JURNAL MULTIDISIPLIN MADANI (MUDIMA)

Homepage: https://journal.formosapublisher.org/index.php/mudima
ISSN: 2808-5639 (Online)
Research Article

Volume 3, No 4, April (2023)	DOI: https://doi.org/10.55927/mudima.v3i4.2818	Page: 885-896

Overview of Third Trimester Pregnant Women's Urine Leukocyte Sediment and Protein Levels at the Laboratory of Anggrek Mas Hospital, West Jakarta

Halimah Nurul Istiqomah[1*], Septiani[2], Muhammad Rizki Kurniawan[3], Dian Rachma Wijayanti[4]

[1]DIV Study Program, Medical Laboratory Technology
[2,3,4]Faculty of Health Sciences and Technology, Binawan Univesity
Corresponding Author: Halimah Nurul Istiqomah nurul20011999@gmail.com

ARTICLE INFO

Keywords: Urine Protein Levels, Third Trimester Pregnant Women, Urine Leukocyte Sediment

Received : *3 March*
Revised : *17 March*
Accepted : *19 April*

ABSTRACT

Pregnant women with the third trimester of pregnancy (7-9 months or 29-40 weeks), most of them give birth normally, but 15% of cases are life-threatening complications, namely preeclampsia. Preeclampsia is characterized by increased proteinuria. Women during pregnancy are more at risk of suffering from urinary tract infections because of the physiological changes that occur in their bodies. As many as 20% of cases of urinary tract infection occur in pregnant women. Examination of urine protein and urine leukocyte sediment in pregnant women is very important as a support for the risk of preeclampsia and urinary tract infections. This study used descriptive analysis with a cross-sectional design, namely one-time observation. Data used by third trimester pregnant women. The research was conducted in January-July 2022 at the Anggrek Mas Hospital Clinical Laboratory. There are 20 research subjects. With the highest protein levels at high risk of preeclampsia were (+3) 1 pregnant woman and (+4) 3 pregnant women. Then the leukocytes of the urine sediment are above normal values≥5/Landang Besar, namely there are 12 pregnant women each. In the majority of third trimester pregnant women at Anggrek Mas Hospital, West Jakarta, all pregnant women who were observed, the results of urine protein levels were found to be abnormal and urine sediment leukocytes were found to be above normal values

INTRODUCTION

Pregnancy is the start of conception until the development of the fetus. Normal pregnancy ranges from 280 days (40 weeks) from the first to the last day. Because in the body there is something that is an individual that grows and develops to adapt, with that individual the body makes changes, provides a place, opportunity and guarantee to grow and develop until it is time to be born. Third trimester of gestation from 27th week to 38th to 40th week.(Manuaba CAI et al., 2012)

One of the causes of death for pregnant women and the fetus is severe preeclampsia (PEB). based on the comes about of the 2015 Inter-Census Populace Study (SUPAS) was 305 per 100,000 live births. This figure is the highest compared to other ASEAN countries, such as Malaysia, 39/100,000 live births, and Vietnam, 55/100,000 live births. Maternal Mortality Rateor the Maternal Mortality Ratio (MMR) in Indonesia for the period 2011-2014, was 305, meaning that there were 305 maternal passings caused by pregnancy, childbirth up to 42 days after giving birth in that period per 100,000 live births. (Ministry of Health of the Republic of Indonesia, 2019)

The high cause of death for pregnant women is preeclampsia or eclampsia, namely the number of 14,640 total maternal deaths that were reported was only 4,999, meaning that there were 9,641 that were not reported to the center. From these data, there were 2,868 deaths of mothers in hospitals, 9,825 maternal deaths at the Puskesmas Health and 83,447 pregnant mortality in villages and subdistricts. So it can be described where the maternal deaths that occurred were 77% in hospitals, 15.6% at home, 4.1% on the way to health care facilities, 2.5% in other health facilities and 0 maternal deaths in other places. .8%. The other disorders of the cause of preeclampsia and eclampsia are characterized by hypertension as much as 33.07%, pregnancy bleeding 27.03%, non-pregnancy complications 15.7%, other obstetric complications 12.04% infection in pregnancy 6.06% and other causes 4.81%.(Puspitasari AA, 2012)

