



## ATTITUDES OF PATIENTS ABOUT THE IMPORTANCE OF PSYCHOLOGICAL INTERVENTION IN THE PROCESS OF IN VITRO FERTILIZATION

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### ABSTRACT

**Introduction:** According to available data, 20% of population is faced with the problem of sterility, which represents a very stressful experience for couples who want to have posterity. The presented diagnostic and therapeutic procedures, fear and uncertainty are only some of the problems that couples who have started the treatment are faced with, which strongly implies the necessity of psychological support and intervention in order to overcome them.

**The aim of this study:** To analyse the opinion of the couples involved in the in vitro fertilization program regarding the necessity of psychological support and intervention.

**Material and methods:** The research has been conducted on a sample of 200 couples involved in IVF program at Gynaecology and Obstetrics Department of Clinical Centre of Vojvodina, Novi Sad.

**Results:** Out of 200 surveyed women, 170 (85%) declared that psychological intervention in the course of the treatment is necessary, while with male examinees the percentage was slightly lower (82.5%). Regarding the issue of mutual support between partners in the course of the treatment, 98% of women and 99% of men declared that it is necessary.

**Conclusion:** Facing the problem of sterility and the approaching treatment is accompanied by extremely high level of stress, anxiety and depressive reactions, which produces a significant impact on the course and results of the treatment. This clearly implies the aforementioned necessity of application of psychological intervention as a complementary method of sterility treatment.

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### INTRODUCTION

That the subject topic is not new is evidenced by the results of the study conducted in Queensland in 1988, where 77 women involved in the in vitro fertilization program gave report about self-perception during the scheduled diagnostic and therapeutic protocol. According to the obtained data, the highest degree of anxiety and uncertainty was recorded in the course of preparation for embryo transfer as well as during the waiting for the results on its successfulness. This study has also generated data related to the motivation of couples that was significantly decreasing with the number of IVF attempts [1]. How much this issue is important is also evidenced by data from another study, which emphasizes the necessity of creating a psychological profile of couples scheduled for some of the methods of the assisted reproduction, because their psychological profiles and possibly, the existence of psychopathologic disorders, can significantly influence the results of the applied procedures [2].

That sadness and depression, and even anger and indignation are frequently noticeable with women involved in the above mentioned programs, is evidenced by a study conducted in 2010. The study also points to the great importance of doctors and nurses in overcoming such reactions, primarily through detailed and patient providing information to the women patients and their partners [3]. It is also important to consider the issue of parenthood motivation and whether we should start from the assumption that it is a matter of the maternal instinct or it is rather some other kind of motivation. Namely, a study that included 50 primary sterile women, 50 secondary sterile women and 70 fertile women, gave the following results: maternal instinct as a category does not exist, and parenthood motivation is socially determined, provided that there is a distinction between the women who became mothers and those who did not.

We should also take into account the fact that social environment also has impact on the parenthood motivation; actually, it directly reflects the value of children in specific

territory.

Speaking of motivation for parenthood we should ask a question: are we dealing with a basic instinct? Modern professional literature says that the parenthood is socially determined category, so that the society can have both stimulating and dissimulating influence in making decision on posterity [4]. We should also take into account that sterility has extremely important emotional implications regarding woman's life, however, regardless of that negative aspect, nearly half of women do not ask for help. Sterility has an important reflection on the relationship with a partner, and as the results of a study show, the women who have undergone the treatment declare that they have closer relationship in relation to the group of women who have not asked for professional help [5].

When speaking of motivation for parenthood, especially with couples facing the problem of sterility, it is necessary to consider the notion of achievement motivation. The first theories dealing with the problem of achievement motivation defined the problem as a set of activities directed towards achieving success, or avoiding failure. Seeking success and avoiding failure was defined for the first time in 1944 by Lewin..

