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Original Research Article

Depression among infertile women: A sample from Baghdad city 2017

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Abstract

The extent of depression and its risk factors among infertile women may vary across different populations. This study was design to examine the prevalence and the level of depression among infertile women in a sample from Baghdad city, Iraq. Therefore a cross-sectional study was conducted including 450 infertile women who attended the infertility and in vitro fertilization unit in four major infertility centers in Baghdad city. They were interviewed using a structured questionnaire; Depression was assessed by clinically useful depression outcome scale DSM-IV. This study found that the prevalence of depression among infertile women was 80%, including 46.2% less depression, 31.1% mild depression, 2.7% moderate depression. It was highly significantly related to duration of infertility treatment, age of infertile women, women educational level and threat of husband of another marriage. We Concluded that the rate of depression among infertile women in Baghdad was high (80%). So the infertile women need psychological assessment and intervention as part of their medical treatment process.

Keywords: Depression, Infertility, Infertile women.

INTRODUCTION

Infertility is considered a stressful condition, particularly for women, who are commonly blamed for the cause of infertility, which affects many aspects of their lives, such as their social, physical, and psychological well-being (Cserepes *et al*., 2014).

Most studies of fertility and mental health have focused on women's health. Those reporting mental health by gender have found that infertile women have experienced more distress, health complaints, mood disorders, anxiety, depression and complicated grief than men both before and during infertility treatments (Volgsten *et al*, 2008). The patient may experience a loss of close relationship with her partner, might lose prestige in society and develop a low self-esteem and may lose hope for the future. These feelings may lead to depression, anger, anxiety or feelings of guilt. Infertility and depression are both highly prevalent disorders that often co-occur in women of childbearing age (Edelmann and Connolly, 2003).

Lapane and his colleagues(2001), stated that infertility is considered a public health issue worldwide affecting 3.5% to 16.7% of the childbearing population in developed countries and 6.9% to 9.3% in less-developed countries .(Lapane *et al*., 2001).

Depression is a mental health disorder that interferes with a person's daily life. Depression may be mild, moderate or severe, depending on signs and symptoms expressed. These symptoms include depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty, and hopeless) or observation made by others (e.g., appears tearful). In addition, there is markedly diminished interest or pleasure in all, or almost all, activities most of the day (Volgsten *et al*., 2008).

Depression is a common health problem in infertile women. The prevalence of depression in infertile women ranges from 8% to 54 % (Farzadi and Ghasemzadeh 2008; Seibel and Taymor, 2004). Depression is thought to be a major public health problem associated with infertility, particularly in developing countries, where having a child is very important for sociocultural, economic, and religious reasons (Al-Homaidan, 2011).In Iraq the prevalence of the depression in the infertile women in Al Basrah was 69.3 (Al-Asadi and Hussein, 2015). The wish for a child and feeling bad about the absence of a child in the family makes infertility a depressive condition (Chachamovich *et al*., 2010). Research has shown that the stress associated with infertility is a significantly greater stress contributor than any other major life issue that a person may confront (Wilson and Kopitzke, 2012). The burden of infertility is physical, psychological, emotional and financial (Oddens *et al*., 1999). Depression is more common in infertile women than fertile women (Kowalcek *et al*., 2001).

In Iraq society, it is quite frequent that the female partners of the childless couples are blamed for the infertility. They are faced with the threat of divorce or having a fellow wife. These conditions might lead to some psychiatric problems (Fassino *et al*., 2002). The importance of screening for depression in women with infertility cannot be overemphasized. It has been documented that women who screened positive for depression are more likely to delay initiating infertility treatment, and less likely to pursue treatment with oral medication or in vitro fertilization (Lemmens *et al*., 2004). A few studies regard this subject is tickled in our country so this study is done to establish baseline data for health policy and decision maker.

Objectives of the study

1. To estimate the prevalence of depression among infertile women in a sample from Baghdad city from 15th of April to 30th of June 2017.
2. To assess the level of the depression among infertile woman in study group.
3. To find some possible related factors to depression among the study sample of infertile women.

PATIENTS AND METHODS

Across sectional study with analytic element was conducted during the period from 15th April till 15th June 2017 in four major infertility centers in Baghdad city (Al-Yarmouk infertility Center, Al-Aelwyia infertility center, Kamal Al-Samarrai infertility center and Baghdad infertility center).