prenatally, in the third trimester the venous pressure in the kidneys increases and the fetus grows rapidly. One of the symptoms found in third trimester pregnant women sufferers of preeclampsia, eclampsia, is proteinuria and urinary tract infection. Proteinuria is protein excretion through urine 150 mg/day. Proteinuria can be a marker of early kidney disease. Therefore, urine examination of third trimester pregnant women is very much done in order to find out how the mother's medical history, if abnormalities have occurred can be treated immediately.(Ridwan et al., 2021)

Urine sediment is an element that does not dissolve in the urine that comes from the blood, kidneys and urinary tract. A urine sediment test or microscopic test is a very important urine test in helping to make a diagnosis and can monitor the course of disease in kidney and troubles with an urinary system. The components of the urine sediment can be separated into two categories: inorganic components (not obtained from a tissue) such veins and organic components (derived from an organ or tissue) like epithelium, erythrocytes, leukocytes, cylinders, bits of tissue, sperm, and bacteria. and crystalline, respectively. The purpose of examining the urine sediment is to detect and identify materials that do not dissolve in the urine.(Lina N, 2012)

Leukocytes in the urine are generally in the form of segments. In acidic urine, leukocytes or pus cells usually shrink. Most of the leukocytes seen in the urine are neutrophils. Microscopically, leukocytes are spherical, have a multilobed (polymorphonuclear) nucleus, granular, with a

diameter of about 12 µm or approximately 1.5 - 2 times the size of an erythrocyte.(Pasuhuk CP et al., 2016)

In the previous study conducted by Riska Novianti in 2018 with the results of 13 third trimester pregnant women with positive urine protein results, and grouped into 6 (17.64%) positive samples 1 (1+), 7 (20.59%) positive samples 2 (2+) and 21 (61.77%) urine protein negative samples.(Novianti R, 2018)As for other research from the results of previous research conducted by Dini Lukita Hapsari in 2015 with the results of 49 third trimester pregnant women. It can be grouped 22 negative results of urine sediment leukocytes and 27 with positive results of urine sediment leukocytes.(Hapsari DL et al., 2017)Riska Novianti's research in 2018 used the strip dip method and the research subjects totaled 49 third trimester pregnant women. And Dian Hapsari's research in 2015 used the strip dip method. From this background the author is interested in conducting research on " employing the strip dip method and acetic acid, "Overview of Urine Leukocyte Protein and Sediment Levels in Third Trimester Pregnant Women at the Laboratory of Anggrek Mas Hospital, West Jakarta"

METHODS

This type of research is descriptive, namely to obtain an overview of the results of urine protein and urine leukocyte sediment examination. This research was conducted with a cross sectional approach, namely by obtaining only one observation at a time.

The research was conducted at the West Jakarta Anggrek Mas Hospital on Jl. Anggrek No.2, RT.9/RW.2, Kebon Jeruk Village, Kebon Jeruk District, West Jakarta City, Special Capital Region of Jakarta 11530. This research was conducted in January-July 2022. The population in this study were patients with Trimester Pregnant Women The third is in the period from January to July. The research sample is pregnant women who are willing to participate in the study. The sample of this study was 20 pregnant women who met the inclusion and exclusion criteria.

RESULTS

This research was conducted from April 30 to May 31 2022 at the Clinical Laboratory of Anggrek Mas Hospital, West Jakarta. The sample of this study used fresh urine samples by means of collection, namely with the part of the urine while the respondents were 20 people.

