Psychiatric Correlates of Infertility

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The authors interviewed 78 patients with primary infertility, 55 patients with secondary infertility, and 50 noninfertile comparison patients in a semistructured interview using the Beck Depression and Taylor Anxiety Rating Scales. Psychopathology assessment explored, in addition to anxiety and depression, optimism, pessimism, and hostility indices. Significantly more patients with primary infertility reported anxiety, depression, pessimism, hostility, and lower optimism, than patients with secondary infertility and control. Both groups reported increased frequency of intercourse and more social involvement than controls. There were significant differences between primary and secondary infertility groups as regard the cyclic change of anxiety, depression, dyspareunia and orgasm satisfaction. This study gives support to the association between infertility and psychiatric dysfunctioning. It is suggested that infertile patients should receive psychiatric evaluation - intervention as an integrated part of their work up.

(Egypt. J. Psychiat.,1992,15:192 -200).

Introduction

Infertility may be defined as the inability to conceive during the course of normal sexual activity. Although there are a multiplicity of etiologic factors, emotional factors may play a vital role by interfering with ovulation or by initiating tubal spasm or dyspareunia (Elstein, 1975).

Infertile women suffer and report high level of psychopathology (McEwan et al., 1987, Valentine 1986). Lalos et al., (1986), and Mao and Wood (1984) reported high prevalence of anxiety, depressive, and guilt symptoms among infertile couples. Also, psychosexual dysfunctions such as anorgasmia, dyspareunia, and even impotence in males, have been reported in infertile couples (DeVries et al., 1984 and Berger, 1980). Plati (1969) reported impotence, sham ejaculation, retrograde ejaculation oligospermia, and midcycle impotence in males of infertile couples.

It is to be stressed that infertile couples are described as having typical personality traits that may have resulted in their inability to conceive, thus creating a cause and effect vicious circle. Emotional disorders constitute a causative factor in about 5% of infertile cases (Seibel and Taymor, 1982).

In a recent study, Downey et al., (1989) reported that infertility patients received themselves to have been quite affected by their inability to conceive. For instance, 49.2% of their sample reported changes in their sexual life and 74.6% reported mood swings and changes.

On the other hand, some controversial work using psychometric tests have

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shown no significant differences between infertility patients and comparison group on measures of psychological adjustment (Freeman et al., 1983, and Paulson et al. 1988).

In Egypt, Al-Madani et al. (1990) showed that infertile women suffered more anxiety, depressive and somatic symptoms than fertile women and that infertile couples have significantly more marital conflicts than couples with children. El - Guindy (1991) in a report about psychiatric consultation for infertile women estimated that about 27% to 41% have been suffering from depressive and anxiety disorders. However, there is no mention of the difference between primary vs. secondary infertility as regard psychological and sexual functioning.

This study was designed to assess the level of psychopathology and sexual functioning through a semistructured interview and with the use of standardized rating scales in primary and secondary infertile women and a control group attending outpatient gynecologic clinic in a general hospital in Suez City.

Subjects and Method

The study sample consisted of 133 infertile women attending the gynecology clinic in Suez General Hospital in Suez governorate during the period from 1988 to 1991.

Infertility patients were eligible to be subjects if they (1) were seeking infertility evaluation, (2) were trying to become pregnant, and (3) had a steady partner.

Routine - Care gynecology patients were invited into the study as control subjects if they (1) were sexually active, (2) were using contraception, (3) were not trying to become pregnant, and (4) had a steady partner. Exclusion factors for control subjects were (1) presenting for nonroutine care such as unwanted pregnancy, irregular periods, abdominal pain or endometriosis or (2) having had a non - elective procedure rendering them infertile, such as hysterectomy. The total number of controls was 50.

78 patients were diagnosed as having primary infertility and 55 patients as secondary infertility for more than two years.

The sample of infertility subjects were examined and assessed medically and gynecologically by the treating gynecologist (G. L.). Infertile women and controls were informed about the aim of the study and an oral consent was taken after explanation of the study procedures.

Baseline psychological and psychosexual assessment were carried out by the authors using standardized assessment tools in the form of a comprehensive questionnaire. Apparently there was no difficulty to obtain the needed information because of the rapport between the patients and the authors (and later the psychiatrist) as it appears to be a good chance to talk about their problem.

The questionnaire included: demographic and psychosocial information, Beck Depression Inventory, Taylor Anxiety Scale, (psychopathology).