The Study population was the infertile women of reproductive age (15-45years) who were attended the infertility and in vitro fertilization unitin these major centers.

Sample size and sampling technique

Convenient sample was selected during study period; the researcher attended the four-mentioned major infertility center two to three times weekly during the study period. The data were collected from 8A.m to 2p.m, for each day included in study.

The inclusion criteria

1. Women who had failed to conceive after one year of unprotected regular sexual intercourse, with no previous conception, without using any type of contraceptive. 2. Women who had failed to conceive again after one year of unprotected regular sexual intercourse after previously having conceived at least once, without using any type of contraceptive.

While Women who had been diagnosed to have a past history of depressive disorder or generalized anxiety disorders prior to infertility diagnosis were excluded from the study.

The women invited to participate in the study after the purpose and aims of study were explained to them. Also, it was indicated clearly to them that the participation voluntary and their non-participation would have no effect on quality of care given to them. All women were agreed to participate in study with response rate 100%. The data were collected by using special questionnaire designed by researcher and the questionnaire was filled by direct interview with each woman after taken verbal consent.

Also, the Participants were interviewed to answer the question of specific cudos scale (clinically useful depression outcome scale). The CUDOS contains 18 items assessing all of the DSM-IV ('Diagnostic and Statistical Manual of Mental Disorders') inclusion criteria for major depressive disorder as well as psychosocial impairment and quality of life. The individual symptoms assessed by the CUDOS are depressed mood, loss of interest in usual activities, low energy, psychomotor agitation, psychomotor retardation, guilt, worthlessness, and thoughts of death, suicidal ideation, impaired concentration, indecisiveness, decreased appetite, increased appetite, insomnia, hypersomnia, and hopelessness. The CUDOS also includes items assessing global perception of psychosocial impairment due to depression and overall quality of life. The respondent is instructed to rate the symptom items on a 5-point Likert scale indicating “how well the item describes you during the past week, including today” (0 = not at all true/0 days; 1 = rarely true/1-2 days; 2 = sometimes true/3-4 days; 3 = usually true/5-6 days; 4 = almost always true/every day.

The scores of depression CUDOS questions were calculated and total average scores were divided to; no depression (0-10), less depression (11-20), mild depression (21-30), moderate depression (31-45) and severe depression (46-64), (Cserepes 2014).

Statistical analysis of the data were analyzed by application of Microsoft excel program and Statistical Package for Social Sciences (SPSS) version 23. Outcomes of analysis were arranged in scales variables (means & standard deviation) and in categorical variables. Chi square test was used for comparison between categorical data (Fishers exact test applied when expected variable was less than 20% of total). One-way ANOVA analysis was used to compare between more than two means. The level of significance (p value) was set as ≤ 0.05.

RESULTS

This study included 450 infertile women with mean age of 27.1±7.7 years; 19.6% of women were in age group less than 20 years, 40.2% of them were in age group 20-29 years, 33.3% of them were in age group 30-39 years and 6.9% of them were in age group ≥40 years More than half (60.2%) of infertile women were unemployed, while 52.4% of their husbands were self-employed. The educational level of infertile women was distributed as followings; 3.6% illiterate, 54.9% primary level, 7.7% secondary level and 33.8% higher level (Table 1).

Also, Table 1 shows that women with urban residency represented 54.9% of total women and 66.2% of women were living in extended families. Only 18.9% of women were the second wife. Mean age of marriage was 20.4±5.2 years, 50.9% of infertile women were married in less than 20 years of age. Mean duration of marriage was 7±5.5 years, 27.8% of women had marriage duration of 10 years and more. Mean attempted conception duration was 3.3±1.9 years, 15.1% of infertile women had attempted conception duration of 5 years and more.

Primary infertility was present among 34.4% of infertile women and secondary infertility present among 65.6% of them. The husbands' threat of another marriage was present toward 37.8% of infertile women while threat of divorce was present toward 17.8% of them (Table 1).

Mean total depression score of infertile women was 17.4±7.4; 20% of infertile women were undepressed, 46.2% of them had less depression, 31.1% of them had mild depression and 2.7% of them had moderate depression with no women with severe depression. (Figure1)

There was a highly significant association between younger age infertile women and depression ($p<0.001$) (Table *2*).

