

Factor Analysis of the Incidence of Infertility in Couples of Childbearing Age at the Dagifa Medical Center Clinic

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ABSTRACT

The prevalence of infertility in Indonesia is currently 12-15% of the 40 million couples of childbearing age who experience problems in fertility. Every married couple or couple of childbearing age after marriage will want to have offspring (have children). However, couples of childbearing age are unable to conceive for 12 months with frequent sexual intercourse 2-3 times a week. The purpose of this study was to analyze the factors of infertility in couples of childbearing age at the dagifa medical center clinic. This research is a type of observational analytic research cross sectional design with a quantitative approach. The research was conducted at the Dagifa Medical Center Clinic in December 2022. The research sample was total sampling, namely all couples of childbearing age recorded in medical records in January - November 2022 with a total of 45 people. The instrument used in the form of a questionnaire sheet consisting of respondents' biodata and a statement sheet about factors that influence the incidence of infertility. Univariate analysis using the frequency distribution formula, namely the variable characteristics of respondents. In bivariate analysis using SPSS chi-square test. There is a relationship between age, nutritional status and menstrual cycle with the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022 because the p-value of each with the acquisition of $0.00 < 0.05$. so it is advisable for health workers especially midwives to provide information related to infertility in couples of childbearing age so that they can provide prevention and direction if there is one of the factors in the current study.

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1. INTRODUCTION

According to the World Health Organization (WHO) also estimates that around 50-80 million couples (1 in 7 couples) have infertility problems, and every year around 2 million infertile couples appear [1]. The prevalence of infertility in Indonesia is currently 12-15% of the 40 million couples of childbearing age who experience problems in fertility. Every married couple or couple of childbearing age after marriage will want to have offspring (have children). However, couples of childbearing age are unable to conceive for 12 months with frequent sexual intercourse 2-3 times a week. Infertility is a condition where a married couple has not been able to have children even though they have had sexual intercourse 2-3 times a week within 1 year without using any form of contraception [2].

Infertility is divided into 2 categories, namely primary infertility and secondary infertility. Primary infertility is a husband and wife in which the woman cannot get pregnant by having regular sexual intercourse or a married couple who has never had offspring or a woman who has never experienced pregnancy. Meanwhile, secondary infertility is a married couple who have been pregnant and have children before but the next pregnancy program cannot get pregnant by having regular sexual intercourse 2-3 times a week [3].

Infertility can occur due to factors from women or men. The research according to Mulyani et. al. (2021) found that there was an effect of infertility on nutritional status [4]. Meanwhile, according to (Nurhayati, 2017) age is one of the main factors that determine a woman's fertility [5]. This is because as you get older, the number and quality of eggs is also affected. In addition, there is also

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research according to Olooto et al (2012) which states that infertility is more common in career women. In the research conducted, it was found that 72% of infertile women were career women and the rest were women who did not work or what we know as housewives [6]. Many studies have been conducted to look at the effects of stress as a cause of infertility. Some of these studies show the fact that stress can cause an increase in stress hormones (glucocorticoids), such as cortisol. Cortisol can inhibit the body from producing sex hormones, such as gonadotropin releasing hormone (GnRH), which leads to reduced sperm count, late ovulation (egg maturation and release) or no ovulation at all, and reduced sexual desire [7].

According to Nani Yuliafarni & Nina (2022) which states that obese women are at risk of reproductive function disorders and cause infertility or infertility. Infertility or infertility is defined by a condition in which women do not also experience pregnancy despite having regular sexual intercourse. It is recommended that married couples, both or one of whom is obese, maintain an ideal body weight by implementing a healthy lifestyle. Menstrual cycles that start earlier or later are associated with decreased fertility. Generally, a normal menstrual cycle is 28 days. However, the average length of participants' cycles was 29 days, and it was found that women with menstrual cycles of 26 days or less had lower fertility, reducing their chances of conceiving. It is recommended that women of childbearing age who easily experience abnormal menstrual cycles, to maintain ideal body weight, manage stress, routinely do physical activity, diet with balanced nutrition, and perform hormonal therapy to trigger normal ovulation [7].