Information and attitude towards the impact of infertility on the patient's life were gathered through a semistructured interview (done by the psychiatrist) asking the patient to describe how she perceive infertility problem and how does it affect her life. Optimism and pessimism attitudes toward this problem and in general were assessed by asking direct questions. Anger and hostility as a reflection of the (self-esteem) persisting problem were assessed. Psychosexual assessment (sexual functioning) included the presence or absence of dyspareunia, the presence and grade of orgasm (always, sometimes, satisfied, and unsatisfied), frequency of intercourse, and libido. Career (job) satisfaction, social relationship and support as well as husband involve-

ment and understanding (are you worried about your future with your husband because of infertility ?) were assessed during the semistructured interview.

During the initial semistructured interview, the patient's phase of the menstrual cycle was recorded.

A second reassessment was carried out in late luteal phase (or follicular phase of the cycle depending on the timing of the first assessment). Patients were instructured to report any changes in their mood, psychopathology, self - esteem, and sexual functioning as well as job satisfaction, social involvement and husband understanding.

X^2 was used for statistical analysis using I. B. M. software statistical package.

Results

Table (1) shows sample characteristics. Table (2) shows the comparison of primary, secondary infertility and control as regard psychopathology and sexual functioning between the three groups studied. Statistical analysis showed that patients with primary infertility have significant anxiety, depression, pessimism, and hostility than those with secondary infertility. Significantly less patients with primary infertility reported optimism than control. There were no significant differences between primary infertility patients and controls as regard dyspareunia, orgasm or job satisfaction.

However, significantly more patients with primary infertility reported frequency of intercourse of less than 2 week and more patients with primary infertility complained of lack of libido. Also they were satisfied with their social involvement, and complained less about their husband understanding than controls and those with secondary infertility

On the other hand, patients with secondary infertility differed significantly from control in having less orgasm, more frequency of intercourse, more lack of libido, and more social involvements

Table (3) illustrates the cyclic changes of psychological and psychosexual symptoms in primary and secondary infertility patients. Most of patients' psychological troubles occurred during menstruation and / or few days after menstruation. The severity of symptoms were reported to decrease but did not disappear completely around ovulation. The incidence of cyclic changes were similar to those of control. There were no cyclic changes of orgasm or dyspareunia, however, patients' reported that their interest in sexual intercourse was increased around the time of ovulation, the time around which the frequency of intercourse was increased. There were no cyclic changes in job satisfaction, social

Table 1
Sample Characteristics

	Primary Infertility	Secondary Infertility	Control
Number	78	55	50
Mean age (± SD), years	30.6 (± 4.7)	32.3 (± 5.0)	30.1 (+6.5)
Range of age, years	19- 41	21-41	19 - 42
Mean duration of infertility (± SD), years	5.1 (± 2.7)	4.4 (± 1.6)	
Range, years	2-16	2-8	

Table 2
Comparison of Psychological and Psychosexual Symptoms in Primary and Secondary Infertility and Controls

Group / Symptom	Primary Infertility (n=78) N	%	X^2	Secondary Infertility (n=55) N	%	X^2	Total (n=133) N	%	Control (n=50) N	%
Anxiety	51*	65.4	35.1	10	8.2	1.2	61	45.9	6	12
Depression	40*	51.3	22.8	15	27.3	5	55	41.4	5	10
Pessimism	48*	61.5	39.2	9	16.4	2.7	57	42.9	3	6
Optimism	30*	38.5	39.2	46	83.6	2.7	76	57.1	47	94
Hostility	19*	24.4	5.5	2	3.6	0.92	21	15.8	4	8
Dyspareunia	9	11.5	2.2	9	16.4	2.7	18	13.5	2	4
Orgasm										
-Almost always	20	25.6	0.3	3*	5.5	11.1	23	17.3	15	30
- Sometimes	35	44.9	0.3	29	52.7	1.7	64	48.1	20	40
- Satisfied	15	19.2	0.01	14	25.5	0.4	29	21.8	10	20
- Unsatisfied	8	10.3	0.002	9	16.4	0.9	17	12.8	5	10
Frequency of intercourse (< 2/week)	33*	42.3	17.5	29*	52.7	24.3	62	46.6	4	8
Lack of Libido	49*	62.8	14.8	28*	50.9	5.7	77	57.9	14	28
Job Satisfaction	12/50	24	1.9	7/24	29.2	0.7	19/74	25.7	6/19	31.6
Social Involvement	71*	91.0	17.6	52*	94.5	18.3	123	92.5	30	60
Husband Understanding	30*	38.5	30.7	50	90.9	0.2	80	60.2	44	88

X^2 Statistics was carried out comparing primary infertility with controls and secondary infertility with controls.

