



## Original Article

## Distribution of stress level among infertility patients

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## ABSTRACT

**Background:** Infertile couples often suffer from monthly chronic stress when fertilization does not occur. The relationship between stress and infertility creates a cycle that mutually reinforces this impact. In the process, more complex infertility therapies can increase stress levels, affecting the outcomes of these therapies.

**Objective:** To characterize the distribution of stress levels that may be experienced by married couples suffering from infertility at the Yasmin IVF Clinic – Dr. Cipto Mangunkusumo General Hospital Jakarta.

**Methods:** Sixty-three infertile patients who came to Yasmin IVF Clinic, Dr. Cipto Mangunkusumo General Hospital were given a self-assessment questionnaire (self-reporting questionnaire = SRQ 20) to assess the presence of the stress they were encountering.

**Results:** Of the 63 infertile patients in this study, 14 (22.3%) were experiencing stress, whereas 49 (77.7%) were not showing symptoms of stress. Among the 20 symptoms listed in the questionnaire, feeling fatigue was the most prominent complaint (38.1%). The duration of infertility showed a significant correlation with the level of stress experienced by the patients ( $p < 0.05$ ).

**Conclusion:** Twenty-two percent of infertile patients in the Yasmin IVF Clinic experienced stress mainly associated with the duration of their infertility. The symptoms included physical manifestations that interfered with their daily activities. Holistic treatments, including psychosocial approaches, are important in the management of infertility.

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## 1. Introduction

Infertility is a very sensitive and difficult issue for married couples, especially those who have been married for a long time. Infertility is defined as the failure to achieve a clinical pregnancy after a minimum of 12 months or longer of regular unprotected sexual intercourse [1].

Various psychological responses appear in couples who are facing infertility problems, including low self-esteem, anger, sadness, jealousy towards other couples who already have children, anxiety, and, finally, depression [2]. Several studies have been conducted to examine the psychological disorders experienced by infertile

couples, and the prevalence of depression in this population affects 34–54% of the wives and 23–32% of the husbands. The rates of depression are associated with different levels of stress among women and men due to various reasons, including the following: women's reproductive ages, the notion that reproductive issues are the responsibility of the sociocultural wife, female hormonal imbalances, and the increased number of medical interventions that must be faced by women [3].

Stress is a non-specific response of the body to any circumstance or event that causes a change in one's life, such that an individual is forced to adapt to cope with the stressors that occurred [4,5].

The aim of the study is to characterize the distribution of stress levels that may be experienced by married couples suffering from infertility at the Yasmin IVF Clinic – Dr. Cipto Mangunkusumo General Hospital Jakarta.

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## 2. Material and methods

The present study represents descriptive cross-sectional research to assess the stress levels of infertility patients in the Yasmin IVF Clinic, Dr. Cipto Mangunkusumo General Hospital Jakarta, between January and June 2013. Female patients who meet the inclusion and exclusion criteria were consecutively selected. Subjects consisted of 63 female patients with primary infertility who were undergoing infertility treatment and had a minimal educational background; they were described as unable to read, write well or understand the Indonesian language properly. Exclusion criteria included patients who have had children, including adopted children, foster children, or children from a previous marriage. This study has been approved by ethical committee of Faculty of Medicine Universitas Indonesia. Informed consent was obtained before patients were recruited into this study. A diagnosis of primary infertility was made by the obstetrics and gynecology specialist who was in charge at that time.

Patients who agreed to participate were given two self-administered questionnaires. One questionnaire consisted of the socio-demographic data, for example, the age, level of education, occupation and infertility duration. The other questionnaire was a self-reporting instrument that had already been adapted from the WHO, called the Self-Reporting Questionnaire 20 (SRQ-20) and was translated into the Indonesian language. Once the data were collected, the analysis was performed using the SPSS 20 statistics software. Quantitative data analyses were completed using chi-square tests. Pearson Product Moment Correlation Coefficients were used to describe the relationships between socio-demographic factors and stress levels. All tests were considered significant at the 5% threshold ( $p < 0.05$ ).

### 2.1. Self-reporting questionnaire 20

We used the self-reporting questionnaire 20, a method of self-assessment developed by the WHO, which contains twenty questions related to one's perspective on an issue. The questions within the instrument are written in a simple, easy-to-understand language and cover many important areas of psychopathology. The SRQ-20 has been used in many community-based surveys conducted in developing countries. The advantage of this questionnaire is to describe one's perspective on an issue. The disadvantage lies in its issues of validity and the high bias of a mono-method [6]. The complete SRQ consists of twenty-five questions, which must be answered 'yes' or 'no'. Of these twenty-five questions, twenty are related to neurotic symptoms; four, to psychotic symptoms; and one, to convulsions. The SRQ-20 addresses the neurotic items only. These reflect depressive symptoms, anxiety, and psychosomatic complaints and have been found to detect probable cases of common mental disorders with reasonable accuracy [7].