## MATERIAL AND METHODS

The survey has been conducted based on a sample of 200 couples participating in IVF program, at Gynaecology and Obstetrics Department of Clinical Centre of Vojvodina, Novi Sad. Study was conducted with the approval of the ethics committee of Clinical Center of Vojvodina, as well as the ethical committee of the Medical Faculty in Novi Sad.

Criteria for inclusion in the study:

- Couples who qualify for inclusion in IVF Program

Criteria for exclusion of couples from the study:

- Couples who do not qualify for inclusion in IVF Program.

Data have been gathered by means of a questionnaire designed for the purposes of the research

## RESULTS

Upon systematization and categorization of the data, a data base was formed for each examinee in EXCEL for Windows. Statistical processing of the data was performed by means of IBM SPSS 20 Statistics program package.

Average age of examinees was  $35.57 \pm 5.19$  ranging from 24 to 55 years. Men were statistically significantly older than women ( $t = 5.307$ ;  $p = 0.000$ ).

Decision to undergo the sterility treatment was common with 86.5% examinees, and only with 3.5% examinees the decision was made by the partner. Decision to undergo the treatment was made solely by the woman in 12% cases, and solely by the man in 8.5% cases. With 10 men and 4 women the decision was made by the partner.

**Table 1** Do you think that decision on the treatment should be mutual?

	Men		Women		Importance‡
	Number	Percentage	Number	Percentage	
Yes	200	100.0	186	93.0	ns
No	0	0.0	14	7.0	ns
Importance	***		***		ns

‡ Chi-square and Fisher's exact test; \*\*\*  $p < 0.001$ ; ns - no statistical importance

**Table No 2** Do you consider mutual support during the treatment very important?

	Men		Women		Significance‡
	Number	Percentage	Number	Percentage	
Yes	198	99,0	196	98,0	ns
No	2	1,0	4	2,0	ns
Importance‡	***		***		ns

‡ Chi-square and Fisher's exact test; \*\*\*  $p < 0.001$ ; ns - no statistical importance

Only six examinees (2 men and 4 women) consider that mutual support during the treatment is not very important while all other examinees consider that it is (Table No. 2).

**Table No 3** Do you consider psychological support during the treatment necessary?

	Men		Women		Importance‡
	Number	Percentage	Number	Percentage	
Yes	165	82,5	170	85,0	ns
No	35	17,5	30	15,0	ns
Importance‡	***		***		ns

‡ Chi-square test; \*\*\*  $p < 0.001$ ; ns - no statistical importance

Analysis of the results from Table No. 3 shows that 335/400 (83.8%) of examinees consider the psychological support during the treatment necessary. Percentage of women (85%) who declare that the psychological support is necessary is slightly higher than men (82.5%), however the noticed difference is not statistically significant ( $df=1$ ;  $p=0,588$ ).

## ANALYSIS AND DISCUSSION

Results of the study clearly point to the importance of psychological intervention in IVF process as well as to its necessity (82.5% of examined men and 85% of women are of this opinion), however it also shows how important mutual support between the partners during the process is. The examined men have been unanimous in their opinion that the treatment decision should be made mutually, while with the women the percentage is 93%.

Considering the above mentioned, it is clear that in the initial phase of sterility treatment, we should start removing or mitigating stress, as much as possible, as a factor that has been proved to have impact on impossibility of spontaneous conception, as well as negative result of IVF. It is also considered that it would considerably decrease the necessity of invasive methods of treatment, and that ethical and religious dilemmas would be reduced to the minimum [6]. Group and individual psychotherapies have distinctly positive effects on removal of anxiety and depression symptoms [7]. There are also data showing that this effect with men has been manifested as increase in optimism [8].

