

**THE ASSOCIATED AGE AND LENGTH OF MARRIAGE WITH  
INFERTILITY MANAGEMENT AT GADING MEDIKA HOSPITAL  
IN BENGKULU CITY**

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**ABSTRACT**

**Background:** Infertility is a disorder of the male or female reproductive system defined by the inability to conceive after 12 months or more of consistent unprotected sexual intercourse. Experts forecast that by 2022, the global prevalence of infertility would increase to almost 17.5% of the adult population, translating to one in six individuals facing infertility.

**Purpose:** This study aimed to ascertain the correlation between age and duration of marriage about infertility care at Gading Medika Hospital, Bengkulu, in 2024.

**Method:** This study employs a cross-sectional design. The study population consisted of 90 respondents who visited the Fertility Polyclinic at Gading Medika Hospital in Bengkulu. The research utilized the accidental sampling method, yielding a sample size of 47 participants. Data collection was achieved by observation sheets, direct interviews with respondents, and the utilization of medical data. We utilized univariate and bivariate data analysis methods, in conjunction with chi-square testing.

**Result:** The univariate analysis results indicated that the majority of respondents visiting the reproductive clinic were 35 individuals (74.5%) aged between 20 and 35 years; also, most respondents, 27 individuals (57.4%), had been married for over 3 years. The bivariate analysis results indicate a correlation between age and infertility management ( $p$  value = 0.003), as well as a correlation between the duration of marriage and infertility management ( $p$  value = 0.002).

**Conclusion:** The study's findings reveal a substantial association between age, duration of marriage, and infertility management. Researchers recommend that Gading Medika Hospital monitor or follow up on patients' conditions post-visit to the fertility clinic to evaluate the efficacy of the infertility management service program.

**Keywords:** *Age, duration of marriage, infertility management.*

## INTRODUCTION

The issue of infertility is becoming an increasingly pressing concern for the reproductive health of a significant number of couples all over the world. In order to accomplish Sustainable Development Goals (SDGs) 3, which is to promote healthy lives and increase the well-being of all people of all ages, and SDG 5, which is to achieve gender equality and empower women (WHO, 2023), defeating infertility is a vital step toward attaining these goals. According to data from the World Health Organization (2012), the prevalence of infertility over the world is somewhere between 8 and 10 percent. The World Health Organization (WHO) projects that by the year 2022, the prevalence of infertility will have increased to around 17.5% of the adult population, which is equivalent to being experienced by one in every six individuals (WHO, 2023).

In Indonesia, the rate of infertility is approximately 10-15%, which means that 4-6 million couples out of 39.8 million couples of reproductive age require infertility treatment in order to finally have children. It is possible for a couple to experience unexplained infertility (idiopathic infertility) even after they have received a conventional

test examination (Safitriana, 2022). This is because the cause of infertility can be attributed to either the male or the female, or to both of these variables.

When it comes to fertility, age is one of the most important factors. It has been demonstrated through research that the quantity and quality of eggs produced by women experience a significant reduction when they reach their 30s, particularly after the age of 35. There is a natural decline in the likelihood of conceiving at this age, and there is an increase in the likelihood of experiencing problems during pregnancy. On the other hand, although males undergo a more gradual drop in fertility, the quality of their sperm, which decreases with age, can have an effect on the fertility of a pair. According to Oktarina (2014), it is of utmost importance for couples who are wanting to become pregnant to be aware of these age constraints. This is because it can facilitate better decision-making regarding the timing and technique of experiencing pregnancy.

It has been found that the amount of time a couple has been married is directly associated to the experience of infertility, in addition to the age component. It is common for couples who have been married for a significant

amount of time to experience social pressure to have children, which can result in added stress for the couple. According to the findings of research, such pressures can originate from a wide range of sources, such as family, friends, and society, all of which have particular expectations regarding the duties that parents are expected to fulfill. Because the couple's mental health may be put at risk as a result of this ongoing stress, it is essential that they receive sufficient emotional support during the course of treatment. According to Djuwantonono et al. (2010), the purpose of this study is to gain a deeper understanding of how an individual's level of support can influence the outcomes of treatment for infertility.

