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Comparison of mental health in fertile and infertile womens at kowsar infertility clinic

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ABSTRACT

Reproduction and fertility are one of the principles marital life. Actually it can be said that the most important thing after survival is continued generation. The aim of this research was to determine the effects of mental health in womens of fertile and infertile. This research was performed at kowsar infertility clinic in tehran city. The scale GHQ28 was used for this evaluate. This scale was performed on 60 women in fertile and infertile of kowsar infertility clinic. The methods used of this study are descriptive statistics and inferential statistics. The results showed that between fertile and infertile womens in terms of mental health is a significant difference ($P<0.05$). In addition, the t test results showed that between fertile and infertile womens in scale of experiment is a significant difference ($P<0.05$).

Key words: Mental health, Womens, Reproduction, Fertility, Infertility

INTRODUCTION

It is well recognized that mental health and infertility are linked. However, the causal or consequential nature of this link remains unclear. In a review, Edelmann and Connolly (1986) were unable to confirm that there were psychological causes of infertility. They concluded that infertility clearly has psychological consequences for some couples, although the underlying mechanisms are poorly understood. Golombok (1992) felt that the impact of fertility on psychological function was complex and subject to a variety of factors. The interaction between man and environment is continuous and certainly has influenced the process of evolution of the species. This interaction is in certain cases beneficial but in many it is hostile. Indeed, mankind has introduced elements into the environment that either pollute or modify environmental conditions with resulting negative effects on human health. Conversely, adverse environmental conditions not controlled or influenced by man can also affect human health and behavior. This is a continuously evolving process, with some elements that remain fairly constant over a relatively long period of time (decades or centuries) and others that can rapidly progress or change in a much shorter time frame (environmental disasters). Before attempting to evaluate environmental influences on

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adult reproductive functions in the human male and female, it is necessary to provide some definitions to focus the terms and the scope of the problem. The definition of reproductive health given by the World Health Organization also has a broad scope, suggesting that multifactorial environmental inputs may introduce disorders of an organic, functional, or psychological nature. How is reproductive dysfunction evaluated, then this is one of the complex aspects of the problem, and it has certainly contributed to the present state of confusion in the field. If one is going to evaluate the fertility potential of a couple, outcome (pregnancy) is obviously the gold standard. Other parameters, such as semen quality, ovulation, etc., although important markers for potential dysfunction, are not reliable measures of outcome. Evaluation of conception rates is obviously a desired parameter to ascertain the impact of a given environmental factor. Yet, if one is to analyze the impact of that same factor on an individual man or woman, less precise or reliable parameters (other than pregnancy) have to be used to quantitate and characterize the effect. Even pregnancy itself is a somewhat misleading parameter when applied to an individual couple, since subfertility induced by an environmental agent may still exist although pregnancy is achieved at a given time (Ezzati kaklar and Moradi kor, 2013). It appears from the above that well-controlled, large population studies can provide reliable data on the influence of specific environmental factors on infertility. However, these studies are not without problems because levels of exposure, length of exposure, and preexisting or coexisting conditions may clearly affect the degree of damage to the reproductive capacity of the couple. In the case of environmental disasters, many of the above conditions could be more closely controlled, and, thus, lessons can be learned from those occurrences. In most other instances, however, analysis of the impact of an environmental agent or toxin needs to be conducted using different indexes of reproductive performance in addition to pregnancy (Ezzati kaklar and Moradi kor, 2013). The immune system reacts and responds to antigenic exposures and, in turn, can modulate or adversely affect reproductive events. The respiratory and gastrointestinal systems as well as the skin act as routes of entry/exit for many environmental factors and biologically active agents. The ultimate target of environmental factors are the receptors, enzymes, and second messenger systems as well as the genes that are involved in the regulation of cellular development, differentiation, and function in reproductive tissues. These targets also include enzyme systems responsible for the metabolism, inactivation, and detoxification of any biologically active substance or toxin. These concepts clearly indicate that reproductive health can be impaired not only by agents or toxins that directly affect reproductive tissues but also by substances or factors that affect a number of other tissues or systems which indirectly regulate or support reproductive functions. In the area of stress and infertility, our knowledge of the basic mechanisms mediating stress responses has progressed substantially, and this will allow interested researchers to formulate well-designed paradigms to evaluate the impact of stressful agents or situations on reproductive performance. The combination of psychological tests to measure stress levels with biochemical parameters to quantitate stress hormone responses should provide a good framework in which to address specific questions on fertility parameters (Ezzati kaklar and Moradi kor, 2013). A more challenging problem still remains in trying to isolate confounding variables because stress situations as discussed above are often associated with other types of disorders. A fruitful area of research is emerging in the interplay between the neuroendocrine and the immune systems, particularly to ascertain how chronic stress modifies immune system function and what contribution this has to infertility. In general, environmental factors are often invoked as contributing to many cases of otherwise unexplained infertility. However, the direct causal relationship between those factors and the ensuing infertility of couples is seldom well established and remains largely anecdotal. Several problems contribute to maintain this relatively confusing state of affairs: a) the multifactorial nature of the contributing factors; b) the poor design of many of the studies; c) the diversity of parameters evaluated and whether they measure outcome (i.e., pregnancy rates) or intermediate events (semen values, ovulation, etc.) and d) the