Considerations regarding the issue of application of psychotherapy in the sterility treatment process are giving contradictory positions, i.e. according to some authors, it is a necessary and unavoidable part of the process, and according to others, it is considered unnecessary and inefficient and that all psychological disorders in this case are of temporary nature. The other group of authors thinks that psychotherapy is rarely used by the patients even when it has been provided to them [9]. Results of this study undoubtedly show the patients' opinion that psychological intervention and support during the treatment are necessary, that has been stated by 82.5% of examined men and 85% women. The cases in which patients give up the treatment exactly for the above mentioned reason, are not rare, so we have examined that segment as well, and

5.5% of the examined men and 9.5% women were thinking of giving up the treatment.

The study dealing with impact of psychotherapy has generated data proving that not only positive impact on anxiety and depression treatment has been expressed, but there has been even a higher number of pregnancies in contrast to the control group that has not undergone the psychotherapeutic treatment [9]. When it comes to emotional problems after a failed IVF, they could be considered iatrogenic in some way, which explains the psychological support as necessary for the prevention of negative impact of the treatment on personality [10]. Speaking of a failed treatment, it has been noticed that with the women who have found another goal in their life, their adaptation to new situation is much better than with the women who are still focused on the realization of pregnancy [11]. It has already been emphasized that the problem of sterility refers to a couple and that it is always observed as a whole, however, the majority of studies dealing with psychological support during the treatment has been focused mostly on women. The study aimed at the research of men's attitudes regarding the necessity of psychological support has found that men prefer the support of a clinical doctor to a psychiatrist, group therapies, etc. Attitude of the author of this study is that the group work with persons facing the problem of sterility through the exchange of experience could have positive effects [12]. A study also dealing with the importance of psychological support during the treatment of sterility has obtained similar results regarding the benefits of its application. This research has also analysed gender-related difference in psychological aspect and experience of the applied method of assisted reproduction, and although stress has been expressed in both men and women, a higher level of depression and anxiety has been recorded in women [13]. A study conducted in Portugal on a sample of 191 women and 92 men, has obtained data showing that psychological burden of IVF treatment is the main cause of discontinuation of further treatment, as well as that timely identification of risk factors resulting in the rejection of the treatment and the scheduled protocol, primarily anxiety and depression, would significantly decrease discontinuation of the treatment [14]. Another research conducted also in Portugal, has obtained the following data: with couples included in IVF process for the first time, a higher degree of anxiety has been recorded in relation to the control group that consisted of the couples who were repeating the treatment, but showed a higher degree of depression. Authors also emphasize the necessity of support during the treatment [15]. Meta-analyses of Danish authors have confirmed that psychological support during the treatment is very important for the reason the decrease of stressful effect of the procedure itself as well as the improvement of the effect and achievement of the required goal [16]. Considering the psychological support, some studies were dealing with the issue of impact of the partner's support and quality of the relationship on the result of applied procedures. According to available data, it is the partner relationship that could be a key factor for development of depression during the prenatal and postnatal periods [17].

Application of cognitive-behavioural therapy in IVF process has also been the subject of some studies. Namely, data from 16 randomized studies involving 1700 patients have compared the efficiency of the above mentioned kind of therapy and pharmacotherapy [18].

Screening test for stress caused by the IVF procedure has proved to be very reliable indicator. Research made on a sample of 597 patients has determined an expected level of stress and disorders in inter and intrapersonal relations [19]. In 1992 in Australia, a law was passed according to which doctors were obliged to offer the women patients entering IVF program, some of the counselling psychology treatments, primarily psychotherapy, various methods of relaxation, hypnotherapy, etc. In the sample consisting of 1156 patients, 42.3% refused any kind of psychological counselling, 17.8% had already gone through some kind of psychotherapy, and 10.4% was ready to accept it. The cumulative pregnancy rate in women who had gone through the *psychotherapeutic counselling program* (PSITCO) amounted to 56.4%, and in women patients who were planning to undergo the treatment, the percentage was 41.9%. According to the cumulative pregnancy rate parameter we can conclude that pregnancy percentage was higher with the group of women who had accepted the offered psychological support, in relation to those who had refused such support [20]. The application of cognitive-behavioural therapy has shown a high efficiency in reducing cardiovascular and neuroendocrine reaction to stress [21].