There was a highly significant association between unemployed women and depression ($p=0.003$). No significant difference was observed between women with different depression scores regarding husbands' occupation. A highly significant association was observed between depression and level of education ($p<0.001$). Infertile women living in rural areas were significantly higher percentage with depression ($p<0.001$) (Table *3*).

There was a highly significant association between infertile women living in extended family and depression ($p<0.001$). No significant differences were observed between infertile women with different depression scores regarding sequence of wife, duration of marriage and type of infertility. Infertile women married at younger age were significantly associated with depression ($p=0.002$). There was a significant association between increased attempted conception duration and depression ($p=0.008$). Infertile women threatened by husband for second marriage were significantly associated with depression ($p<0.001$) (Table 4).

DISCUSSION

The mean age of the respondents in the current study was 27.1% years old and the main age group is between 20-29 years old, this is in agreement with that found by Ikeako *et al*., study (2015) in south east Nigeria. But it is not similar to that mentioned in a South African study conducted by Oladeji and OlaOlorun (2017).

The most important finding in the present study is the prevalence of the depression in infertile women was 80% (less, mild and moderate depression but not severe type) which is consider very high and it is more than that revealed in previous Iraqi study carried by Al-Asadi and Hussein, (2015) in Basrah city in which 251 infertile women were included and the prevalence was 68.9%. This may be due to differences in sample size or tools of the study. Moreover, it is more than that found in Saudi Arabia study by Al-Homaidan (2011), were the prevalence was 53.8%. The high prevalence of depression in the current study could be attributable to the familial and social demand on women to have their own children, and because they thought that children are form of social security. The prevalence of depression was nearly to that found by Farzadi and Ghasemzadeh (2008) in Taiwan who reported that 72.54% of the women seemed to have some degree of depression.

Duration of treatment was found to be significantly associated with depression, same result that was reported by Ozkan and Baysal study (2006) in his study to measure the emotional distress of infertile Turkish women.

Regarding to the job, depression was found more in unemployed (housewife) women than those who are employed (self or governmental) and the difference was significant. It looks that being outside home at work reduce psychological stress, this is in agreement with that found by Al-Homaidan, 2011 in Saudi Arabia.

In the current study it was found that there is a signifi-

Table 1. Socio demographic characteristics distribution of the 450 women attending four infertility centres in Baghdad, Iraq , 2017

Socio demographic characteristics	No.	%	Mean ±SD
Age of women			
<20 years	88	19.6	27.1±7.7 years
20-29 years	181	40.2	
30-39 years	150	33.3	
≥40 years	31	6.9	
Women occupation			
Unemployed	271	60.2	
Self employed	34	7.6	
Governmental employed	145	32.2	
Husbands occupation			
Unemployed	1	0.2	
Self employed	236	52.4	
Governmental employed	201	44.7	
Retired	12	2.7	
Women educational level			
Illiterate	16	3.6	
Primary	247	54.9	
Secondary	35	7.7	
Higher	152	33.8	
Residence			
Rural	203	45.1	
Urban	247	54.9	
Type of family			
Nuclear	152	33.8	
Extended	298	66.2	
Sequence of wife			
First	365	81.1	
Second	85	18.9	
age at the time of marriage			
<20 years	229	50.9	
20-29 years	180	40.0	20.4±5.2 years
≥30 years	41	9.1	
Duration of marriage			
<10 years	325	72.2	(7±5.5 years)
≥10 years	125	27.8	
Attempted conception duration			
<5 years	382	84.9	3.3±1.9 years
≥ 5 years	68	15.1	
Type of infertility			
Primary	155	34.4	
Secondary	295	65.6	
Husbands threat of another marriage			
Yes	170	37.8	
No	280	62.2	