Understanding that the social and economic circumstances of a couple can have a substantial impact on the management of infertility is another key aspect to take into consideration. It is common for couples that come from secure economic situations to have more access to quality medical care, including treatment for infertility. It is possible that couples who live in regions with limited access to healthcare will not obtain proper treatment, which will result in their disease being

even more severe. As a result, the purpose of this research is to investigate the connection between economic position and access to healthcare, as well as the influence that this connection has on the outcomes of infertility therapy (Hestiantoro et al., 2019).

In addition, community-based initiatives can be incorporated into the management of infertility. These approaches involve providing couples with information and social support. The dissemination of information through these educational programs has the potential to enhance individuals' comprehension of the significance of reproductive health and the influence of factors such as age and the length of time spent married on fertility. This would provide a better atmosphere for couples to deal with the obstacles they confront (Azzahra, 2022). A community that is well educated will be better equipped to provide social assistance to couples who are coping with these issues through the provision of social support.

Gading Medika Hospital, located in Bengkulu City, is an example of an institution that has successfully addressed reproductive concerns by taking forward-thinking measures. The goal of

the hospital is to provide couples who are battling with reproductive challenges with a supportive environment by providing them with thorough medical care as well as psychological assistance. To effectively treat infertility, it is necessary to not only take a medical approach, but also to have a profound grasp of the emotional issues that couples go through. We have high hopes that the findings of this research will contribute to the development of recommendations that will improve the efficiency of existing programs and create a more all-encompassing support system for couples.

Furthermore, we believe that the findings of this study will throw further insight on the ways in which these factors influence the management of infertility. This study has the potential to inform the establishment of hospital and national policies and programs that are more sensitive to the requirements of couples. This is because it will identify the association between age, length of marriage, and treatment success. Furthermore, the findings of this study will lead to a better understanding among the general public regarding the significance of reproductive health and infertility care efforts that are more focused on the person.

This research was conducted at Gading Medika Hospital in Bengkulu with the intention of determining the relationship between age and the length of time a couple has been married, as well as the treatment of infertility.

#### **METHOD**

For the purpose of this investigation, a quantitative descriptive method and a cross-sectional methodology were utilized. For the purpose of this study, 47 volunteers were recruited via a method of sample collecting known as incidental sampling methods. Beginning on the 21st of June and continuing until the 20th of July 2024, we carried out the research at the Fertility Polyclinic of Gading Medika Hospital in Bengkulu.

An observation sheet that includes the respondent's number, the day and date of the observation, the respondent's age, and the respondent's marital age acts as the instrument for the particular study.

Both the univariate test and the chi-square test were utilized in this investigation. The univariate test was utilized to ascertain the frequency distribution of each variable, while the chi-square test was utilized to ascertain the association between the independent variables and the dependent variables. In order to evaluate the nature of the association, the data analysis was carried out by the SPSS 24 application, which utilized an alpha value of 0.05.

This research has been approved by the ethical committee of Faculty of Health Sciences at Dehasen

University Bengkulu, which assigned it the number 0049/D-KEPK/FD/V1/2024.

**RESULT**

**Table 1.** Frequency distribution of respondents (n:47)

| <b>Variables</b>                 | <b>Frequency (n)</b> | <b>Percentage (%)</b> |
|----------------------------------|----------------------|-----------------------|
| <b>Age (year)</b>                |                      |                       |
| 20-35                            | 35                   | 74.5                  |
| >35                              | 12                   | 25.5                  |
| <b>Length of Marriage (year)</b> |                      |                       |
| 0-1                              | 2                    | 4.3                   |
| 1-2                              | 8                    | 17                    |
| 2-3                              | 10                   | 21.3                  |
| >3                               | 27                   | 57.4                  |
| <b>Fertility management</b>      |                      |                       |
| Pharmacological Therapy          | 23                   | 48.9                  |
| Non-Pharmacological Therapy      | 24                   | 51.1                  |
| Total                            | 47                   | 100                   |

According to the data presented in Table 1, the majority of the 47 individuals who participated in the survey were between the ages of 20 and 35, while a lesser minority were over the age of 35. In addition, a small percentage of respondents revealed that they had been married for 0 to 1 years, a smaller percentage

for 1 to 2 years, a smaller percentage for 2 to 3 years, and a bigger percentage for more than 3 years. In addition, the majority of the respondents received non-pharmacological therapy, while nearly half of the respondents received pharmaceutical therapy.