1. Characteristics of Third Trimester Pregnant Women Based on Age at Anggrek Mas Hospital.

Table 1. Table of Characteristics of Third Trimester Pregnant Women by Age at Anggrek Mas Hospital

Usia (Tahun)	Frekuensi (N)	Presentase (%)
22	1	5,0
23	1	5,0
24	2	10,0
26	3	15,0
28	1	5,0
29	1	5,0
34	2	10,0
35	3	15,0
37	3	15,0
38	1	5,0
40	2	10,0
Total	20	100,0

Based on Table 1, it shows that the youngest pregnant woman is 22 years old (5.0%), the oldest is 40 years old (10.0%). The largest percentage of pregnant women's age is at the age of 26, 35, and 37 years. The other highest ages of pregnant women are 24, 34 and 40 years. The age of pregnant women is as much as with the smallest number at the age of 22 and 23 years (5.0%), 1 pregnant woman each.

2. Gestational Age-Based Characteristics of Third Trimester Pregnant Women at Anggrek Mas Hospital. Characteristics of third trimester pregnant women based on gestational age are described in Table 2.

Table 2. Table of Characteristics of Third Trimester Pregnant Women Based on Gestational Age at Anggrek Mas Hospital

Usia (Minggu)	Frekuensi (N)	Presentase (%)
28-31 Minggu	4	20,0
32-35 Minggu	8	40,0
36-39 Minggu	8	40,0
Total	20	100,0

Based on Table 2, the smallest gestational age of pregnant women is obtained at 28-31 weeks of gestation, each of which is 4 pregnant women. The highest gestational age was at 32-35 between a 36 and thirty-nine weeks of gestation, and for up to 8 pregnant women. Characteristics of Third Trimester Pregnant Women Based on Gravida at Anggrek Mas Hospital.

Table 3. Table of Characteristics of Third Trimester Pregnant Women Based on Gravida at Anggrek Mas Hospital

Gravida	Frekuensi	Persentase
Primigravida	3	15,0
Multigravida	15	75,0
Grandemultigravida	2	10,0
Total	20	100,0

Based on Table 3 of Gravida at Anggrek Mas Hospital above, it shows that most of the largest gravida are multigravida as many as 15 pregnant women (75.0%). And the smallest Gravida is Grandemultigravida as many as 2 pregnant women (10.0%). Then primigravida as many as 3 pregnant women (15.0%).

Gravida is a woman with her first pregnancy having a higher risk of experiencing preeclampsia than other women. Multigravidas are women who have been pregnant several times, where the pregnancies are no more than 5 times. Grandemultigravida is a woman who has been pregnant more than 5 times.

3. Examination Results of Urine Protein Levels and Urine Leukocyte Sediments

1. Urine Protein Levels

Characteristics of research subjects based on protein levels are described in Table 4

Table 4. Table of Characteristics of Third Trimester Pregnant Women Based on Protein Levels at Anggrek Mas Hospital

Nilai Kadar Protein Urine	Frekuensi (N)	Presentase (%)
+1 (0,01% -0,05%)	8	40,0
+2 (0,05%- 0,2%)	8	40,0
+3 (0,2% - 0,5%)	1	5,0
+4 (>0,5%)	3	15,0
Jumah	20	100,0

Based on data from Table 4, normal urine protein levels were not found. At abnormal protein levels, a minimum of +1 (0.01% - 0.05%) was obtained in 8 pregnant women (40.0%). Urine protein level +2 (0.05% -0.2%) indicates the highest number of pregnant women, obtained from 8 pregnant women (40.0%). The smallest urine protein level in urine protein +3 (0.2-0.5%) was found in 1 pregnant woman (5.0%).

2. Urine Leukocyte Sediment

The characteristics of research subjects based on the results of urine leukocyte examination are described in Table 5

Table 5. Table of Characteristics of Third Trimester Pregnant Women Based on Urine Leukocyte Sediments at Anggrek Mas Hospital

Hasil Leukosit Sel/LPB	Frekuensi (N)	Presentase (%)
2	2	10,0
3	3	15,0
4	3	15,0
6	1	5,0
7	1	5,0
8	1	5,0
9	1	5,0
11	1	5,0
12	1	5,0
14	1	5,0
15	2	10,0
36	1	5,0
38	1	5,0
50	1	5,0
Jumlah	20	100,0