* Statistically significant at the 0.05.

involvement, or husband understanding.

The incidence of cyclic changes was similar in primary and secondary infertility patients. However, cyclic changes of anxiety and dyspareunia were more common in primary than secondary infertility patients. On the other hand, depression and orgasm satisfaction were more common in secondary than in primary infertility.

Discussion

Sexuality and reproductive capacity are deeply identified with the sense of self. Although infertility could be associated with some physical symptoms or syndromes and could be frightened, the search for treatment and continuos evaluation may become a potential focus for psychological vulnerabilities and profoundly affect a women's self - esteem and personal work.

Our results suggest that there is a strong association between infertility and psychopathology, particularly anxiety, depression, pessimism, hostility and less optimism. However, although we have tried to secure an accurate description of the psychological experiences of infertile women, we could not determine exactly whether their psychiatric difficulties were

Table 3
Comparsion of Cyclic Increase in Psychological and Psychosexual Symptoms Postmenstrually in Primary Vs Secondary Infertility

Type of Infertility / Symptom	Primary Infertility N.	%	Secondary Infertility N.	%	X^2	P
Anxiety	*51/51	100	9/10	90	5.1	< 0.05
Depression	*32/40	80	15/15	100	3.5	< 0.05
Pessimism	40/48	83.3	9/9	100	1.7	
Optimism	12/30	40	18/46	39.1	0.006	
Hostility	19/19	100	2/2	100		
Dyspareunia	*9/9	100	6/9	66.7	3.6	< 0.05
Orgasm						
- Almost always	2/20	10	0/3	0	0.3	
- Sometimes	5/35	14.3	9/29	31.0	2.6	
- Satisfied	*10/15	66.7	14/14	100	5.6	< 0.05
- Unsatisfied	8/8	100	6/9	31.6	3.2	
Frequency of Intercourse (<2/week)	30/33	90.9	28/29	96.6	1.2	
Lack of Libido	42/49	85.7	26/28	92.9	11.5	

* Statistically Significant.

either part of their constitution or as a result of infertility. As Downey et al., 1989, pointed out that a problem with many psychological studies of infertile women is whether the psychological symptoms reported are related to the problem of infertility or the tedious distressing process of evaluation, repeated failure to conceive, and treatment. This is particularly true because visiting a physician for any reason has been reported to be associated with elevated symptom levels and higher incidence of clinical depression (Kayton et al, 1986 and Weissman et al., 1981). In contrast with the previous explanation is the finding that the control group which has a more or less some gynecological problem did not show such significant psychopathology.

We did not compare any endocrinal or hormonal level, it is possible that the underlying mechanism could be due to hyper or hyposecretion or unstable hormonal levels. Gangbar and Swinson (1983) have suggested that hyperprolactinemia which occurs under physiologic, pathologic, and pharmacologic etiologies may lead to psychiatric illness. The as-

sociation between psychiatric disorders, neuroendocrine abnormalities and C. N. S. dysfunction could suggest subtle hypothalamic dopaminergic deficiency mediating infertility and psychopathology (Flor - Henry et al., 1981, Vaitukaitis, and Herzog et al., 1984).

Our finding of increased psychopathological indices in infertile women is in support of El-Defrawi et al. 1990, where 95.5% of married infertile women suffered from late luteal phase dysphoric disorder and 72.0% reported their need for treatment. Similarly, almost all primary and secondary infertile women in our study have reported the occurrence of their symptoms with menstruation. A problem with many psychiatric studies of infertile women is that first they have no pre-infertility baseline assessment, second, that they have few women who are at different stages of workup and treatment with varying duration of infertility and psychopathology. The finding that most patient's psychological troubles occurred during menstruation and / or few days after menstruation suggests that the state of infertility with its accompanying diagnostic and therapeutic maneuvers is more likely to produce serious emotional reactions than are primary emotional factors likely to produce infertility. Orenstein et al. (1986) reported that infertile patients with polycystic ovary disease reported more psychological symptoms and somatic complaints than either infertile patients with tubal disease or normal control women and were significantly more likely than either control group to endorse the belief that they had been more sickly than the average women.

In our study, infertility was associated with increased psychopathology in contrast for other studies which denied such association (Freeman, et al., 1983 and Paulson et al., 1988). It is possible that Egyptian women do have such symptoms which can be explained on a cross-cultural variability model. Escobar (1987) suggested that depressed subjects in developing countries tend to express their problems with increased level of somatization.