From all of the above mentioned we can see the complexity of the sterility problem as well as the treatment process, and primarily, the significance of psychological aspect and its importance for the final results of the applied treatment. According to the American authors, this is a kind of challenge for all team members involved in the process itself, primarily for psychologists, psychotherapists and psychiatrists, as well as the necessity of a continuous improvement of the applied methods of psychological intervention [22]. It is also considered as necessary to continue with the research that would give a more detailed explanation regarding the impact of stress on fertility, as well as on the results of the sterility treatment, and finally, regarding the psychosocial aspect and its impact [23].

Speaking of psychological aspects of IVF, it is necessary to consider the ovarian stimulation as well, i.e. which part of this process the women patients experience as stressful, i.e. as psychological stress. A study dealing with this problem, involving 185 women patients and 170 doctors and nurses, has generated the following data: 55% of the examined women patients think that the treatment has a considerable impact on their quality of life, and 31% that the treatment disturbs the rhythm of their daily activities. The question most frequently asked to the doctors and nurses by the women patients was related to the therapy side effects, and the method of its application. More than a half of the examined women patients (57%) expressed their concern regarding the process of application of medicaments. Nearly a half of the examined doctors and nurses expressed their concern regarding the qualifications of the women patients to apply the therapy on their own [24]. A randomized study involving 391 couple in the IVF program, also researched psychological reactions in the course of ovarian stimulation. The first group consisted of women patients that received the so-called soft ovarian stimulation and SET (single embryo transfer), and the second group of women patients received the conventional GnRH agonist therapy (the long protocol) and DET (double embryo transfer). The group that received the conventional treatment showed a higher level of stress and depressive reactions in the phase of the pituitary down-regulation [25].

Several times a fact has been emphasized stating that the IVF process implies a significant level of both physical and mental stress that can have significant impact on the final results of the applied treatment. A multicentric study, conducted in India, dealing with the degree of the above mentioned stress, included a sample of 692 women divided into two groups in relation to the applied treatment. The first group consisted of the women patients who received GnRH antagonist therapy, and the second group consisted of those who received GnRh agonists. The obtained results show that the patients from the first group had a considerably higher degree of somatic problems, while the manifested anxiety and depressive reactions did not show statistically significant difference between the examined groups [26].

Speaking of the psychological aspects of the sterility treatment it is necessary to take into account the patients expectations. Namely, we should not disregard the fact that such expectations may sometimes be unrealistic, and that the failed treatment can be the reason of discontinuation of the treatment. Reactions after a failed treatment can certainly be very intense, and the women may think that the team members are omnipotent and capable of solving their problem (27). This fact, in addition to all the above mentioned, also accounts for the opinion that psychological support during the treatment is very important. In addition to initial expectations at the start of the treatment, and in addition to strong, many times mentioned motivation factors, we should also take into account that the treatment has an important impact on professional and social life of a woman [27].

Since 1980, when the model of psychological consequences of sterility became popular, the necessity for psychological intervention in the course of IVF treatment has been increasing. This would help patients not only receive necessary explanations, but also the support in facing the problem and accepting it and overcoming the fear [28]. A study by Edelmann et al. has proved that only those couples who have adapted to the situation and adequately accepted the problem, will accept all kinds of support in order to achieve their goal [29].

## CONCLUSION

In the above considerations we have several times pointed to the significance of psychological intervention in IVF process, which had been proved by the results of numerous studies that also have been presented. In order that this segment of the sterility treatment could give the expected results it would be desirable to elaborate a psychological assessment of the patients entering the treatment. In this way, an individual approach would be possible in each specific case, so that the scheduled activities could be adjusted and planned in accordance with the case, which would have a considerable impact on the expected results. The assessment of motivation, attitudes toward parenthood and stress and anxiety levels, are only some of the indicators that can predict the final results of the applied treatment.

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