Based on previous research on factors that influence the occurrence of infertility, and in accordance with the researcher's initial survey of couples of childbearing age who experienced infertility, 5 people were found among the presence of excess weight, irregular menstrual cycles, working women, consumption of ready-to-eat foods such as pizza, hamburger and so on. The statement of couples of childbearing age who experience infertility, the researcher is interested in taking the research title, namely "Factor Analysis of Infertility Events in Couples of Fertile Age at the Dagifa Medical Center Clinic in 2022".

2. METHOD

This study is a type of observational analytic research with a cross sectional design with a quantitative approach. The research was conducted at the Dagifa Medical Center Clinic in December 2022. The population of this study were all couples of childbearing age recorded in medical records in January - November 2022 totaling 45 people. The research sample was total sampling, namely all couples of childbearing age recorded in medical records in January - November 2022 with a total of 45 people. In this study, the instrument used in the form of a questionnaire sheet used by researchers in collecting data on the characteristics of respondents consisting of respondents biodata and statement sheets about factors that influence the incidence of infertility. Univariate analysis using the frequency distribution formula, namely the variable characteristics of respondents. In bivariate analysis using SPSS chi - square test.

3. RESULTS AND DISCUSSION

Univariate Analysis

Table 1. Incidence of infertility in couples of childbearing age based on age, nutritional status, and menstrual cycle at Dagifa Medical Center Clinic in 2022

Respondent Characteristics	F	%
Incidence of Infertility		
Experiencing Infertility	24	53,3,3%
Not Experiencing Infertility	21	46,7 %
Age of childbearing age couples		
< 20 years	4	8,9 %
20-35 years	31	68,9%
> 35 years	10	22,2%

Nutritional status		
Thin	9	20,0 %
Normal	22	48,9 %
Fat	14	31,1 %
Menstrual Cycle		
Irregular	36	80 %
Regular	9	20 7%

Based on the data in Table 1, it can be seen from the frequency distribution of Infertility Incidence based on the majority of Infertility Incidence experiencing infertility amounted to 24 (53.3%), the age of the majority of the childbearing age couples in the range of 20-35 years as many as 31 (68.9%), the majority of normal nutritional status as many as 22 (48.9%), the majority of irregular menstrual cycles amounted to 36 (80%).

Bivariate Analysis

Table 2. Relationship between age and the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022

Age of childbearing age couples	Infertility in couples of childbearing age						Asymp.sign (2 – sided)
	Experiencing Infertiltas		Not Experiencing Infertility		Total		
	f	%	f	%	f	%	
< 20 years	4	8,9	0	0,0	4	8,9	0,000
20-35 years	10	22,2	21	46,7	31	68,9	
> 35 years	10	22,2	0	0,0	10	22,2	
Total	24	53,3	21	46,7	45	100	

The results of the analysis of the relationship between age and the incidence of infertility in couples of childbearing age showed an Asymp.sign value of 0.00, because the p-value of 0.00 < 0.05, it can be concluded that there is a relationship between age and the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022.

Table 3. Relationship between nutritional status and the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022

Nutritional status	Infertility in couples of childbearing age						Asymp.sign (2 – sided)
	Experiencing Infertiltas		Not Experiencing Infertility		Total		
	f	%	f	%	f	%	
Thin	9	20,0	0	0,0	9	20,0	0,000
Normal	1	2,2	21	46,7	22	48,9	
Fat	14	31,1	0	0,0	14	31,1	
Total	24	53,3	21	46,7	45	100	

The results of the analysis of the relationship between nutritional status and the incidence of infertility in couples of childbearing age showed an Asymp.sign value of 0.00, because the p-value of 0.000 < 0.05, it can be concluded that there is a relationship between nutritional status and the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022.