Based on data from Table 5 normal urine leukocyte sediments <5 cells/Large Field of View were obtained by 8 pregnant women (40.0%). Abnormal urinary leukocyte sediment≥5 cells/Large Field of View obtained by 12 pregnant women (60.0%). The largest urine leukocyte sediment was obtained 50 cells/Large Field of View in 1 pregnant woman (5.0%). Then urine leukocyte sediments of 36, 38 and 50 cells/Large Field of View were obtained from 1 pregnant woman (5.0%) respectively. Then the smallest leukocyte sediment of 2 cells/Large Field of View was found in 2 pregnant women (10.0%). This shows that the normal urine sediment leukocyte results of 3 cells/Large Field of View and 4 cells/Large Field of View are higher than the percentage of abnormal urine sediment leukocyte results of 36.38 and 50 cells/Large Field of View. It is possible that pregnant women are at high risk of urinary tract infections.

Table 6. Descriptive Analysis of Urine Leukocyte Sediments and Urine Protein Levels of Pregnant Women

Sampel (N)	Kadar Protein Urine (+)	Sedimen Leukosit Sel/LPB	Usia (Tahun)	Usia Kehamilan (Minggu)	Gravida (G)	Frekuensi kehamilan
1	3	2	22	36	Primigravida	1
2	2	3	23	32	Multigravida	2
3	1	4	24	37	Multigravida	3
4	1	6	26	28	Grandemultigravida	5
5	1	7	28	38	Multigravida	4
6	1	8	29	33	Multigravida	3
7	2	9	34	29	Multigravida	2
8	4	11	35	30	Multigravida	4
9	2	12	37	37	Multigravida	3
10	2	14	38	32	Multigravida	2
11	1	15	40	33	Multigravida	3
12	1	36	22	39	Primigravida	1
13	2	38	23	35	Primigravida	1
14	1	50	24	34	Multigravida	2
15	1	2	26	33	Multigravida	2
16	4	3	28	29	Multigravida	3
17	2	4	29	39	Multigravida	4
18	2	6	34	35	Grandemultigravida	5
19	2	7	35	38	Multigravida	3
20	4	8	37	37	Multigravida	2
Jumlah	20	**Jumlah**	20			
Nilai Rata-Rata	39.0	**Nilai Rata-Rata**	12,3			
Standar Deviasi	1.050	**Standar Deviasi**	13.452			

Based on Table 6 The risk of preeclampsia with the highest urine protein levels, namely +4 and +3. +4 protein levels were obtained by 3 pregnant women, namely: First in pregnant women aged 28 years, gestational age 29 weeks, multigravida status, pregnancy frequency 3 times, second in pregnant women aged 37 years, gestational age 37 weeks, multigravida status, the frequency of pregnancies is 2 times, and the third is in pregnant women aged 35 years, 30 weeks' gestation, multigravida status, frequency 4 times. Protein levels +3 risk of preeclampsia were obtained in 1 pregnant woman, with 22 years of gestation, 36 weeks of gestation, primigravida status, 1 pregnancy frequency.

Based on Table 6, the urine leukocyte sediment of 36 cells/Large Field of View was obtained in 1 pregnant woman, 22 years pregnant, 39 weeks' gestation, primigravida status, with a frequency of 1 pregnancy. Urine leukocyte sediment of 38 cells/Large Field of View was obtained from 1 pregnant woman, 23 years pregnant, 35 weeks pregnant with primigravida status, with a frequency of 1 pregnancy. Urinary leukocyte sediment of 50 cells/Large Field of View was obtained from 1 pregnant woman, 24 years of gestation, 34 weeks of gestation, multigravida status, with a frequency of 2 pregnancies. Normal leukocyte levels <5 cells/Large Field of View were obtained by 8 pregnant women (40.0%). As for urine leukocyte sediments 3 and 4 cells/Large Field of View, 3 pregnant women were obtained respectively. Abnormal leukocyte levels≥5 cells/Large Field of View obtained from 12 pregnant women (60.0%). Urine leukocyte sediment of 6 to 14

cells/Large Field of View was obtained in 1 pregnant woman (5.0%).