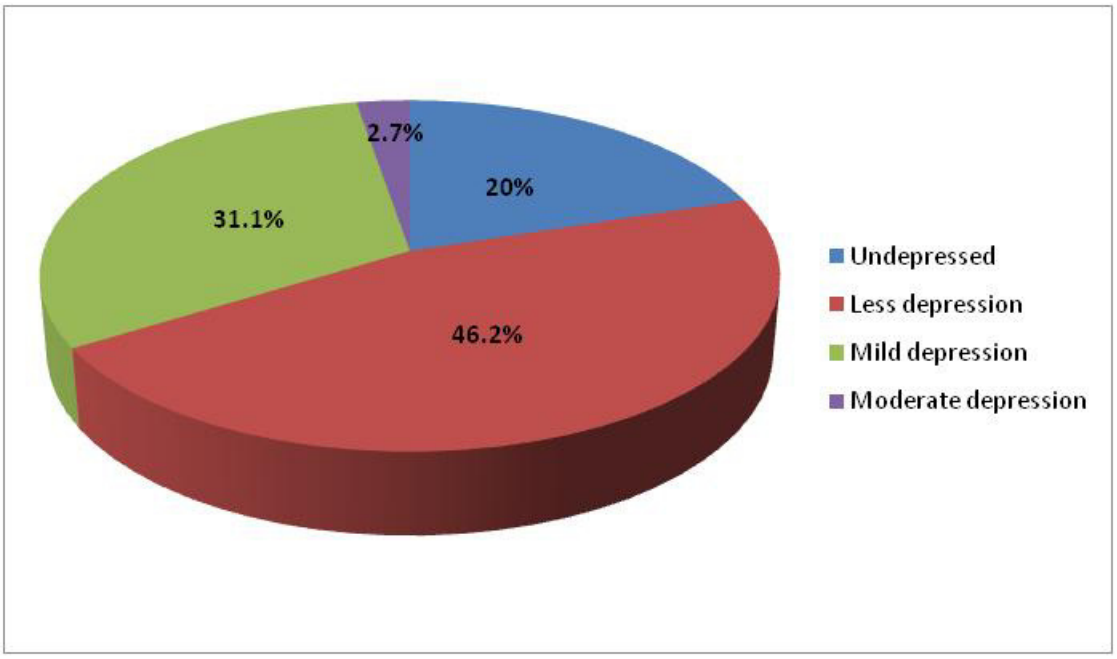

Figure 1. Distribution of patients according to the types of depression

Table 2. Distribution of women age according to depression scores

Variable	CUDOS score						P
	Undepressed		Less		Mild-Moderate		
	No.	%	No.	%	No.	%	
Age of women							
<20 years	7	8.0	37	42.0	44	50.0	<0.001**Highly significant*
20-29 years	49	27.1	79	43.6	53	29.3	
30-39 years	29	19.3	71	47.3	50	33.3	
≥40 years	5	16.1	21	67.7	5	16.1	
Mean±SD (years)	27.2±7.5		27.9±7.9		25.9±7.4		0.06**

**Chi-square test, ** One way ANOVA.*

Table 3. Distribution of women's social characteristics according to depression scores

Variable	CUDOS score						P
	Undepressed		Less		Mild-Moderate		
	No.	%	No.	%	No.	%	
Women occupation							0.003* *Significant*
Unemployed	46	17.0	120	44.3	105	38.7	
Self employed	14	41.2	15	44.1	5	14.7	
Governmental employed	30	20.7	73	50.3	42	29.0	
Husbands occupation							0.2** *Not significant*
Unemployed	0	-	0	-	1	100.0	
Self employed	47	19.9	103	43.6	86	36.4	
Gov. employed	43	21.4	99	49.3	59	29.4	

Table 3. Continue

Retired	0	-	6	50.0	6	50.0	
Women educational level							<0.001* *Highly significant*
Illiterate	13	81.2	3	18.8	0	-	
Primary	41	16.6	108	43.7	98	39.7	
Secondary	7	20.0	19	54.3	9	25.7	
Higher	29	19.1	78	51.3	45	29.6	
Residence							<0.001* *Highly significant*
Rural	30	14.8	86	42.4	87	42.9	
Urban	60	24.3	122	49.4	65	26.3	

**Chi-square test, ** Fishers exact test.*

Table 4. Distribution of marriage and infertility characteristics according to depression scores

