

RESEARCH ARTICLE

Anxiety and Depression Among Infertile Couple in Malaysia

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Abstract:

Infertility is a life crisis affecting patients from all over the world. The risk of anxiety and depression is high for infertile patients which affect the stages and outcome of the treatment. The need to understand the Asian perspective on related to the stigma of infertility stigma and psychological distress may be a source of hindrance in seeking the professional intervention. This cross-sectional study included 170 infertile patients (85 couples) in a referral fertility center in a Malaysia Government Hospital. Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI) were administered to all participants. The level of anxiety among this couples was moderate (median=24.5, IQR=8) as well as the result for level of depression was reported at the moderate level (median=26, IQR=10). The wives were significantly more likely to report high in depression (χ^2 : 9.70; p -value: 0.02). The respondents level of depression was found strongly and positively related to their age (r_s : 0.58; p -value: 0.01). While both the anxiety (r_s = 0.61, p -value =0.01) and depression (r_s = 0.15, p -value =0.04) were positively associated with duration of infertility. It is important for the health care providers especially the nurses to play an active role in detection and identification of these psychological distress in order to provide assistance and obtaining appropriate help especially dealing with the clients' emotional needs.

Keywords: anxiety, depression, infertile couple, infertility

1. INTRODUCTION

Any failure to conceive after 12 months or more of regular unprotected sexual intercourse was define as “a disease of the reproductive system or infertility by World Health Organization (WHO) [1]. Primary Infertility is when females who have never been pregnant while Secondary Infertility is for females who been pregnant before.

Estimated about 20–30% of infertility individually or half of all infertility cases were under the responsibility of the males [2]. The prevalence rate of infertility in the world were 7.4% while in Malaysia, it is estimated about 10 to 15 % [3] and it is considered worldwide as a public health problem [4].

Infertility is considered one of the life and marital crises; often silent struggle and heartbreaking. Couples who are struggling to conceive can risky the mental health which lead to increased incidence of depression and anxiety [5]. The prevalence of depression in infertile couples is high but has also been increasing over the years.

The prevalence rate was 44% in the year of 2000 to 2005 and in the year of 2006 to 2011, the number increase to 50%. [6]. However, through another study in Iran reported that the prevalence of anxiety and depression in infertile couples was estimated to be 49.6% and 33%, [7] respectively while another literature reported that 25% to 60% of infertile individuals showed psychiatric symptoms and their psychological symptoms such as anxiety and depression found to more significant compare to the fertile respondents [8].

Even though study revealed that male infertility is acknowledged to exist, women are ultimately held responsible for a couple's inability to reproduce [9] that cause women's share of mental disorders is more than men.[10] However, it is not denying that the stress of both men and women has effect on the stress, anxiety, and depression of the spouses [11,12]. The severe depression of infertility is associated with an increase of depression in the spouse.

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Women and men describe feelings of sadness and despair, tearfulness, persistent fatigue, sleep or eating disturbances, anxiety or irritability, and pessimism, which are all indications of a depressive state. Therefore, psychology disorders associated with infertility was one of the main challenges and may affect the life on infertile individuals, their treatment, and follow-up [13].

Studies indicate that women with less anxiety was reported to have better result [14,15] that can be due to the effect of various factors. The duration of infertility too has a direct relationship and income has a negative relationship with the level of depression. While the anxiety level was related to age, duration of infertility, number of previous cycles of treatment, and treatment costs. [16,17,18].

The need to determine the mental health of the infertile couples is important as it may affect the stages and outcome of the treatment triggered to study the period of infertility and the psychological impact among the infertile couple.