**Table 2.** Cross tabulation of age relationship with infertility management at Gading Medika Hospital, Bengkulu.

| Age (year) | Fertility management    |      |                             |      |       |     | P Value |
|------------|-------------------------|------|-----------------------------|------|-------|-----|---------|
|            | Pharmacological Therapy |      | Non-Pharmacological Therapy |      | Total |     |         |
|            | n                       | %    | n                           | %    | n     | %   |         |
| 20-35      | 22                      | 62.9 | 13                          | 37.1 | 35    | 100 | 0,0003  |
| >35        | 1                       | 8.3  | 11                          | 91.7 | 12    | 100 |         |
| Total      | 23                      | 48.9 | 24                          | 51.1 | 47    | 100 |         |

A majority of the 47 respondents, aged 20-35, were given pharmaceutical therapy, while nearly all of them were given non-pharmacological therapy. This information is presented in the table that is located above. On the other hand, out of the twelve individuals who participated in the survey and were over the age of 35, only a small percentage received pharmacological treatment,

while the vast majority received no treatment at all. The value  $p = 0.003$  ( $p < 0.05$ ) was obtained after running a static test using Chi-Square using SPSS with a significance level of  $\alpha = 0.05$ . This indicates that there is a possible association between age and the management of infertility, with those who are 18 times more likely to have infertility.

**Table 3.** Cross tabulation of the relationship between length of marriage and infertility management at Gading Medika Hospital, Bengkulu

| Length of marriage (year) | Fertility management    |      |                         |      |       |     | P Value |
|---------------------------|-------------------------|------|-------------------------|------|-------|-----|---------|
|                           | Pharmacological Therapy |      | Pharmacological Therapy |      | Total |     |         |
|                           | n                       | %    | n                       | %    | n     | %   |         |
| 0-1                       | 1                       | 50   | 1                       | 50   | 2     | 100 | 0,002   |
| 1-2                       | 7                       | 87.5 | 1                       | 12.5 | 8     | 100 |         |
| 2-3                       | 8                       | 80   | 2                       | 20   | 10    | 100 |         |
| >3                        | 7                       | 25.9 | 20                      | 74.1 | 27    | 100 |         |
| Total                     | 23                      | 48.9 | 24                      | 51.1 | 47    | 100 |         |

As can be seen in the table that is located above, out of the 47 respondents, two of the respondents had a length of marriage that was between 0 and 1 year, and half of the respondents received pharmacological therapy. Of the eight respondents who had a length of marriage between 1 and 2 years, almost all of them received pharmacological therapy, and a small proportion of the respondents received non-pharmacological therapy. Of the twenty respondents who had a length of marriage that was between 2 and 3 years, almost all of the respondents received pharmacological therapy, and a small proportion of the respondents received non-pharmacological therapy. Finally, 27 respondents who had a length of marriage that was greater than 3 years found that almost some of them received pharmacological therapy, while the majority of them received non-pharmacological therapy. After conducting a static test using Chi-Square, a value of  $p = 0.002$  (where  $p$  is less than 0.05) was obtained, showing that there exists a correlation between the duration of marriage and the management of infertility.

## DISCUSSION

### **An investigation of the connection between age and the treatment of infertility at Gading Medika Hospital in Bengkulu City.**

Almost all 11 (91.7%) of the 12 respondents aged more than 35 years received non-pharmacological therapy, while only one (8.3%) received pharmacological therapy, according to the findings of an analysis of the relationship between age and the management of infertility at Gading Medika Hospital Bengkulu, which included a total of 47 respondents.