RESULTS AND DISCUSSION

Based on Table 3.2, it shows that the youngest pregnant woman is 22 years old (5.0%), the oldest is 40 years old (10.0%). The largest percentage of pregnant women's age is at the age of 26, 35, and 37 years. The other highest ages of pregnant women are at 24, 34 and 40 years. The age of pregnant women with the smallest number was at the age of 22 and 23 years (5.0%), 1 pregnant woman each. This result is in line with research conducted by Meitri Pradifta in 2018 which showed a total of 23 pregnant women. At the age of 20-29 years it was obtained from 11 pregnant women, then pregnant women aged 30 to 40 years were obtained from 9 pregnant women. There are 3 pregnant women who are >40 years old.

Based on Table 3.3, the smallest gestational age of pregnant women is obtained at 28-31 weeks of gestation, each of which is 4 pregnant women. The highest gestational age was at 32-35 weeks and 36-39 weeks of gestation, respectively, as many as 8 pregnant women. This result is in line with previous research conducted by Waginah in 2019 the results of a total of 30 pregnant women. The highest gestational age was found at 32-35 weeks and 28-31 weeks' gestation, respectively for 25 pregnant women, then the smallest gestational age was obtained at 36-39 weeks' gestation for 5 pregnant women each.

Based on Table 3.4 of Gravida at Anggrek Mas Hospital above, it shows that most of the largest gravida are multigravida as many as 15 pregnant women (75.0%). And the smallest Gravida is Grandemultigravida as many as 2 pregnant women (10.0%). Then primigravida as many as 3 pregnant women (15.0%). This result is in line with previous research conducted by Kartika Mariyona, who saw that the majority of pregnant women were obtained in multigravida gravida status. (31) These results are in line with previous research conducted by Maizah in 2019 with gravida status with primigravida obtained in 2 mothers pregnant (40%), while multigravida pregnant women were obtained in 3 pregnant women (60%). (32) There are more multigravida gravida status than primigravida status.

Based on data from Table 3.5, normal urine protein levels were not found. At abnormal protein levels, a minimum of +1 (0.01% - 0.05%) was obtained in 8 pregnant women (40.0%). Urine protein level +2 (0.05% -0.2%) indicates the highest number of pregnant women, obtained from 8 pregnant women (40.0%). The smallest urine protein level in urine protein +3 (0.2-0.5%) was found in 1 pregnant woman (5.0%). The next highest urine protein level in urine protein +4 (> 0.05%) was obtained in 3 pregnant women (15.0%). The possibility that pregnant women are at high risk of preeclampsia. This result is in line with previous research conducted by Setyawan Dewanta Fillandro Jeovan in 2019 showing a total of 61 pregnant women, urine protein levels (-) were obtained in 6 pregnant women (9.8%), urine protein levels +1 (0 .01% - 0, 05%) obtained in 13 pregnant women (21.3%), urine protein content +2 (0.05%-0.2%) obtained in 8 pregnant women (13.1%), urine protein level +3 (0.2-0.5%) was obtained in 22 pregnant women (36.1%), and urine protein levels +4 (>0.05%) were obtained in 12 pregnant women (19.7%).(12) This result is in line with previous research conducted in 2018 which showed that urine protein +3 was found in 13 pregnant women. At the age of pregnant women 21-35 years (76.5%) then negative urine protein results were found in 3 pregnant women at the age of pregnant women (12) These results are in line with previous research conducted in 2018 which showed that a +3 urine

protein result was found in 13 pregnant women. At the age of pregnant women 21-35 years (76.5%) then negative urine protein results were found in 3 pregnant women at the age of pregnant women (12) These results are in line with previous research conducted in 2018 which showed that a +3 urine protein result was found in 13 pregnant women. At the age of pregnant women 21-35 years (76.5%) then negative urine protein results were found in 3 pregnant women at the age of pregnant women≥20 years (17.8%) .