Variable	**CUDOS score**						**P**
	Undepressed		**Less**		**Mild-Moderate**		
	No.	**%**	**No.**	**%**	**No.**	**%**	
Type of family							**<0.001*HS**
Nuclear	45	29.6	75	49.3	32	21.1	
extended	45	15.1	133	44.6	120	40.3	
Sequence of wife							0.5* ***NS***
First	70	19.2	173	47.4	122	33.4	
Second	20	23.5	35	41.2	30	35.3	
Age of marriage							**0.002*** ***Significant***
<20 years	39	17.0	93	40.6	97	42.4	
20-29 years	42	23.3	96	53.3	42	23.3	
≥30 years	9	22.0	19	46.3	13	31.7	
Mean±SD (years)	20.9±4.8		21.1±5.3		19±4.8		**<0.001****
Duration of marriage							0.5**NS*
<10 years	64	19.7	151	46.5	110	33.8	
≥10 years	26	20.8	57	45.6	42	33.6	
Mean±SD (years)	6.9±5.4		6.9±5.7		7±5.2		0.9**
Attempted conception duration (treatment duration)							**0.008*** ***Significant***
<5 years	81	21.2	183	47.9	118	30.9	
≥ 5 years	9	13.2	25	36.8	34	50.0	
Mean±SD (years)	3.1±2.3		3.2±1.8		3.3±1.5		0.6***NS*
Type of infertility							0.7****NS*
Primary	28	18.1	74	47.7	53	34.2	
Secondary	62	21.0	134	45.4	99	33.6	
Husbands threat of another marriage							**<0.001*HS**
Yes	10	5.9	73	42.9	87	51.2	
No	80	28.6	135	48.2	65	23.2	

**Chi-square test, **One way ANOVA*, *NS=Not significant, HS*=highly significant

cant association between the age and education of the infertile women with the depression. It is similar to the study of Domar *et al*, (2012) in England showed that there was positive association between them. The findings of the present study revealed that the level of depression was decrease with age which is expected

result, because with the progress of the age the women will be more accommodate with the infertility. This is not similar to the result found by Awoyinka and Ohaeri, (2014) in Ibadan when the level of depression increases with progression of the age. He explained that it is not an unexpected result, because it is logical that when a woman gets older she might be anxious since she knows there is an age limit to fertility (Awoyinka and Ohaeri, 2014).

As for the relation between duration of marriage and type of infertility of infertile women with depression, the present study revealed that there was no statistically significant association between them (p=0.9) and (p=0.7) respectively. The same was showed by Oladeji and OlaOlorun, 2017 in a South Africa. This was, however, opposing to that found by Ukpong and Orji study (2006) in Nigeria as well as Ikeako et al*,* (2015) in south east Nigeria. Moreover, it is not in agreement with Al-Asadi and Hussein (2015) study in Basrah (Iraq) who stated that type of infertility also found to have a significant association with depression and women with primary infertility were more depressed than their counterparts who had secondary infertility. These differences may be attributed partly to the different geographical locations and societal beliefs in addition to the different sample size collections between the studies that were carried out.

As we are Eastern Islamic population, so the need for child is very crucial factor to the family stabilization, Ramezanzadeh *et a*l, (2004) in Iran in his study noted that women who had the infertility were experience negative social and marital consequences such as divorce, abuse, or being threatened by their husbands with another marriage, and consequently become psychologically upset. This is similar to that revealed by the present study where a highly significant association was found when husbands threat of another marriage and depression (<0.001) which is same that mentioned by Al-Asadi and Hussein, 2015. Moreover Ikeako *et al* (2015) reported that there is a significant association between husband abuse and the depression in the infertile women. In addition, studies have also shown that perceived social support is low in infertile women and they experienced more psychological and social distress than fertile women(Martins *et al*., 2011).

CONCLUSION

The prevalence of depression among infertile women in Baghdad city was high (80%), and the depression was highly significantly related to duration of infertility treatment, age of infertile women, women educational level and threat of husband of another marriage. So we recommended that the infertile women need psychological assessment and intervention as part of their medical treatment process.

LIMITATION

The family history, consanguinity of the women as well as the number of the children may give underestimation. However, one of this study's strengths that can be considered as the first study evaluating the psychological disorders and factors related with them in Baghdad city in Iraq.

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COMPETING INTERESTS

The authors declare that they have no competing interests'. Financial and non-financial competing interests.