It has been demonstrated through research conducted at Gading Medika Hospital Bengkulu that age is a statistically significant clinical indicator of fertility. The egg reserves that she acquired from her mother's uterus are stored in her ovaries where they rest. The human body is incapable of producing eggs; hence, there is no pharmaceutical treatment that can create them. Additionally, older women have egg reserves that are of lesser quality and more prone to mutations, which may result in a reduction or even depletion of egg reserves in the body (Davis et al., 2021). This is a probable consequence of the fact that older women have older egg reserves. Women between the ages of 20 and 35, on the other hand, have access to a larger variety of treatments. This is due to the fact that infertile couples examine various treatment options depending on their initial screening and

subsequent tests.

A significant value of  $p = 0.003$  ( $p < 0.05$ ) was achieved with an odd ratio of 18, indicating that the null hypothesis ( $H_0$ ) is rejected and the alternative hypothesis ( $H_a$ ) is accepted. This conclusion is based on the outcomes of the Chi-Square static test. Because of this, we are able to draw the conclusion that age is a significant factor in the management of infertility, since it increases the risk of infertility by a factor of eighteen. On the basis of these findings, it can be deduced that the likelihood of a respondent becoming pregnant decreases with their age.

HFEA (2020) research indicates that patients under the age of 35 have the highest birth rate per transferred embryo, which is 31%. This is followed by patients aged 35-37 years, who have a birth rate of 25%, patients aged 38-39 years, who have a birth rate of 19%, and patients aged 40-42 years, who have a birth rate of 11%. When looking at birth rates, age is an important element to take into consideration because fertility rate drops with age. As women get older, their chances of becoming pregnant drop. This is because the quality of their oocytes and embryos, as well as their uterus, or both, decreases. It is during the fourth decade of a woman's life that her ability to have children begins to significantly decrease.

Carson and Kallen (2021) conducted a second study on fecundity in women who

underwent artificial insemination with frozen sperm donors. They discovered that the cumulative success rate for 12 cycles was 74.1% for the group of women aged 26-30 years old, 61.5% for the group of women aged 31-35 years old, and 53.6% for the group of women aged 35-37 years old. A person's fecundity can be defined as their capacity to bear children. The gradual loss of follicles and oocytes (also known as ovarian reserve) and the gradual deterioration in gamete quality that occurs with age are both factors that contribute to the gradual decline in fecundity that occurs with age.

Increases in age are associated with an increase in the prevalence of infertility. Women's ages are closely connected to the number of cases of infertility that they experience. When compared to women aged 35-39, those between the ages of 19 and 26 have a risk of becoming pregnant that is twice as high. (A'yun et al., 2019) Research has shown that as women become older, their follicles become less susceptible to the stimulation of gonadotropin, which ultimately results in a decline in female fertility.

When making decisions, age is another factor to take into account. As one gets older, the likelihood of reproductive treatment being successful drops. There is a pregnancy rate of 8.2% per cycle for clomiphene and intrauterine insemination in women aged 35-37 years, 6.5% in women aged 38-40 years, 3.6% in women aged 41-42 years, and 0.8% in women



older than 42 years. However, immediate in vitro fertilization (IVF) can be considered a first-line treatment strategy in women older than 38 to 40 years, albeit in women who have severely reduced ovarian reserve (Carson & Callen, 2021).

Djuwantono's (2012) theory of infertility is supported by this study. According to this theory, up to twenty-five percent of women are unable to conceive while they are younger than thirty years old, and this percentage increases to thirty-three percent when they are between thirty and thirty-five years old. When a person is between the ages of 35 and 40, the number rises to fifty percent, and when they are above forty, it skyrockets to ninety percent.

Regarding fertility, age is a significant clinical indicator to consider. Once the wife reaches her peak fertility, which occurs between the ages of 20 and 25, her age begins to have an inverse relationship with her fertility ability. In proportion to the wife's age, her fertility decreases as she gets older. Because a woman's fertility only lasts for a limited period of time, between the ages of 20 and 40, this age has a significant impact on the treatment of infertility. There are two reasons for this. Second, even with the use of assisted reproductive technology, it is difficult to reverse the decline in female fertility that is associated with having an advanced age (Samsulhadi, 2007).