Based on data from Table 3.6 normal urine leukocyte sediments <5 cells/Large Field of View were obtained by 8 pregnant women (40.0%). Abnormal urinary leukocyte sediment≥5 cells/Large Field of View obtained by 12 pregnant women (60.0%). The largest urine leukocyte sediment was obtained 50 cells/Large Field of View in 1 pregnant woman (5.0%). Then urine leukocyte sediments of 36, 38 and 50 cells/Large Field of View were obtained from 1 pregnant woman (5.0%) respectively. Then the smallest leukocyte level of 2 cells/Large Field of View was found in 2 pregnant women (10.0%). These results are in line with previous research conducted by Hotmauli Imelda in 2021 which showed that the third trimester of pregnancy, namely a number of 10 pregnant women had normal urine leukocyte sediments 0-5/Length of Views obtained in 4 pregnant women and > 5/Field Pandang Besar was obtained in 6 pregnant women with abnormal urine leukocytes. (34) However, Hotmauli Imelda's research uses different normal values. The normal value of Hotmauli Imelda is 0-5/Large Field of View and abnormal urine sediment Leukocytes> 5/Large Field of View. While this study used normal values of urine sediment leukocytes <5 cells/Large Field of View, and abnormal urine sediment leukocytes≥5 cells/Large Field of View.

Based on Table 3.7 The risk of preeclampsia with the highest urine protein levels, namely +4 and +3. +4 protein levels were obtained in 3 pregnant women, namely: First at 28 years of first pregnancy, 29 weeks of gestation, multigravida status, 3 pregnancies, second at 37 years of gestation, 37 weeks of gestation , multigravida status, the frequency of pregnancies 2 times, and the third at the age of the third pregnant woman with age 35 years, 30 weeks gestation, multigravida status, frequency 4 times. Protein levels +3 risk of preeclampsia were obtained in 1 pregnant woman, with 22 years of gestation, 36 weeks of gestation, primigravida status, 1 pregnancy frequency. These results are in line with previous research in 2015 for pregnant women aged <20 years and > 35 years old have a high risk of preeclampsia. The risk of preeclampsia with age <20 years, Primigravida gravida status was obtained in 4 pregnant women, the frequency of pregnancies was 1 time. Then at the age of 20-35 years primigravida status was obtained in 30 pregnant women and multigravida was obtained in 20 pregnant women. And age> 35 years with primigravida gravida status was found in 4 pregnant women and multigravida status was obtained in 43 pregnant women. Meanwhile, pregnant women with preeclampsia in the age range not at risk of preeclampsia at the age of 20-35 years were found in 43 people with primigravida status, 22 pregnant women and 52 pregnant women with multigravida status. Then at the age of 20-35 years primigravida status was obtained in 30 pregnant women and multigravida was obtained in 20 pregnant women. And age> 35 years with primigravida gravida status was found in 4 pregnant women and multigravida status was obtained in 43 pregnant women. Meanwhile, pregnant women with preeclampsia in the age range not at risk of preeclampsia at the age of 20-35 years were found in 43 people with primigravida status, 22

pregnant women and 52 pregnant women with multigravida status. Then at the age of 20-35 years primigravida status was obtained in 30 pregnant women and multigravida was obtained in 20 pregnant women. And age> 35 years with primigravida gravida status was found in 4 pregnant women and multigravida status was obtained in 43 pregnant women. Meanwhile, pregnant women with preeclampsia in the age range not at risk of preeclampsia at the age of 20-35 years were found in 43 people with primigravida status, 22 pregnant women and 52 pregnant women with multigravida status.

