. Geneva, Switzerland: WHO Press; 2009. 1–64 p.
11. RI DJBK dan AKKK. Pedoman bahan berbahaya alkes dan pada produk

- perbekalan kesehatan rumah tangga. Kementerian Kesehatan RI; 2012.
12. McDonnell GE. Antisepsis, disinfection, and sterilization /. Second. Washington DC: ASM Press; 2017.
  13. Hudzicki J. Kirby-Bauer Disk Diffusion Susceptibility Test Protocol Author Information. Am Soc Microbiol [Internet]. 2009;(December 2009):23. Available from: <https://www.asm.org/Protocols/Kirby-Bauer-Disk-Diffusion-Susceptibility-Test-Pro1>. Kementerian Kesehatan Republik Indonesia. Profil Kesehatan Indonesia 2020. Kementerian Kesehatan Republik Indonesia. 2021.
  14. Kemenkes R. Hasil Utama Riset Kesehatan Dasar Tahun 2018. Kementerian Kesehatan Republik Indonesia. 2018:1-100.
  15. Zaif RM, Wijaya M, Hilmanto D. Hubungan antara Riwayat Status Gizi Ibu Masa Kehamilan dengan Pertumbuhan Anak Balita di Kecamatan Soreang Kabupaten Bandung. Jurnal Sistem Kesehatan. 2017;2(3).
  16. Yulianti IF. Segmentasi Wilayah Untuk Menekan Stunting Melalui Program 1000 Hari Pertama Kehidupan (HPK). Jurnal Keluarga Berencana. 2020;5(1):38-47.
  17. Kemiskinan TNPP. Strategi Nasional Percepatan Pencegahan Stunting Periode 2018-2024. Jakarta: TNP2K. 2018;86.
  18. Prawirohardjo S. Ilmu Kebidanan Edisi 4. Jakarta: YBP-SP. 2010.
  19. Zakiah U, Fitri HN. Gambaran Kehamilan Remaja Ditinjau dari Umur, Penyebab Kehamilan dan Kontak Pertama dengan Tenaga Kesehatan di Wilayah Kerja Puskesmas Sikumana Kota Kupang. CHMK Midwifery Scientific Journal. 2020;3(1):128-33.
  20. Bere PID, Sinaga M, Fernandez H. Faktor Risiko Kejadian Pre-Eklamsia Pada Ibu Hamil Di Kabupaten Belu. Media Kesehatan Masyarakat Indonesia Universitas Hasanuddin. 2017;13(2):176-82.
  21. Purba D, Adisasmita A. Faktor-faktor yang Berhubungan dengan Kejadian Komplikasi Kehamilan dan Persalinan di Rumah Sakit Umum Daerah (RSUD) Kota Depok Tahun 2012. 2012. Jurnal Kesehatan Masyarakat Nasional. 2012;15(1):253-9.
  22. Sutrimah S, Mifbakhudin M, Wahyuni D. Faktor-faktor yang Berhubungan dengan Kejadian Preeklamsia pada Ibu Hamil di Rumah Sakit Roemani Muhammadiyah Semarang. Jurnal Kebidanan. 2015;4(1):1-10.

23. Hipson M, editor Hubungan antara umur, paritas dan pendidikan ibu dengan kejadian eklampsia di Rumah Sakit Muhammadiyah Palembang. PROSIDING SEMINAR NASIONAL & INTERNASIONAL; 2016.
24. Widiastuti YP, Rimawati U, Istioningsih I. Indeks Massa Tubuh (IMT), Jarak Kehamilan dan Riwayat Hipertensi Mempengaruhi Kejadian Preeklampsia. *Jurnal Ilmu Keperawatan Maternitas*. 2019;2(2):6-22.
25. Nur R, Arifuddin A, Novilia R. Analisis faktor risiko kejadian berat badan lahir rendah di Rumah Sakit Umum Anutapura Palu. *Preventif: Jurnal Kesehatan Masyarakat*. 2016;7(1):14-.
26. Prawirohardjo S. Ilmu Kebidanan Sarwono Prawirohardjo, Jakarta, Pt. Bina Pustaka Sarwono Prawirohardjo. 2014.
27. Syafrie R, Dasuki D, Ismail J. Hubungan Kualitas Pelayanan Antenatal Terhadap Kejadian Bayi Berat Badan Lahir Rendah Di Kabupaten Purworejo. *Sains Kesehatan*. 2004;17(2004).
28. Wulandari S. Hubungan Antara Jarak Kehamilan dan Status Gizi dengan Kejadian Preeklampsia pada Ibu Hamil di RS Aura SYifa Kabupaten Kediri Tahun 2015. Fakultas Ilmu Kesehatan Universitas Kediri. 2015.
29. Asih Y. Indeks Masa Tubuh (IMT) pada Kejadian BBLR di RSUD Pringsewu Lampung. *Jurnal Ilmiah Keperawatan Sai Betik*. 2017;10(1):70-4.
30. Andriani C, Lipoeto NI, Utama BI. Hubungan Indeks Massa Tubuh dengan Kejadian Preeklampsia di RSUP Dr. M. Djamil Padang. *Jurnal Kesehatan Andalas*. 2016;5(1).
31. Agustini Y. Hubungan Riwayat Hipertensi Selama Kehamilan, Indeks Masa Tubuh Dan Pola Makan Dengan Hipertensi Pada Kehamilan Di Puskesmas Pedamaran Timur Tahun 2020. *JURNAL SMART ANKES*. 2020;4(2):14-9.
32. Wijayanti R, Pangestu RN. Hubungan Usia, Paritas, Kadar Haemoglobin dan Indeks Masa Tubuh (Imt) Dengan BBLR Pada Ibu Bersalin Di RSUD Johar Baru Jakarta Pusat Tahun 2017. *Jurnal JKFT*. 2020;5(1):92-103.
33. Dewa BKWP. Hubungan Obesitas pada Kehamilan dengan Berat Bayi dan Usia Kehamilan saat Persalinan di Puskesmas Cakranegara pada Tahun 2019-2021: Universitas Mataram; 2021.
34. Gaspersz E, Picauly I, Sinaga M. Hubungan Faktor Pola Konsumsi, Riwayat Penyakit Infeksi, Dan Personal

- Hygiene Dengan Status Gizi Ibu Hamil Di Wilayah Lokus Stunting Kabupaten Timur Tengah Utara. *Jurnal Pangan Gizi Dan Kesehatan*. 2020;9(2):1081-90.
35. Handajani DO. Hubungan Dukungan Keluarga Dengan Tingkat Kecemasan Pada Ibu Hamil Primigravida Trimester III Dalam Menghadapi Persalinan. *IJMT: Indonesian Journal of Midwifery Today*. 2021;1(1):27-33.
36. Rahmawati D. Hubungan aktivitas fisik ibu saat hamil dengan kejadian sectio caesarea di Kediri. *Jurnal Kebidanan*. 2018;7(2):112-7.
37. Ayuningtyas D, Oktarina R, Misnaniarti NNDS. Etika Kesehatan pada Persalinan Melalui Sectio Caesarea Tanpa Indikasi Medis Bioethics in Childbirth through Sectio Caesaria without Medical Indication. *Jurnal MKMI*. 2018;14(1):9-16