difficulty in monitoring exposure both in terms of time and degree of intensity. Until unified criteria are applied consistently and systematically to evaluate environmental influences on human reproductive health, many of the cases of female or male infertility will remain unexplained. The aim of this research was to determine the effects of mental health in womens of fertile and infertile.

MATERIALS AND METHODS

The statistical Population of this research are fertile and infertile womens in of kowsar infertility clinic. In this clinic 60 patients were randomly selected (30 fertile and 30 infertile women). The 60 womens in terms of age, education and jobs have been peer examined and were matched. The GHQ28 questionnaire was used for data collection. Each of the samples (30 fertile and 30 infertile women) was accrued a questionnaire.Variables of this research are body symptoms, anxiety, social function, depression and mental health. These variables were examined between fertile and infertile womens. The SPSS software were used for data analysis in this study.

RESULTS AND DISCUSSION

The statistical parameters of fertile and infertile in GHQ test is shown in table 1. The Analysis of other variables in this experiment are presented in table 2, 3, 4, 5, and 6 respectively. The results of table 1 shows that the highest mean are belong to social function (4.77) and lowest mean are belong to depression (1.20) in fertile womans. In other words, between fertile womans of this study the most differences are belongs to social function and the lowest differences are belongs to depression. The highest variables mean are belong to anxiety (8.40) and lowest mean are belong to depression (4.40) in infertile womans. In other words, between infertile womans of this study the most differences are belongs to anxiety and the lowest differences are belongs to depression. The means of all variables are highest in infertile womens compared to fertile womens. In addition, significantly differences were observed between all variables in two groups of study (fertile and infertile womens). Stress affects a large number of biological systems, including the reproductive system. Defined by Selye more than half a century ago, the term "stress" has been used to include a variety of responses elicited by noxious or potentially noxious stimuli (Selye, 1946). Many ofthese stimuli originate in the environment, some are derived from the response of the individual to environmental factors, and some are psychogenic and in certain cases may be the result of the interaction of what the individual perceives from the environment and the elicited response. Cultural, occupational, and many other behavioral differences can modify or sensitize the stress response and the ensuing change in reproductive function. Experimental data in animals and humans suggests that chronic or severe stress leads to anovulation and amenorrhea in women and to decrease in sperm count, motility, and morphology in men (Barnea and Tal, 1991; McGrady,1984; Moghisi and Wallach, 1983). However, in many instances, stress has a more subtle, less-defined influence or is associated with other factors that make the interpretation of the observed effects more difficult. In addition, stress affects many endocrine and other regulatory systems, and thus the resulting effects are usually not limited to changes in reproductive function. Nevertheless, there are some well-defined syndromes associated or induced by stress that result in abnormal reproductive functions. Moreover, the neuroendocrine mechanisms triggering the stress response as well as the chemical signals mediating these responses are now better known. There is good evidence to support that excessive emotional stress, alone or in combination with changes in eating and nutrition patterns and exercise, can cause chronic anovulation. Chronic anovulation associated with hypothalamic (or psychogenic) amenorrhea is more