As the SRQ-20 has not been used in Indonesia before, the instrument needed to be translated to the Indonesian language. The SRQ-20 items are scored 0 ('no', symptom absent) or 1 ('yes', symptom present). Item scores are summed to obtain a total score. A score above the cut-off point (8 is widely used) indicates the existence of a probable mental disorder. However, optimal cut-off scores have been shown to vary considerably across cultures, languages, settings, genders et cetera [8].

## 3. Results

Of the sixty-three infertile patients enrolled, the distribution of the stress levels of the infertile patients in this study was 22.3% (Table 1). Feeling fatigue was the most commonly reported symp-

**Table 1**

Stress level distribution of infertility patients in the Yasmin IVF clinic.

	Total	Percentage
Not stressed	49	77.7%
Stressed	14	22.3%

tom (38.1%) of the twenty listed in the questionnaire (see Figs. 1–5).

The stress-related factors assessed in this study were the age, duration of marriage, education and employment background of the respondents. The mean age of respondents who experienced stress was  $33.1 \pm 4.8$ , with  $p$  value of 0.938; therefore, this value was not a statistically significant risk factor for stress associated with infertility.

Based on years of marriage, also defined as the duration of the infertility, the mean duration was  $5.8 \pm 3.8$ , with a  $p$  value of 0.019. Hence, the duration of infertility is a statistically significant risk factor for stress. The educational background of 44.4% of the patients was Strata 1 (S1), with most being employed in the private sector (60.3%). Neither of these factors constituted a significant risk factor for stress.

## 4. Discussion

In this study, the distribution of the stress levels of infertile patients was equal to 22.3%, with the duration of infertility as the only risk factor that was statistically significant to the stress level. Infertility is seen as a major problem that may threaten the stability of individual, marital and social relationships.

The relationship between stress and infertility forms a vicious, mutually reinforcing circle. Infertile couples who know that they are the cause of the infertility tend to blame themselves. Guilty feelings can increase this stress, worsening the problem. There is a significant negative relationship between social support and stress-related infertility. Social support is one of the mechanisms of resistance against the challenges of infertility. This metric can play an important role in reducing the negative effects of this disorder and in ameliorating the effects of negative incidents, improving the couple's self-control, self-confidence and quality of life [9].

Braham et al. found that, among infertile women, the degree of stress-related infertility due to therapy constitutes the second highest level of stress after a family member's death or after divorce [10]. Wischmann et al. quotes various authors to suggest that infertility stress triggers are stronger for women than men [11]. Therefore, infertility has been described as a threat to social well-being and a woman's sense of security. Regarding the socio-cultural aspects at play, for many women, being a mother is the most important role in their lives; motherhood is perceived as a fundamental component of their identity. The role of cultural (socio-cultural) influences among the various tribes in Indonesia allegedly affects the stress experienced by infertile couples, especially among the women (wives). Asian peoples, including Indonesians, are patrilineal; in the associated customs, a woman is honored by the birth of a son. When a woman is unable to bear children, not only does she suffer shame and disappointment, but her family is also embarrassed in the eyes of her husband's family [12].

Fassino et al., citing several descriptive studies about the high vulnerability to anxiety and depression faced by infertile couples, suggest that such anxiety can itself reduce a couple's ability to conceive. However, most of these case-control studies found no significant difference between infertile and fertile couples [13].

A study by Newton et al. using The Fertility Problem Inventory (FPI) as a tool to measure stress-associated infertility found a