2. METHODOLOGY

A cross sectional study was conducted in Reproductive Unit; one of the referral center for infertility treatment in Malaysia. In total, 85 infertile couple willing to participate in this study. This study was approved by the UiTM Ethic Committee, the Hospital Director and written informed consent was obtained from the respondents before data collection was carried out using self-administered questionnaire that consists of information on the socio demographic characteristic of the respondents, the validated Malay language version of Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI) which consist of 21 single choice questions rated by 4 points likerts scale. The total score of 0-21 indicated low anxiety, 22-35 moderate while the grand total of BAI above 35 indicated high anxiety. BDI total score is ranged between 0 to 63. Scoring for BDI; normal if the score is less than 10; mild mood disturbance (11-16); borderline clinical depression (17-20); moderate depression (21-30); severe depression (31-40); extreme depression (more than 40). The Cronbach's Alpha result for both scale was 0.90; highly reliable based on the internal consistency analysis. In this study, continuous variables were expressed as median \pm interquartile range (IQR) and categorical variables as numbers (percentage). Chi-Square test was used to analyze the association and Spearman's correlation was used to determine the direction and the strength of relationships.

3. RESULT AND DISCUSSION

A total of 170 respondents (85 couples) met eligibility criteria, agreed to participate and were enrolled in this study. The demographic characteristic of the respondents indicated that the range age of the respondents was between 21 to 53 years old; in which 71.7% (n : 122) of them were under the age of below 35 years old. Most of them were Malay (65.9%), 62.5 had tertiary level of education and 91.2% still active working. Nearly half of them (47%) had duration of infertility period between 1 to 3 years.

Table 1: Characteristics of the Respondents

Variable	Frequency	Percentage
Gender		
Male	85	50.0
Female	85	50.0
Age		
21-25	7	4.1
26-30	51	30.0
31-35	64	37.6
36-40	37	21.8
41-45	8	4.7
46 -50	1	0.6
50 years and above	2	1.2
Race		
Malay	112	65.9
Chinese	7	4.1
Indian	45	26.5
Others	6	3.5
Level of Education		
Primary	14	8.2
Secondary	49	28.9
Tertiary	107	62.9
Employment Status		
Yes	155	91.2
No	15	8.8
Duration of Infertility		
1-3 years	80	47.1
4-6 years	46	27.1
7-9 years	26	15.2
10 years and above	18	10.6

Table 2: Level of Anxiety and Depression

Variable	n	Median	IQR
Level of Anxiety	170	24.5	8
Level of Depression	170	26	10

This study revealed that the level of anxiety among this couples was moderate (median=24.5, IQR=8) as well as the result for level of depression (median=26, IQR=10); which parallel with studies that reported the existence of psychological distress in which the levels of anxiety and depression were consider higher compare to the fertile couple [4, 19]. This clearly shows that infertility is indeed related to the level of anxiety and depression among the couple with infertility. This is most probably due to the social stigma experienced by the infertile couples and their worries of the treatment, the duration and the cause of infertility as well [20]. However, the level of anxiety and depression was not a severe level in this current study as most of the respondents was among young couples and relatively new period of infertility which allowing the adaptive coping strategies and emotion-focused strategies [21].

This study found that the wives were significantly depressed compare to the husbands (χ^2 : 9.70; p -value: 0.02). This is consistent with the findings by Ramli et al., 2014 [21] locally as in their study reported that the wives' levels of depression, anxiety and stress were 1.5 to 3 times higher compare to their husbands. The similar finding found in western countries which reported that the wives were more vulnerable to psychological distress compare to their partner and it was significantly correlated. [9, 10, 21]. Often women were always being blamed and carried the responsible for failed conception. In certain countries, infertility results in social stigmatization mostly for women which caused more vulnerable in developing negative psychological effects of infertility.

This study also shows the respondents level of depression was found strong and positively related to their age (r_s : 0.58; p -value: 0.01); in which the older respondents had higher level of depression. This is consistent with other studies that indicated the older infertile couple were more depressed [19, 20, 21, 22]. These is influenced by the personality and their intensity to be conceive to fulfill the social norms and expectation [24], including the original family background [25]. Their motivations to have children include conformity to social norms and expectations [24], also depending on the original family background [25]. Social attribute especially toward motherhood was found to be the positively pressure and predisposed to infertility-related stress [26] especially severe depressive symptoms [27]. As in Malaysia, a country with variety of lifestyle, belief, culture and values; mostly still practicing traditional values of mothering and child-orientedness, social concern especially childlessness that trigger the psychological distress [19].