frequently seen and detected, although the direct link to stress is not always easy to establish (Barnea and Tal, 1991; Berger et al., 1989; Biller et al., 1990). Elevated cortisol levels are associated with amenorrhea in these women and abnormal responses to CRF have also been established (Berger et al., 1989; Biller et al., 1990). Circadian changes have been noted as well. For instance, the cortisol and prolactin responses to the noon-time meal are blunted in these women (Berger et al., 1989). Psychologic distress is generally recognized as a contributing factor to infertility and psychologic distress has been found to be high in infertile couples. Psychologic amenorrhea is more common in women that have stressful lives and occupations, are usually underweight, single, and have a history of using psychoactive drugs. Disrupted circadian patterns of cortisol secretion and changes in opioid tone have been reported in these patients (Wright et al., 1989; Sachar et al., 1973; Quigley et al., 1980). A close association between stress and eating disorders is frequently found in female patients presenting with anovulation and amenorrhea. This is not surprising since both conditions lead to a slow-down of the LHRH pulse generator and, consequently, of gonadotropin secretion and gonadal function (Vigersky et al., 1977; Piske et al., 1985). Severe eating disorders, such as anorexia nervosa and bulimia, clearly involve several of the same systems that are affected by stress, such as CRF, LHRH opioid peptides, and aminergic systems. These systems are normally involved in the control of many functions, including reproduction, feeding, or eating behavior and autonomic functions, and these explain the frequent association of these disorders with infertility. Exercise also evokes activation of many of the central pathways mentioned above, notably the opioid systems as well as aminergic and CRF systems. Therefore, exercise is frequently one of the components of the triad (i.e., stress, diet, exercise) that often is associated with infertility. Intense exercise clearly can cause amenorrhea in women athletes and several other disorders have been described in female athletes including delayed onset of menarche, oligomenorrhea, anovulation, inadequate luteal phase, and secondary amenorrhea (Cumming and Rebar,1983; Seifer and Collins, 1990). The menstrual cycle disorders associated with malnutrition and exercise are often reversible, functional hypothalamic amenorrheas that have as a common denominator a slow-down of the LHRH pulse generator and, consequently, of pulsatile gonadotropin secretion. Many of the brain hormones involved in stress responses and reproductive functions (e.g., CRF, LHRH, opioids) are also present in the placenta and can affect placental hormone secretion and function. It is not surprising, then, that claims have been raised concerning the role of stress in early pregnancy failure (Barnea and Tal, 1991). However, although this is an intriguing hypothesis, it is difficult to evaluate in the human, and the available animal data are still too limited to arrive at a conclusion. Stress has been reported to decrease sperm count, motility, and morphology in men. Other disturbances, such as impotence, sham ejaculation, retrograde ejaculation, and oligospermia, have been reported to be associated with psychological factors in male infertility (Palti, 1969). A variety of occupational activities with high levels of stress, including business, combat or combat training, have been reported to decrease plasma testosterone levels (Steeno and Pangkahila, 1984). Emotional stress associated with the evaluation or treatment for infertility of couples has also been associated with oligospermia and may contribute to the variations in semen quality observed during evaluation. Physical stress leads to low testosterone levels due to a reduction in LH pulse frequency (Aono et al., 1972). It is not yet known whether these effects are mediated only centrally by CRF/ opioid systems or whether peripheral actions of ACTH/ cortisol at the testicular level may also play an important role in the observed effects on semen quality. Recently, CRF and I-endorphin have been shown to be present in the testis, where they may play an important paracrine role. Since these are "stress peptides," it is plausible to think that changes in the intratesticular levels of these two peptides may contribute to alterations in gametogenic and endocrine functions of the testis (Fabbri et al., 1989; Valenca and Negro-Vilai, 1986). As is the case in the female, diet and exercise also play a role in male infertility, and they are also frequently associated with stress situations. Decreases in gonadotropin and testosterone levels and

gonadal atrophy have been reported in adult men as well as in adolescents after chronic malnutrition. Short-term food withdrawal in male rhesus monkeys produces a significant reduction in LH and testosterone pulse frequency, even when body weight changes minimally (Smith et al., 1975; Cameron and Moshbisch, 1991). The opioid system also appears to be involved in the mediation of these effects. A similar pattern of changes and of the mechanisms involved appears to occur during exercise and physical activity.

Conclusions

According to the results of this experiment we conclude that between fertile and infertile womens in terms of mental health is a significant difference. In addition, the results showed that between fertile and infertile womens in scale of experiment (body symptoms, anxiety, social function, depression and mental health) is a significant difference.

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Table 1. Statistical parameters of fertile and infertile in GHQ test

	Mean		**Variance**		**SD**		**Maximum**		**Minimum**	
Status	fertile	infertile	fertile	infertile	fertile	infertile	fertile	infertile	fertile	infertile
Body Symptoms	3.50	7.60	1.91	5.83	1.38	2.41	7	14	1	4
Anxiety	4.20	8.40	2.30	11.42	1.51	3.37	7	19	1	4
Social function	4.77	7.40	3.35	6.31	1.83	2.51	8	13	1	4
Depression	1.20	4.40	1.89	6.27	1.37	2.50	5	11	0	1
Mental Health	13.67	27.30	6.85	41.25	2.61	6.42	17	41	8	20

Table 2. Mental health between fertile and infertile women

Variable	**t**	**DF**	**significantly**
Mental health	10.67	58	0.001

Table 3. Body symptoms between fertile and infertile women

Variable	**t**	**DF**	**significantly**
Body symptoms	8.06	58	0.001

Table 4. Depression between fertile and infertile women

Variable	t	DF	significantly
Depression	6.21	58	0.001

Table 5. Social function between fertile and infertile women

Variable	t	DF	significantly
Social function	4.63	58	0.001

Table 6. Anxiety between fertile and infertile women

Variable	t	DF	significantly
Anxiety	5.49	58	0.001