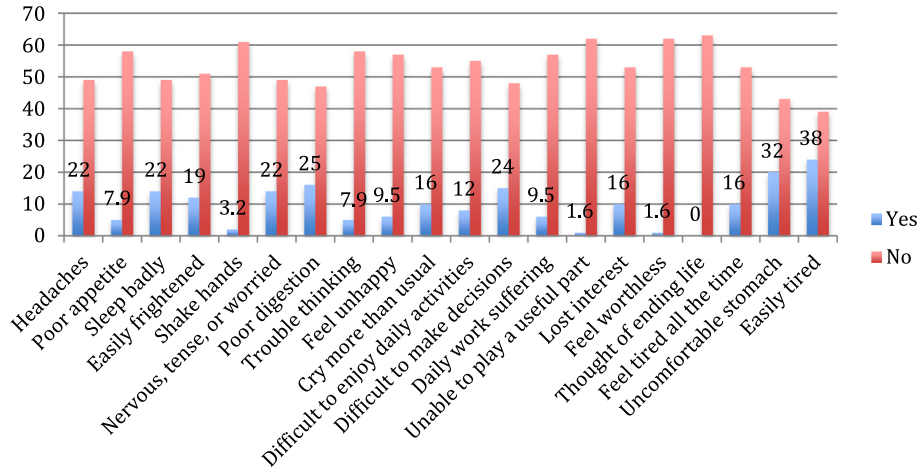


Fig. 1. Question distribution of the SRQ-20.

Age distribution

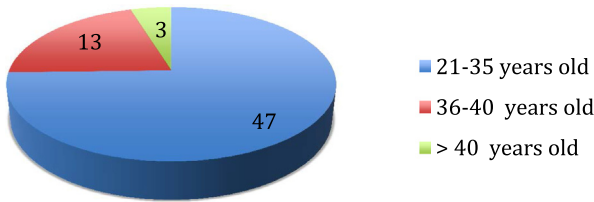


Fig. 2. Distribution of participants' ages.

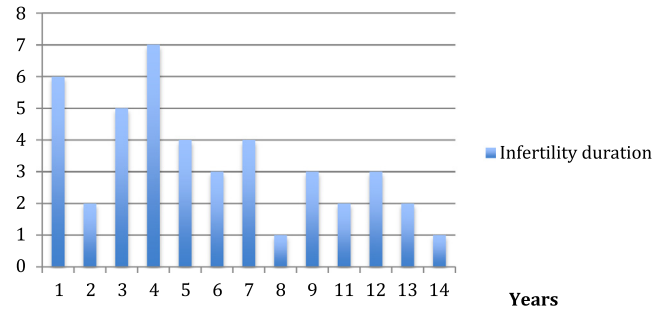


Fig. 5. Distribution of infertility duration among participants.

Educational Background

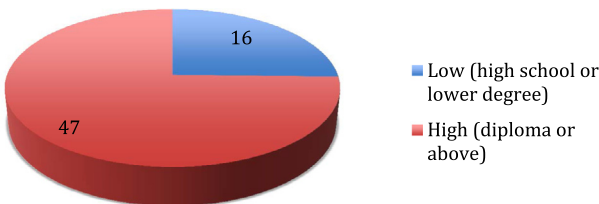


Fig. 3. Distribution of educational background among participants.

Occupation

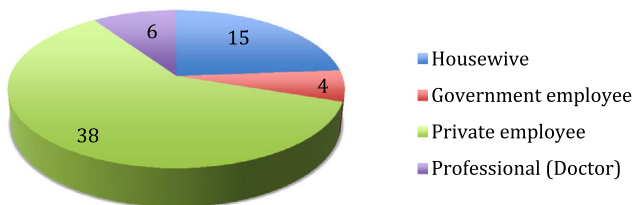


Fig. 4. Distribution of occupation among participants.

In her thesis, Purnamawati cites various authors regarding several assumptions to explain why long-married couples with more than 4 years of infertility experienced depression. Frustration is more commonly experienced by these couples due to the failure of their therapies and persistent infertility, which linger until the couple can finally conceive or until they have accepted their situation. According to the literature, chronic stressors can place a person at higher risk for major depressive disorder than the acute nature of many events in life [15].

In this study, the education and employment backgrounds did not significantly affect the couples' levels of stress. Research by Newton et al. showed that couples with high levels of educational background (beyond high school) had significantly lower stress than those with a high school education or lower [14]. Regarding the correlation between occupations and stress levels, the results of this study are consistent with the research by Purnamawati, with both indicating no significant relationship [15].

5. Conclusion

This study suggests that the distribution of the stress levels in infertile patients in the Yasmin IVF Clinic accounts for 22% of the risk factors for infertility, which are mainly associated with the length of infertility. These symptoms are physical symptoms and interfere with the couple's daily activities. Further research using more specific instruments is required to identify related stressors on infertility, both physical and psychosocial. Holistic treatments, including psychosocial approaches, are important in the management of infertility.

weakly significant relationship ( $r = -0.13, p < 0.001$ ) between the age of the wife and the FPI score (global stress). Therefore, the researchers concluded that the infertility-related stress experienced by wives decreased with increasing age [14].

### Conflict of interest

There is no conflict of interest.

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