Table 4. Relationship between the menstrual cycle and the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022

Menstrual Cycle	Infertility in couples of childbearing age			Total	Asymp.sign (2 – sided)
	Experiencing Infertiltas	Not Experiencing Infertility			

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	f	%	f	%	f	%	
Irregular	24	53,3%	12	26,7%	36	80,0%	0,000
Regular	0	0,0 %	9	20,0%	9	20,0 %	
Total	24	53,3	21	46,7	45	100	

The results of the analysis of the relationship between the menstrual cycle and the incidence of infertility in couples of childbearing age showed an Asymp.sign value of 0.000, because the p-value of 0.000 <0.05, it can be concluded that there is a relationship between the menstrual cycle and the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022.

Relationship between age and the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022

In research that wants to know the relationship between age and the incidence of infertility, the results of the analysis of the relationship between age and the incidence of infertility in couples of childbearing age show an Asymp.sign value of 0.00, because the p-value of 0.00 <0.05, it can be concluded that there is an age relationship with the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022.

The results of this study are in line with previous research conducted by Yolanda et. al. (2021) that there is a relationship between age and the incidence of infertility [8], and according to Indarwati (2017), the increasing age of women also has an impact on egg reserves which are getting smaller, older women also tend to have impaired health functions which can result in a decrease in female reproductive function [9].

According to the opinion of Nurhayati, 2017 which states that Age is a risk factor that affects infertility in couples of childbearing age. Fertility is quite stable at an age less than 35 years of age. After the age of 35 years there is a decline in fertility in women, the more age that has reached the age of 40 years, fertility will decrease drastically [5].

Based on the theory and opinions of previous studies, the researcher argues that in this study it is proven that infertility occurs at the age of over 35 years with a total of 10 people over 35 years of age, the majority experiencing infertility. Therefore, researchers can conclude that the results of this study can be used as a guideline for women to know the woman's entertainment period around the age of 20-35 years, this is in accordance with the research of Purwoastuti and Walyani, (2015) which states that women's fertility naturally decreases from the age of 35 years due to fewer egg reserves [10]. In addition, it is emphasized by the Ministry of Health (2015) that the ideal age for a woman to get married is during young adulthood, which is around 25-35 years old because this age is considered to be quite ready from the aspects of health, mental emotional, education, socio-economic and reproductive [11].

Based on the results of this study, the researcher hopes to be a source of information for women of childbearing age or couples of childbearing age to pay attention to the age aspect of the pregnancy program. If the age has begun to approach 35 years it would be nice to program pregnancy with those who are ready at an age that is said to be fertile. This was conveyed by researchers seen in couples of childbearing age 20-35 years from a total of 31 people only 10 people (32.25%) who experienced infertility. Therefore, it is hoped that health workers will be able to provide education to couples of childbearing age early in premarital or before marriage so that in the pregnancy program so that it can help couples of childbearing age experience infertility.

Relationship between nutritional status and the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022

In a study that wanted to know the relationship between nutritional status and the incidence of infertility, the results of the analysis of the relationship between nutritional status and the incidence of infertility in couples of childbearing age showed an Asymp.sign value of 0.00, because the p-value of 0.000 <0.05, it can be concluded that there is a relationship between nutritional status and the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022.

The results of this study are in line with previous research by Febriani & Wulandari (2017)

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which states that the results of the Chi Square test obtained $p=0.001$, it can be concluded that there is a relationship between nutritional status and infertility [12]. In addition, according to Witjaksono 2015. Obesity is known to cause infertility due to insulin retention where the body is unable to process glucose quickly. Insulin retention causes an increase in blood insulin levels, the higher the insulin levels the greater the obstacles to egg development in the ovaries. Obesity also has a detrimental effect on all systems, including reproductive health [13].