Infertile couples have

access to a wide range of therapeutic choices, and the rapid development of reproductive therapy and the experience gained through infertility care have both contributed to the availability of these options. The choice of infertility treatment is frequently influenced by factors such as the treatment's effectiveness, cost, convenience of administration and application, and potential adverse effects. According to Djuwantono et al. (2012), the selection of fertility therapy for infertile couples will be determined by the length of time that the pair has been experiencing infertility, the spouse who is experiencing the issue, the age of the female partner, whether or not the couple has ever had children in the past, and the underlying pathological cause.

When it comes to the management of infertility, the age of the wife is a very relevant factor for two reasons. Initially, the period of time during which a woman is fertile is restricted to twenty to forty years. Second, the decline in female fertility that occurs as a result of the aging process is difficult to overcome, even with assisted reproductive technology, which is the final treatment approach for infertility, prior to adoption (Samsulhadi, 2007).

As part of the infertility scores, the age of the woman is taken into consideration. The purpose of this is to facilitate an initial screening in the field, which will make it simpler for

medical professionals to differentiate between couples who are mildly, moderately, and severely infertile. By reading the clinical images and symptoms that are caused by the complicated elements that cause infertility, we are able to identify these causes. According to Samsulhadi (2007), the way in which clinical symptoms of each primary cause of infertility are rated is determined by the prevalence of symptoms and clinical images associated with each cause, as well as the significance that each cause plays in the infertility problem that it produces.

There is a correlation between age and the management of infertility, according to the researcher at Gading Medika Hospital. The majority of the people who participated in the study were between the ages of 20 and 35, which indicates that they were at a safe reproductive age but had not yet conceived. As women get older, they may have hormonal imbalances in their bodies, which can result in a reduction in the reproductive organs' ability to operate properly. When a woman reaches the age of over 35, her egg storage begins to decrease, which leads to changes in the hormonal balance. Egg storage begins to decrease when a woman reaches the age of more than 35 years. It follows that her chances of becoming pregnant are significantly diminished as a result of this. In addition to this, the quality of the eggs that she produces decreases, which finally results in a scarcity of eggs. bringing

about the necessary management.

### **Associated Length of Marriage and Infertility Management at Gading Medika Hospital Bengkulu**

According to the findings of the investigation into the connection between the length of marriage and the treatment of infertility at Gading Medika Hospital Bengkulu, out of the 47 individuals who participated in the study, 27 responded that they had been married for more than three years. Almost seven of them (25.9%) received pharmacological therapy, while the majority of them, twenty of them (74.1%), received non-pharmacological therapy.

The findings of the study shown above indicate that out of the twenty-seven respondents who had been married for more than three years, the majority of them (51.1% of the total) received therapy that did not involve the use of pharmaceuticals. The primary reason for this is that there is a correlation between the age of marriage and the possibility of conception, with the maximum likelihood occurring within the first one to two years of marriage. Infertility is described as the inability to conceive for a period of more than a year without attaining pregnancy, according to the current definition of the term. When a couple has been married for a longer period of time without becoming pregnant, the likelihood of them experiencing infertility increases, and vice versa. In the year 2021, Davis et al. On

the other hand, the length of marriage is not sufficient on its own when it comes to diagnosing and treating infertile couples. Primary care can treat infertility for a certain amount of time if the score on the infertility assessment is less than eight. If the score is between eight and twelve, the couple is considered to be of medium risk and requires treatment at a secondary care level with suitable personnel and equipment. During this stage, it is essential to utilize diagnostic methods such as hysterosalpingography (HSG), transvaginal sonography (TVS) for infusing saline sonography (ISS), or follicular monitoring. According to Samsulhadi (2007) and Hestiantoro (2019), once a score is greater than 12, it is necessary to have a full treatment capability (tertiary care) in order to diagnose and treat the patient. This results in different approaches to the treatment of infertile couples, which will vary according on the length of their marriage.