Another important factor that related to both anxiety and depression is the duration of infertility. In the present study revealed that both anxiety ($r_s = 0.61$, p -value =0.01) and depression ($r_s = 0.15$, p -value =0.04) were positively associated with duration of infertility. The longer period of infertility will increase the level of anxiety and depression and this was similar with study done by Maroufizadeh et al., 2018.

The facts that marriage and pregnancy are very related especially to the countries that highly practicing traditional motherhood. The longer of the infertility, more likely trigger skepticism especially to the families and neighbors; being the most determinants for psychological distress. In additional, with the repeated referrals would gradually change infertility to a chronic problem [28].

The strength of this study that should be considered were, it was conducted in a center for infertility treatment in Malaysia; the support from the head of department, easier the data collection process especially includes both men and women experiencing fertility problem. Nevertheless, we admitting there was limitations in the present study as we were not exploring risk other factors such as cultural and personality factors, social support which may associate to the level of anxiety and depression among the couple with infertility.

However, this study provides a valuable Asian perspective on psychological distress associated with infertility. It would be reasonable to suggest that interventions in order in prevention of psychological difficulties specially to related to the stigma of infertility stigma and psychological distress may be a source of hindrance in seeking the professional intervention.

CONCLUSION

In summary the level of anxiety and depression among infertile couple was moderate which associated with gender age and the duration of infertility. These data provide the prevalence rate of anxiety and depression among infertile couple in Malaysia. It is important for the health care providers especially the nurses to play an active role in detection and identification of these psychological distress in order to provide assistance and obtaining appropriate help especially dealing with the clients' emotional needs.

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REFERENCES

- [1] World Health Organisations. Infertility definitions and terminology. 2014. Available at <http://www.who.int/reproductivehealth/topics/infertility/definitions/en/>
- [2] Agarwal, A, Mulgund, A, Hamada, A, et al. A unique view on male infertility around the globe. *Reprod Biol Endocrinol* 2015; 13: 37.
- [3] Vander Borgh M and Wyns C. Fertility and infertility: definition and epidemiology. *Clin Biochem* 2018; 62: 2–10.
- [4] Boivin J, Bunting L, Collins JA, Nygren KG. International estimates of infertility prevalence and treatment-seeking: Potential need and demand for infertility medical care. *Hum Reprod*. 2007;22:1506–12. [PubMed] [Google Scholar]