It is interesting to find that infertile women (91.0% and 94.5%) were significantly functioning better on measures of social involvement than control (60%) ($X^2 = 17.9$, $p<0.05$). This could be a sociocultural difference that characterize Egyptian infertile patient. Also it could be of a psychological protective function.

There are four dimensions that interact to obscure the research findings in the area of psychological and psychosexual changes linked to failure of reproductive function in women or infertility. These are the psychodynamic aspects of infertility and sexuality, the possible hormonal disturbances associated with infertility, the sociocultured biased attitudes toward woman, precxisting psychopathology and the failure to identify an existing physical cause for infertility.

Psychodynamic formulations have interpreted anxiety and depressive symptoms as "a women's inability to reintegrate herself through the mourning process" due to the loss of a function with which a powerful self-identification is made.

Similarly, reactive psychopathology, whether depression, anxiety or hostility, has been viewed as "a woman unable to accept the reproductive failure "and sense the lack of full responsibilities of her feminine role, including pregnancy and childbirth, reactivates early conflicts.

Prospective research using reliable and comprehensive measures of self - image and conflicts about sexuality and mothering must be done in order to identify their effect on the expression of the psychiatric syndrome under study.

The reproductive function in women not only is psychologically meaningful event but also is associated with substantial hormonal fluctuations. Hormonal imbalances could be the primary etiological agent in psychiatric symptoms associated with infertility. Yet, studies have been unable to consistently demonstrate biological - hormonal abnormalities in the majority of infertile women.

Just as research on infertility problem has replaced the "too much or too little" hypothesis with formulations based on abnormal regulatory mechanisms, future research on the psychopathology of infertility may also need to focus more on the biological vulnerability factors and potentially abnormal responses associated with infertility.

Culturally biased attitudes toward infertile women may enhance and facilitate the conflicting expectation between the woman's need and the childless experience.

Psychopathology and psychosexual dysfunction associated with infertility may be due to a preexisting psychopathology or borderline vulnerability that get unmasked or exacerbated by the childless experience.

In conclusion, psychopathology and psychosexual dysfunction linked to infertility require continued interest and investigation.

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Manifestations Psychiatriques de l'Infertilité

78 patientes souffrant de stérilité primaire, 55 patientes souffrant de stérilité secondaire et 50 patientes non-stérile à titre de groupe control ont été évaluer à l'aide d'un entretient semi-structuré, l'échelle de Beck pour la dépression et l'échelle de Taylor pour la stérilité. Les patientes souffrants de stérilité primaire ont éxprimé plus d'anxiété, de dépression, de pessimisme et d'hostilité que les patientes souffrant de stérilité secondaire et le groupe control. Nous avons trouvé ainsi des différences significatives entre les patientes souffrant de stérilité primaire et ceux souffrant de stérilité secondaire relativement aux variations cyclique de l'anxiété, la dépression, la dyspareunie et la satisfaction orgasmique. Cette étude souligne l'association de la stérilité avec les troubles psychiatriques et recommende que les patientes stériles aient une consultation psychiatrique au cours de leur prise en charge.

المصاحبات الطبيه النفسيه للعقم

قام الباحثان بإجراء مقابله طبيه نفسيه شبه مقننه مع مجموعه من السيدات اللاتى يعانين من عقم أولى وثانوى بالاضافه إلى مجموعه ضابطه من المترددات على العياده الخارجيه بمستشفى عام.

وقد اشتملت المقابله على تقييم الحاله الطبيه النفسيه من حيث القلق والإكتئاب والعدوانيه والتفاؤل والتشاؤم والاداء الجنسى واعراضه باضافه إلى الإندماج الإجتماعى والرضاء عن العمل والتفاهم الزواجى.

وقد أظهرت النتائج وجود فروق ذات دلاله أحصائيه بين مجموعة السيدات المصابات بالعقم الأولى وبين المجموعه الضابطة من حيث ازدياد نسبة القلق والإكتئاب والعدوانية والتشاؤم وانعدام التفاؤل بالاضافه إلى ازدياد الرغبه الجنسيه والاندماج الإجتماعى ونقص التفاهم الزواجى فى المجموعه الأولى عنه فى المجموعه الضابطة. ولم توجد نفس الفروق بين مجموعة العقم الثانوى والمجموعة الضابطة الا فى بعض المقاييس.

كما أظهرت المقارنه بين مجموعتى العقم وجود فروق ذات دلاله إحصائيه فى القلق والإكتئاب وآلام المعاشره من حيث كون هذه الأعراض تزداد مع آلام ما قبل الطمث. وقد ناقشت الدراسه معانى وآليات هذه النتائج.