The results of the Chi-Square static test resulted in a significant value of  $\rho = 0.002$  (where  $\rho$  is less than 0.05). This indicates that the null hypothesis ( $H_0$ ) is rejected and the alternative hypothesis ( $H_a$ ) is accepted. It is therefore possible for us to draw the conclusion that there is a connection between the amount of time a couple has been married and the treatment of infertility at Gading Medika Hospital Bengkulu in the year 2024. The results of this

investigation are comparable to the findings that Davis et al. discovered in 2021. The purpose of this study was to investigate the relationship between age and the effectiveness of the in vitro fertilization program at the fertility clinic of RSUD Dr. Soetomo. The study utilized an observational analytical technique and a cross-sectional design to determine the relationship between these two factors. Within the population of individuals who participated in the in vitro fertilization (IVF) program, the research showed that there was a significant association between the age of the woman and the success of pregnancy ( $p=0.024$ ), as well as a substantial correlation between the length of marriage and the success of pregnancy ( $p=0.000$ ).

According to the findings of the research conducted by Septiana et al. (2018), the majority of the respondents and subjects who were infertile couples at Siaga Ramania Hospital had been married for a period of time that was less than three years (52.2%). Significantly affecting the relationship include elements such as the length of time that a couple has been married, the presence of reproductive health issues, the intensity of the relationship, the use of contraceptives, psychological stress, and the difficulties that women face in their professional lives. All of these elements have the potential to contribute to infertility.

According to Zulhaijah

(2016), of infertile couples between the ages of three and four years, 44.4% of them made the decision to undergo intrauterine insemination implantation. There is a correlation between the length of a marriage and the desire to have children. Because of this, couples are encouraged to choose from a variety of therapy options in order to conquer their infertility. Couples who have been married for a longer period of time are subjected to additional treatment.

Clinical issues frequently include infertility as a symptom. According to Djuwantonono et al. (2012), we normally advise infertile couples to begin infertility investigations twelve months or six months (if the female spouse is over 35 years) after they have been unsuccessful in conceiving a child. Alternatively, if there is a legitimate cause of infertility or subfertility, we propose that they begin the inquiry as soon as feasible.

The number of oocytes in a woman's body declines with age and the length of her marriage, reaching its lowest point during menopause. Due to the fact that women's ovarian reserves differ based on their age and the length of their marriage, it is necessary to conduct exams

in order to evaluate ovarian reserves. A decline in oocyte reserve, a rise in congenital defects, and a decrease in gonadotropin sensitivity are all aspects of ovarian aging that are connected with the process. Only gonadotropin stimulation, which is used to balance the hormones FSH and LH, which produce ovulation, may be achieved with hormonal therapy (Samsulhadi, 2013). Hormonal therapy is the only method that can achieve this.

Anamnesis considers the length of time that a couple has been married as a measure of fertility. If there are no other significant problems, such as the elderly age of the wife or the presence of amenorrhea, then infertility treatment has not been carried out prior to the length of time that the marriage has been in existence for one year. The Infertility Referral System is an important initial screening for health workers at all levels (Samsulhadi, 2007). Two of the components that are evaluated in this system are the age of a woman and the length of time she has been married.

The majority of the respondents at Gading Medika Hospital have been married for more than three years, and the researcher draws a connection between the findings of the study on the

length of marriage and the treatment of infertility at the hospital. One reason for this is that patients are more likely to seek therapy for their infertility issues if they have been married for a longer period of time. A protracted period of infertility can potentially damage the psychological well-being of infertile couples, in addition to potentially influencing ovarian function, hormones, and reproductive health. Furthermore, the length of time that a marriage has been without children is a factor that influences the level of satisfaction that a couple experiences in their marriage.

#### **Research Issues**

The researcher states that there are no issues/conflicts.

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#### **Author Contribution**

NUK conducted data preparation and collection. LLS conducted the data analysis. RBS did the writing.

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