- [5] Cousineau, T.M. & Domar, A.D. (2007). Psychological impact of infertility. *Best Practice & Research Clinical Obstetrics and Gynaecology*, 21(2) : 293-308
- [6] Masoumi SZ, Poorolajal J, Keramat A, Moosavi SA. Prevalence of depression among infertile couples in Iran: A meta-analysis study. *Iran J Public Health*. 2013;42:458–66.[PMC free article] [PubMed] [Google Scholar]
- [7] Maroufizadeh S, Ghaheri A, Almasi-Hashiani A, Mohammadi M, Navid B, Ezabadi Z, et al. The prevalence of anxiety and depression among people with infertility referring to Royan Institute in Tehran, Iran: A cross-sectional questionnaire study. *Middle East Fertility Soc J*. 2018; 23:103–6. [Google Scholar]
- [8] De Berardis D, Mazza M, Marini S, et al. Psychopathology, emotional aspects and psychological counselling in infertility: a review. *Clin Ter*. 2014;165(3):163-169.
- [9] Fledderjohann JJ. Zero is not good for me: implications of infertility in Ghana. *Human Reprod*. 2012;27(5):1383-90.
- [10] Patel A, Sharma PS, Kumar P, Binu VS. Illness cognitions, anxiety, and depression in men and women undergoing fertility treatments: A dyadic approach. *J Hum Reprod Sci*. 2018; 11:180–9. [PMC free article] [PubMed] [Google Scholar]
- [11] Haimovici F, Anderson JL, Bates GW, Racowsky C, Ginsburg ES, Simovici D, et al. Stress, anxiety, and depression of both partners in infertile couples are associated with cytokine levels and adverse IVF outcome. *Am J Reprod Immunol*. 2018; 79:e12832. [PubMed] [Google Scholar]
- [12] Cserepes RE, Bugán A. Impact of depressive symptomatology in Hungarian infertile couples. *Psychiatr Hung*. 2015; 30:50–9. [PubMed] [Google Scholar]
- [13] Al-Homaidan, H.T. (2011). Depression among Women with Primary Infertility attending an Infertility. *International Journal of Health Sciences*, 5 (2).
- [14] Purewal S, Chapman SC, van den Akker OB. Depression and state anxiety scores during assisted reproductive treatment are associated with outcome: A meta-analysis. *Reprod Biomed Online*. 2018; 36:646–57. [PubMed] [Google Scholar]
- [15] Maroufizadeh S, Karimi E, Vesali S, Omani Samani R. Anxiety and depression after failure of assisted reproductive treatment among patients experiencing infertility. *Int J Gynaecol Obstet*. 2015; 130:253–6. [PubMed] [Google Scholar]
- [16] Wu F, Liu Y, Li X. Anxiety status and influential factors in patients with infertility. *Zhong Nan Da Xue Xue Bao Yi Xue Ban*. 2015; 40:1023–8. [PubMed] [Google Scholar]
- [17] Alosaimi FD, Altuwirqi MH, Bukhari M, Abotalib Z, BinSaleh S. Psychiatric disorders among infertile men and women attending three infertility clinics in Riyadh, Saudi Arabia. *Ann Saudi Med*. 2015; 35:359–67. [PMC free article][PubMed] [Google Scholar]
- [18] Wu G, Yin T, Yang J, Xu W, Zou Y, Wang Y, et al. Depression and coping strategies of Chinese women undergoing in vitro fertilization. *Eur J Obstet Gynecol Reprod Biol*. 2014; 183:155–8. [PubMed] [Google Scholar]
- [19] Lakatos E, Szigeti JF, Ujma PP, Sexty R, Balog P. Anxiety and depression among infertile women: A cross-sectional survey from Hungary. *BMC Womens Health* 2017;17:48
- [20] M. Ogawa, K. Takamatsu, F. Horiguchi, Evaluation of factors associated with the anxiety and depression of female infertility patients. *Biopsychosoc. Med*. 5 (2011) 15.
- [21] Lemoine ME, Ravitsky V. Sleepwalking into infertility: the need for a public health approach toward advanced maternal age. *Am J Bioeth*. 2015;15(11):37–48.
- [22] Broekmans FJ, Knauff EA, te Velde ER, Macklon NS, Fauser BC. Female reproductive ageing: current knowledge and future trends. *Trends Endocrinol Metab*. 2007;18(2):58–65.
- [23] Ramli Musaa,*, Roszaman Ramlib, Abdul Wahab Azantee Yazmiec, Mohd Bustaman Siti Khadijahc, Mohd Yatim Hayatic, Marhani Midind, Nik Ruzyanei Nik Jaafard, Srijit Dase, f, Hatta Sidid, Arun Ravindrane,. A preliminary study of the psychological differences in infertile couples and their relation to the coping styles. *Comprehensive Psychiatry* 55 (2014) S65–S69. <http://dx.doi.org/10.1016/j.comppsy.2013.01.001>
- [24] Yarekmko SK, Lawson KL. Gender, internalization of expressive traits, and expectations of parenting. *Sex Roles*. 2007;57:675–87
- [25] Walsh F. Family resilience: a framework for clinical practice. *Fam Process*. 2003; 42(1):1–18.
- [26] Miles LM, Keitel M, Jackson M, Harris A, Licciardi F. Predictors of distress in women being treated for infertility. *J Reprod Infant Psychol*. 2009; 27(3):238–57.
- [27] Lund R, Sejbaek CS, Christensen U, Schmidt L. The impact of social relations on the incidence of severe depressive symptoms among infertile women and men. *Hum Reprod*. 2009;24(11):2810–20
- [28] Saman Maroufizadeh, Azadeh Ghaheri, Amir Almasi-Hashiani, Maryam Mohammadi, Behnaz Navid, Zahra Ezabadi, Reza Omani Samani. The prevalence of anxiety and depression among people with infertility referring to Royan Institute in Tehran, Iran: A cross-sectional questionnaire study. *Middle East Fertility Society Journal* 23 (2018) 103–106