In the statement about obesity, the researcher analyzes based on the results of current research, it is proven that with obese nutritional status, the majority of obese people experience infertility, so the cause of obesity in women is closely related to the incidence of infertility. There is also an opinion according to Ulfah, R, et al (2019) stated in the results of his research that nutritional factors affect a person's fertility, besides being influenced by genetics and age. Female reproduction needs a balanced nutritional intake. Reproductive problems increase along with the number of overweight incidents in general, therefore in order to avoid infertility it is expected for mothers to regulate their diet and eat nutritious foods. This is in line with the results of the current study Nutritional status can also cause infertility if a woman is overweight or obese [14].

Based on the theory and opinions of previous research results, the researcher assumes that for women who are obese before marriage, it is very necessary to provide education that fat is one of the causes of infertility, therefore, it is very necessary to educate in providing this information so that couples of childbearing age who experience obese weight, to prevent this for the food consumed is maintained so that the body becomes ideal so that reproduction becomes healthier or has no problems.

The Relationship of the Menstrual Cycle with the Incidence of Infertility in Couples of Fertile Age at the Dagifa Medical Center Clinic in 2022

In a study that wanted to know the relationship between the menstrual cycle and the incidence of infertility, the results of the analysis of the relationship between the menstrual cycle and the incidence of infertility in couples of childbearing age showed an Asymp.sign value of 0.000, because the p -value of $0.000 < 0.05$, it can be concluded that there is a relationship between the menstrual cycle and the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022.

The results of this study are in line with previous research conducted by Susilawati & Restia (2017) which states that women who experience irregular menstruation are usually difficult to conceive. This can cause the ovulation process to be disrupted, hence infertility occurs [15].

This research is also in line with previous research by Yuliafarni (2022) which states that there is a relationship between the menstrual cycle and the incidence of infertility [7]. In addition, it is emphasized based on research by Oktarina, et al (2014) which states that ovulation detection is an integral part of infertility examination because pregnancy is not possible without ovulation. Even rare ovulation can cause infertility. Regular menstrual cycles and the same length of menstruation are usually ovulatory menstrual cycles. According to Ogino, the next menstruation will occur $14 + 2$ days after ovulation. Irregular menstrual cycles, with unequal menstrual lengths, are very likely to be caused by anovulation [16].

With the known opinions of previous researchers, the researcher assumes that there is a relationship between the menstrual cycle and the incidence of infertility if the menstrual cycle is irregular because it is difficult to determine the fertile period in women. However, a regular menstrual cycle can make it easier to calculate the fertile period, this is supported by the theory according to Utami & Anggraini, (2018) which explains that the menstrual cycle is the distance between the start date of the last menstruation and the start of the next menstruation. The day bleeding starts is called the first day of the cycle. Because the time of the onset of menstruation is not taken into account and the exact time of menstrual discharge from the ostiumuteri externum cannot be known, the length of the cycle contains an error of approximately 1 day. The normal length of the menstrual cycle or considered the classic menstrual cycle is 28 days. The average length of the menstrual cycle in 12-year-old girls is 25.1 days, in 43-year-old women 27.1 days, and in 55-year-old women 51.9 days. So, actually the length of the 28-day menstrual cycle is not often found and only 10-15% of women have a 28-day cycle [17].

Based on the incidence of infertility can be associated with the occurrence of irregular menstrual cycles, therefore the solution that can be done by health workers is to provide education and information to couples of childbearing age by explaining that irregular menstrual cycles are one of the opportunities for infertility in couples of childbearing age, as well as solutions for women who experience menstrual cycle irregularities, namely a healthy lifestyle, and nutritional status is also one of the triggers for irregular menstrual cycles. This is reinforced by Oktarina, et al (2014) which states in the results of his research that the menstrual cycle can be disrupted or irregular due to poor nutritional status, namely obesity or thinness [16].

4. CONCLUSION

There is a relationship between age, nutritional status and menstrual cycle with the incidence of infertility in couples of childbearing age at the Dagifa Medical Center Clinic in 2022 because the p-value of each with the acquisition of $0.00 < 0.05$. so it is advisable for health workers especially midwives to provide information related to infertility in couples of childbearing age so that they can provide prevention and direction if there is one of the factors in the current study.

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