REFERENCES

Al-Asadi JN, Hussein ZB (2015). Depression among infertile women in Basrah, Iraq: Prevalence and risk factors. Journal of the Chinese Medical Association. Nov 1; 78(11):673-7.

Al-Homaidan HT (2011). Depression among women with primary infertility attending an infertility clinic in Riyadh, Kingdom of Saudi Arabia: rate, severity, and contributing factors. Int J Health Sci (QassimUniv); 5:108-15.

Awoyinka MF, Ohaeri BM (2014). Depression and coping strategies among women with infertility, attending three gynaecological clinics in Ibadan. J. Med. Biomed. Res.; 13(2):48-60.

Chachamovich JR, Chachamovich E, Ezer H, Fleck MP, Knauth D, Passos EP, et al. (2010). Investigating quality of life and health-related quality of life in infertility: a systematic review. J. Psychosom. Obstet. Gynaecol.; 31: 101–110.

Cserepes RE, Kőrösi T, Bugán A (2014). Characteristics of infertility specific quality of life in Hungarian couples.Orvosihetilap. May 1; 155(20):783-8.

Domar AD, Broome A, Zuttermeister PC, Seibel MM, Friedman R (2012). The prevalence and predictability of depression in infertile women. FertilSteril, 58:1158-1163.

Edelmann RG, Connolly KJ (2003). Psychological consequences of infertility.Brit J Med Psychol, 59:202-19.

Farzadi L, Ghasemzadeh A (2008). Two main independent predictors of depression among infertile women: An Asian experience. Taiwan J Obstet Gynecol.; 47(2):163-7.

Fassino S,Piero A, Boggio S, Piccioni V, Garzaro L (2002). Anxiety, depression and anger suppression in infertile couples: a controlled study. Hum Reprod.; 17:2986–94.

IkeakoLC, Iteke O, Ezegwui HU, Okeke TC (2015). Clinico-Demographic Indicators of Depression among Infertile Women in a Tertiary Health Institution in Awka, South East Nigeria. BJMMR,; 7(11): 921-31

Kowalcek I, Wihstutz N, Buhrow G, Diedrich K (2001). Subjective well-being in infertile couples. J PsychosomObstetGynecol;22:143 –148.

LapaneKL, Zierler S, Lasater TM, Stein M, Barbour MM, Hume AL, et al. (2001). Is a history of depressive symptoms associated with an increased risk of infertility in women? Psychosom Med; 57:509–13.

Lemmens GM, Vervaeke M, Enzlin P, Bakelants E, Vanderschueren D, D'Hooghe T, et al. (2004). Coping with infertility: a body-mind group

intervention program for infertility couples. Hum Reprod; 19(8):1917–23.
Martins MV, Peterson BD, Almeida VM, Costa ME (2011). Direct and indirect effects of perceived social support on women's infertility-related stress. Human Reproduction. May 18;26(8):2113-21.
Oddens BJ, den Tonkelaar I, Nieuwenhuyse H (1999). Psychosocial experiences in women facing fertility problems – a comparative survey. Hum Reprod.; 14:255–61.
Oladeji SA, OlaOlorun AD (2017). Depression among infertile women in Ogbomosoland.South African. Family Practice,; Sep 28:1-5.
Ozkan M, Baysal B (2006). Emotional distress of infertile women in Turkey. Clinical and experimental obstetrics & gynecology.; 33(1):44-6.
Ramezanzadeh F, Aghssa MM, Abedinia N, Zayeri F, Khanafshar N, Shariat M, et al. (2004). A survey of relationship between anxiety, depression and duration of infertility. BMC Women's Health; 4:9.
Seibel MM, Taymor ML (2004). Emotional aspects of infertility. Fertil Steril, 37:137-145.
Upkong D, Orji EO (2006). Mental health of infertile women in Nigeria.Turk PsikiyatriDergisi. Jan 1; 17(4):259
VolgstenH, SkoogSvanberg A, Ekselius L, Lundkvist Ö, SundströmPoromaa I (2008). Prevalence of psychiatric disorders in infertile women and men undergoing in vitro fertilization treatment. Human Reproduction. Jun 25; 23(9):2056-63.
Wilson JF, Kopitzke EJ (2002). Stress and infertility.Curr Women's Health Rep; 2:194 –199.