Based on Table 3.7, leukocyte urine sediments of 36 cells/Large Field of View were obtained in 1 pregnant woman, 22 years pregnant, 39 weeks' gestation, primigravida status, with a frequency of 1 pregnancy. In urine leukocyte sediments, 38 cells/Large Field of View were obtained from 1 pregnant woman, 23 years pregnant, 35 weeks pregnant, primigravida status, with a frequency of 1 pregnancy. In urine leukocyte sediments 50 cells/Large Field of View was obtained in 1 pregnant woman, 24 years of gestation, 34 weeks of gestation, multigravida status, with a frequency of 2 pregnancies. This result is in line with previous research by Edy Fakhrizal in 2016, the total results were 27 people, with ages 20-30 years obtained 17 pregnant women, ages 31-40 years obtained in 9 pregnant women, 41-50 years of age were obtained from 1 pregnant woman, then for each gestational age the most were obtained in the third trimester diagnosed with urinary tract infection in a number of 15 pregnant women, then the highest gravida status was obtained in multigravidas in the number of 12 pregnant women. (36) Edy Fakhrizal's study used the chi square test with a p value <0.25 which was considered to have a relationship with the incidence of urinary tract infections. Age of pregnant women, gestational age, and gravid status exhibited a p-value for gestational age of 0.83, a p-value for gestational age of 0.59, and a p-value for gravid status of 0.65. This suggests that there is no relationship between pregnant women's periods, gestational age and gravid status with the risk of urinary tract infections. then for each gestational age the highest number was obtained in the third trimester diagnosed with urinary tract infection in a number of 15 pregnant women, then the highest gravida status was obtained in multigravida numbering 12 pregnant women. Edy Fakhrizal's study used the chi square test with a p value <0.25 which was considered to have a relationship with the incidence of urinary tract infections. Age of pregnant women, gestational age, and gravid status showed a p-value of 0.83 for gestational age, a p-value of 0.59 for gestational age, and a p-value of 0.65 for gravid status. This means that there is no relationship between the age of pregnant women, gestational age and gravid status with the risk of urinary tract infections. then for each gestational age the highest number was obtained in the third trimester diagnosed with urinary tract infection in a number of 15 pregnant women, then the highest gravida status was obtained in multigravida numbering 12 pregnant women. (36) Edy Fakhrizal's study used the chi square test with a p value <0.25 which was considered to have a relationship with the incidence of urinary tract infections. Age of pregnant women, gestational age, and gravid status showed a p-value of 0.83 for gestational age, a p-value of 0.59 for gestational age, and a p-value of 0.65 for gravid status. This means that there is no relationship between the age of pregnant women, gestational age and gravid status with the risk of urinary tract infections. Edy Fakhrizal's study used the chi square test with a p value <0.25 which was considered to have a relationship with the incidence of urinary tract infections. Age of pregnant women, gestational age, and gravid status showed a p-value of 0.83 for gestational age, a p-value of 0.59 for gestational age, and a p-value of 0.65 for gravid status. This means that there is no relationship between the age of pregnant women, gestational age and gravid status with the risk of urinary tract infections. Edy Fakhrizal's study used the chi square test with a p value <0.25 which was considered to have a relationship with the incidence of urinary tract

infections. Age of pregnant women, gestational age, and gravid status showed a p-value of 0.83 for gestational age, a p-value of 0.59 for gestational age, and a p-value of 0.65 for gravid status. This means that there is no relationship between the age of pregnant women, gestational age and gravid status with the risk of urinary tract infections.

REFERENCES

Arsani YPL, Merta WI, & Widhya HSDC. (2017). Urine Protein Levels in Trimester Ii and III Pregnant Women at West Denpasar Health Center Ii. Meditory: The Journal of Medical Laboratory, 5(1), 31–44. https://doi.org/10.33992/m.v5i1.108

Denantika O, Serudji J, & Revilla. (2015). Research Article on the Relationship between Gravida Status and Maternal Age to Incidence. Journal of Unand, 4(1), 212–217.

Fakhrizal E. (2018). Urinary Tract Infection in Pregnancy: Prevalence and Affecting Factors. Journal of Medical Sciences, 11(1), 19. https://doi.org/10.26891/jik.v11i1.2017.19-24

Hapsari DL, Herlina G, & Hardianto. (2017). Description of Urine Leukocytes for Pregnant Women Symptoms of UTI in RSUD Dr. Soetomo Surabaya Period July - September 2015. JUXTA: Scientific Journal of Airlangga University Medical Students, 9(1), 1–5. https://e-journal.unair.ac.id/JUXTA/article/view/16918/9741

Hotmauli IF, Irawan PM, & Azhari FS. (2021). Overview of Leukocytes in the Urine Sediment of Pregnant Women. Journal of Professional Nurse Research, 3(3), 541–548. https://doi.org/10.37287/jppp.v3i3.544

Ministry of Health of the Republic of Indonesia. (2019). Hypertension or high blood pressure. P2PTM Directorate, 5(3), 1–10. http://p2ptm.kemkes.go.id/uploads/VHcrbkVobjRzUDN3UCs4eUJ0dVBndz09/2019/01/Leaflet_PDF_15_x_15_cm_Hipertensi_Tekanan_Darah_Tinggi.pdf

Lina N. (2012). Risk Factors for Urinary Tract Stones in Men. In MASTER OF EPIDEMIOLOGY (Vol. 88, Issue 90).

Maizah, Ruliati, & Ismunanti I. (2019). Description of the number of leukocytes in third trimester pregnant women in the village of Blaban Kacamaatan Batumarmar Pamekasan Madura. Journal of Health Analysts, 6(8), 9–25.

Manuaba CAI, Manuaba FGBI, & Manuaba GBI. (2012). Textbook of Obstetric Pathology for Midwifery Students. MEDICAL EGC. https://ye5lv0ju8b.pdcdn1.top/dl2.php?id=50005390&h=ac96b08d05ea96305a07f06e3ff5efdf&u=cache&ext=pdf&n=Textbook of obstetric pathology for midwifery students

Mariyona K. (2019). Complications and risk factors for pregnancy in the health center 1. Journal of Midwifery, 1(2), 109–116. https://webcache.googleusercontent.com/search?q=cache:cSaz_5kFM9MJ:https://jurnal.umsb.ac.id/index.php/menaramedika/article/download/2069/1693&cd=2&hl=id&ct=clnk&gl= id

Novianti R. (2018). Overview of Urine Protein Examination Results in Third Trimester Pregnant Women at the Poasia Health Center, Kendari City. Scientific Writing, 2(19), 2. http://repository.poltekkes-kdi.ac.id/456/1/pdf.pdf

Pasuhuk CP, Mongan EA, & Wowor M. (2016). Description of urinary leukocytes in adult pulmonary tuberculosis patients at Prof. Dr. RD Kandou Manado. Journal of E-Biomedik, 4(2), 2–7. https://doi.org/10.35790/ebm.4.2.2016.14766

Pradifta M. (2018). Description of Urine Protein Levels in Third Trimester Pregnant Women using the 6% acetic acid method. Journal of Health Analyst, 6(2).

Puspitasari AA. (2012). Factors associated with preeclampsia in pregnant women (Study at Dr. Kariadi General Hospital, Semarang, 2007). In HEALTH SCRIPTION (Vol. 3, Issue 4). http://digilib.unisayogya.ac.id/3028/1/DEWI NADIA NURHASANAH %281610104418%29 PUBLICATION MANUAL PDF.pdf

Ridwan, Asriyani, & Arwie, D. (2021). Examination of urine protein in pregnant women in Balang Pesoang Village. 2(1), 6–9.

Setyawan DJF, Wiryanthini DAI, & Tianing WN. (2019). Description of Urine Protein Levels in Pregnant Women with Preeclampsia and Eclampsia at Sanglah General Hospital, Denpasar, 2017. Udayana Medika Journal, 8(12), 1–5. https://ojs.unud.ac.id

Vincentia O. (2018). Overview of urine protein in pre-eclampsia and eclampsia pregnant women in RSUP. H. Adam Malik Medan in December 2009 – October 2010. Journal of Medicine, 1(3), 82–91.

Waginah. (2019). Description of urine protein in pregnant women in the third trimester of pregnancy at Dr. Pirngadi Medan. Journal of Health Analysts, 1(2), 1–13. http://180.250.18.58/jspui/bitstream/123456789/3758/1/KTI WAGINAH.pdf